Accounting for the features of Shape and Transitivity in a Functional-Typological approach to the Ring Languages

PhD in Linguistics

2020

By Ciara Browne

Trinity College Dublin

Supervisors: Dr. Brian Nolan

Prof. John Saeed

I declare that this thesis has not been submitted as an exercise for a degree at this or any other university and it is entirely my own work.

I agree to deposit this thesis in the University's open access institutional repository or allow the library to do so on my behalf, subject to Irish Copyright Legislation and Trinity College Library conditions of use and acknowledgement.

I consent /do not consent to the examiner retaining a copy of the thesis beyond the examining period, should they so wish (EU GDPR May 2018).

Signed: _____ Date: _____

Acknowledgments

I would like to thank my supervisor Dr. Brian Nolan for his invaluable insights, direction and time over the course of my PhD. I would also like to thank Prof. John Saeed for his overseeing this, for his insightful input and for his feedback with regard to my trip to Cameroon.

I'm extremely grateful to a number of people who contributed to my knowledge of the Ring languages and helped to co-ordinate my travels to Bamenda. In particular Jon and Sandra Blackwell, Cameron Hamm, Dr. Pius Akumbu and Jane Ingle and many other from SIL who welcomed and helped me along the way. I would also like to thank Dr. Roland Kiessling for his personal correspondence and excellent insights on Ring and related languages.

Thank you to my wonderful husband, Nathan, for his loving support throughout my studies and to my mother, sister and brother, Mary, Roisín and David for their encouragement and support. I'm sure my father, Seán, would have been so proud of this achievement. Many thanks, too, to my extended family and friends, and all those unnamed who have helped and encouraged along the way. SDG.

Abstract

The Ring languages, an understudied sub-group of the Grassfields Bantu family is examined from a function-typological perspective in relation to features of [Shape] and [Transitivity] as per Rijkhoff (2002, 2003). The word classes of noun, adjective and verb of a selection of these languages are examined as to their sensitivity to these features along with implications of these findings in areas such as the position of modifiers in the NP, how these relate to the notion of iconicity and NP word order, and the impact on voice and valence-changing constructions. Evidence to suggest that the Ring languages do not a have a large distinct adjectival class suggests that its nominals may be characterised by the feature [-Shape]. While Rijkhoff (2002) largely points to sortal numeral classifiers as evidence for [-Shape] nominals, an examination of the semantics of Ring noun classes along with the presence of partially grammaticalised numeral classifier systems in line with findings form Dimmendaal (2011) and Kiessling (2018) suggests that noun class markers that encode shape/configuration may also be a useful tool in diagnosing [-Shape] nominals. An analysis of the feature of [Transitivity] in Ring verbs suggests that, due to the presence of A-labile verbs in a language like Kom, it may in fact be the feature of [Dynamicity] that is the differentiating feature when it comes ot the presence of a distinct verb class in a given language, contra Rijkhoff (2003). An analysis of the feature of [Transitivity] in so-called 'semi-transitive' and 'bi-transitive' verbs of Babungo is significant however in a reanalysis of such as complex predicates. This finding has implications for an understanding of the causative -sə suffix in Ring, which when examined in light of evidence from Creissels (2016) on the Manding languages and Bostoen et al. (2015) on the presence on an anti-passive marker in Bantu, suggests that an anti-passive fuction may be encoded in the -sə suffix.

These findings point to a need to use typologically appropriate frameworks when describing understudied languages such as Ring thus avoiding the pitfalls of purely semantic or syntax-first approaches and point to a need for further shape-based investigations into the Ring languages from both a typological and cognitive perspective. Support was provided for Kiessling (2018) and Dimmendaal's suggestion that apparent emergence of numeral classifier systems in related languages is compensating for the loss of noun classes. Future research into the understudied field of numeral classifiers in shape-based semantics in Bantoid and Bantu could further strengthen these assertions. The analysis of word classes and

their impact on the NP in Ring supported Rijkhoff's (2002) suggestion that a misattribution of elements to particular categories in the simplex NP may skew findings as they relate to the notion of iconicity. While findings on [Transitivity] features suggest the need for a clarification of definitions in Rijkhoff's (2003) proposal and lay the groundwork for research on grammaticalisation paths of the causative suffix in Ring as it potentially relates to an anti-passive function.

Table of Contents

List of Abbreviations

1PL
1st person plural
1SG 1st person singular
2PL 2nd person plural
2SG 2nd person singular
3PL 3rd person plural
3SG 3rd person singular
A subject of transitive verb
ABS absolutive
ACC accusative
ACS accessible
Act actor
ACV activated
Adj Adjective
ADV adverb
AGR agreement
AM/ASS associative marker
ANAPH anaphoric
ANTIP antipassive
ANM animate
APPL applicative
ARG argument
ART article
ASP aspect
ASS associative
ATTR attribute
AUG augment
AUX auxiliary
BEN beneficiary
C1, C2 etc., noun class markers
CAUS causative
CLF classifier
CONJ conjunction
CONN connective
CONTR/FACTCONT.FACT
contrary to fact
COM comitative
COMP completive aspect marker
CONT continuous
COP copula
CS copula subject
DAT dative
DEF definite
DEG degree word
DET determiner
DEIC deictic
DEM demonstrative
DIM diminutive
DIST distal demonstrative
DIST distributive marker
DO direct object
DTR ditransitive
EMPH emphatic marker
ERG ergative
EXC excessive
F/FUT/F1, F2 etc., future tense markers
Fem/F feminine
FG Functional Grammar
FV final vowel
FOC focus particle
GEN/G genitive/genitive noun phrase
H high tone
HAB habitual
HN head noun
IF-DISTR if-distributive
IMM immediate
IMP imperative

IMPERS impersonal
IMPF imperfect
INC incompletive aspect
INDEF indefinite
IMPERS impersonal pronoun
INANM inanimate
INCL inclusive
IND indefinite pronoun
INFLEC inflectional
INGR ingressive
INSTR intrumenal
INTF intensifier
INTR intransitive
IO indirect object
IPFV imperfective
L low tone
L locative phrase
LDP left detached position
LOC locative
LOC_x locative noun prefix $class_x$
LS logical structure
LSC layered structure of the clause
LSNP layered structure of the noun phrase
M manner
M marker of comparison
M midtone
MA manner adverb
Masc/M masculine
MOD modifier
MORPH morpheme
N1 1_{st} noun in associative noun phrase
N2 phrase 2_{nd} noun in associative noun phrase
N noun
N.cl noun class 5, etc.
NASP nominal aspect
NEG negative
NOM nominative
NON-ARG non-argument
NP1 nominal prefix of class 1, etc.
NP noun phrase
NPFP noun phrase final position
NPIP noun phrase initial position
NUC nucleus
NUM number
O object or object of transitive verb
OF out of focus marker
P1, P2 etc., past markers
PASS passive
PB Proto-Bantu
PC3 pronominal concord of class 3, etc.
P patient
P preposition
PR prefix
PL plural
POSS possessive
PO postposition
PP prepositional phrase
PRED predicate
PREP preposition
PRES present
PROG progressive aspect
PURP purpose
PR prefix
PRF/PF perfective

PROG progressive
PROX proximal demonstrative
PRS present
PRT particle (meaning as yet unclear)
PSA privileged syntactic argument
PST past
Q question particle
QNT/QUANT quantifier
RDP right detached position
REC recipient
RECP reciprocal
REF reflexive
REFDEM referential demonstrative
REL relative particle
REL/REL CL relative clause
RRG Role and Reference Grammar
S subject or subject of intransitive verb
SC subject concord prefix
SC1SG subject concord of first person singular, etc.
SEML semelfactive
SF suffix
SG singular
SIM simultaneous marker
SM/SM1, etc. subject marker
SPON spontaneous
ST standard of comparison
SUBORD subordinator
T(A) tense(aspect)
Tr transitive
U undergoer
* ungrammatical phrase
V verb

List of Tables

List of Figures

Chapter 1. Introduction

1.1 Overview of the thesis

This study will examine a selection of the Grassfields Bantu (GB) Ring languages of north-west Cameroon as a means of testing the validity of the notions of typological universals based on word order patterns, the role of iconicity in typological predictions, and how the features of [Shape] and [Transitivity] relate to the presence of discrete word classes in a given language. The impact of such findings on the Role and Refence Grammar (RRG) approach to the layered structures of the noun phrase and clause will also be examined (Van Valin, 2005). Questions surrounding the nature of language as either an innate property of humans or as a culturally informed tool which primarily functions as a means of communication have been an area of intense debate amongst linguists. The generativist school with its foundations in the work of Chomsky (1957, 1965, 1993) has viewed language structure in formal syntactic terms which can then be adapted to a given language via various 'transformations', for instance. Historically, the formalist school has generally taken a syntax-first perspective. While this study takes a functional-typological approach, the reader is referred to Baker (2003) and Chomsky (1993, 1995) for more recent developments from a formalist/generativist perspective such as Principles and Parameters Theory and the Minimalist Program. While holding to a largely syntax-first approach, Baker (2003:296,297) does see a role for semantics in the area of language acquisition.

An alternative school of thought working from the 'functionalist' paradigm takes semantic and pragmatic elements such as culture and purpose of communication into account in shaping the syntactic features of a given language. Language in this case is a 'tool' of communicative function rather than merely a set of formal features undergoing transformation. Due to difficulties with the aprioristic assumptions that come with a generativist approach, and the risk of imposing features of better known languages on those underdocumented and less well-known, functionalists such as Rijkhoff (2002) and Van Valin (2005) have favoured frameworks that draw on observable patterns in cross-linguistic analyses that take syntactic features into account. This research will take the perspective of the functionalist paradigm drawing on a number of theories within this school.

In an examination of the layered structures of the noun and verb phrase in Ring, through the lens of Role and Reference Grammar (RRG), the interaction between syntax and semantics will be examined. RRG has been chosen as a theoretical

framework for its appropriateness in examining the syntax-semantic interface without imposing features on lesser known or understudied languages. Furthermore, as this research will also draw on research by Rijkhoff (2002, 2003) who comes from a Functional Grammar (FG) on certain issues, the compatibilities of the RRG and FG approaches are particularly helpful (Van Valin and La Polla, 1997; Rijkhoff, 1992). The semantic underpinnings of the nominal aspect feature of [Shape] and the verbal feature of [Transitivity] will be explored in relation to their influence on presence or absence of certain parts-of-speech categories, thus shedding light on proposals by Hengeveld (1992a, b) and Rijkhoff (2002) that not all word classes necessarily exist in all languages. The implications for the appropriateness of the traditionally accepted canonical word classes of verb, noun and adjective in functional-typological research will also be addressed, highlighting the need for refinement in useful, but perhaps, too heavily semantically defined systems such as those of Dryer (1992) on word order. Furthermore, the value of such findings as regards the syntax-semantics interface in the outworking of typological principles such as iconicity will also be explored.

1.2 Universals and Typology

One area that has been of growing interest in the functionalist school along with others is the question of whether or not we can identify universals in language. These include phenomena such as the ability to turn an affirmative sentence into a negative one or the tendency for verb-initial languages to take prepositions rather than post-positions. Much of the literature has developed from Greenberg's (1966) empirical work on unrestricted and implicational universals and has been built on by authors such as Croft (2003), Comrie (1989) and Dryer (1992). While universals are properties that can be identified in all languages or as tendencies in many, linguistic typology is more specifically the realm of classification, placing language types with comparable characteristics into certain groupings. There is a close overlap between universals and typology with typological research looking more closely at the implicational or statistical aspects of universals, classifying data from a wide selection of languages. Classifications include the correlations of particular language types; SVO, SOV etc. with other features of that language such as the position of modifiers in the noun phrase, the position of head noun and article and the presence of prepositions or postpositions.

Another significant aspect of research in the field of typology and universals is examining the motivations which cause the patterns we observe in language types across the world. Motivations have been identified as both internal and external.

Internal motivations relate to areas such as perception and linguistic processing phenomena, while external motivations include notions of economy of use in which recurrent expressions are shortened and iconicity in which semantically tied elements tend to be expressed in close proximity syntactically (Croft, 2003, Rijkhoff, 2002). Such motivations are often reflected in principles and grammatical hierarchies which point to semantic underpinnings for the patterns that arise in typological analyses such as Rijkhoff's (2002) Principle of Scope which asserts that the semantic distance of grammatical and lexical modifiers relative to the head in the underlying structure are reflected iconically the realisation of the linguistic expression, and hierarchies based on notions such as grammatical relations and animacy such as Johnson's (1977:156) Relational Hierarchy, Van Valin's (2005) Actor-Undergoer Hierarchy, and Dixon's (1994:85) Nominal Hierarchy.

1.3 Defining Word Classes: The features of [Shape] and [Transitivity]

The concept of word classes has more recently become a matter of debate within the functionalist typological school. Authors such as Dixon (2004) and Dryer (1992) contend that purely semantic definitions are adequate in identifying word classes in typological analyses. This however has led to problems in cross-linguistic comparisons in which the lines between word categories can become blurry. In Dryer's own words, 'there are many languages in which what I call adjectives are really verbs, and 'adjectives' modifying nouns are really just a kind of relative clause' (Dryer, 1988 in Rijkhoff 2002:284). In response to such difficulties, authors such as Rijkhoff (2002) and Hengeveld (1992 a, b) suggest a combination of semantic and syntactic features in identifying word classes, and propose that the canonical classes of verb, noun, adjective, and adverb are not necessarily all present in all languages. In this view, a lexical item may only be deemed a member of a given class based on its function without the need for additional grammatical measures being taken on it (Rijkhoff, 2002:10).

Related to this typological study of word classes, Rijkhoff (2002) introduces the concept of *seinsart* or *nominal aspect,* the nominal counterpart of the verbal notion of *aktionsart* classes. The concept of seinsart refers to the way in which a nominal property is specified for the features of [Shape] and [Homogeneity] (Rijkhoff, 2002: 28). Such analyses allow us to identify nominal subclasses in a given language; singular object nouns, set nouns, sort nouns, general nouns, mass nouns, and collective nouns.

The relationship between the feature of shape has been examined on a broader scale in the areas of cognition, categorisation and language processing (Kuo & Sera,

2009, Seifart, 2005, Perniss et al, 2012). Perniss et al (2012:229) note that, "object shape and dimensionality are critical conceptual features across languages and cultures". An illustration of the connection between the semantic feature of shape and human categorisation is found in Seifart's (2005) 'Shape Classifier Task'. This study sought to investigate how languages encode basic shape distinctions, how they are formally realized and what semantic distinctions can be identified. The translations provided by Mirana speakers identified shape as semantically central in defining noun class markers, such as, '-hɨ' meaning flat and round nominals like buttons and coins or '-ko' referring to slender, relatively long, and pointed nouns, for example, fishing rods (Seifart,2005:185). In this study of noun class markers in Mirana, it was found that while animacy and number were known as identifying properties of general markers, shape, too, was a distinctive identifying feature carried in noun class markers. Furthermore, Perniss et al's (2012) study of shape encoding and semantic representations found that, in line with previous research, shape is a more salient feature in semantic representations for speakers of a classifier language like Bora, than for non-classifier languages like English or Spanish. While Kuo and Sera (2009) found support for a weak version of the Sapir-Whorf hypothesis in that the amount of exposure to Chinese was correlated with speakers' reliance on shape as a means of noun classification. For Rijkhoff (2002:54, 55), the [Shape] feature in particular is relevant for all noun types and may be more relevant than the Homogeneity feature as spatial orientation is also central to human cognition. In fact, Friedrich (1970:404) believes the feature of 'shape' to be the 'ultimate semantic primitive'.

Rijkhoff (2000, 2002) suggests that languages with the nouns of the feature [–Shape], view a given noun more as a mental concept label which requires grammatical measures to be taken on quantifiers, for instance, in order to indicate (a) discrete object referent(s). This may be done by the use of a numeral classifier which provides boundedness to the otherwise general concept label. For instance,

(1) Thai (Allan, 1977:286 in Rijkhoff, 2002:75)

khru•	lâ•j	khon
teacher	three	CLF:person
'three teachers'		

Nouns in a language which carry the feature [+Shape] are mental categories that refer to discrete bounded objects, and thus do not require numeral classifiers to

provide boundedness or spatial borders to the concept label as they are inherent within the nominal itself. Numerals are in direct construction with the noun itself.

(2) English
Two dogs
'Two dogs'

Building on this +/-Shape notion and its relation to the question of the existence of certain word classes, Rijkhoff (2000, 2002) proposes that in order for a language to have a distinct class of adjectives, that language must have nouns which are characterised by the feature [+Shape]. He suggests that this is due to the fact that adjectival notions themselves such as 'poor' or 'green' do not have a spatial outline and are characterised by the feature [–Shape] themselves, thus nouns and adjectives would be indistinguishable if both carry that feature. Furthermore, he hypothesises that only a language with [+Shape] nouns could accommodate another major word class of the feature [–Shape]. Based on the above and a study of 52 languages from various subphyla Rijkhoff (2002:141, 143) came up with the following conclusions which will be examined in the study to follow:

1) If a language has classifiers then it usually has no adjectives (or: as a rule, a language only has adjectives if nouns are in direct construction with the numeral).
2) If a language has a distinct class of adjectives, then the nouns in that language are generally characterised by the feature [+Shape].

Related to this, Rijkhoff (2003) has also proposed that, just as [+Shape] is a necessary feature for the existence of an adjectival class, the feature of [+Transitivity] is necessary in order for a language to have a distinct class of nouns and verbs. This is based on the idea that a basic set of lexemes must be present in the language that denote a prototypical event, a dynamic relationship between an agent and patient, i.e. transitive lexemes. Hopper and Thompson (1980) produced a widely-known study on prototypical transitivity including criterion such as telicity, volition and high agentivity. Transitivity, Rijkhoff (2003) suggests, is a necessary and sufficient condition for the presence of a distinct verb class and a necessary, though not sufficient condition for the presence of a distinct noun class. In particular, the presence of lexemes that designate a dynamic relationship between an agent and patient that has a boundary in the spatial dimension (Rijkhoff, 2003:7). Taking Samoan, a Type 1 language lacking a distinct verbal class

as per Hengeveld's (1992a,b) PoS system, Rijkhoff (2003:17) argues that the inability of a designated set of lexemes to denote a dynamic relationship between an obligatory agent and patient is the determining factor in making this a language with flexible rather than differentiated lexemes with regard to a verbal class. Thus, his ultimate argument is that a language can only have distinct classes of verbs, nouns and adjectives if they contain lexemes that encode the prototypical properties of temporal and spatial entities (events and things).

The features of [Shape] and [Transitivity] will be examined in light of such research to investigate whether they have an influence on the presence of absence of particular parts of speech in the Ring languages.

1.4 The languages under analysis: The Ring Languages

This study will take a selection of the Grassfields Bantu (GB) Ring languages of north-west Cameroon as a means of testing the validity of such typological notions, the role of iconicity in typological predictions, and how the features of [Shape] and [Transitivity] relate to the presence of distinct word classes, such as that of the adjective. The impact of such typological findings on the layered structures of the noun phrase and clause will also be examined.

The GB family is a group of over fifty languages spoken in the West and North-western Provinces of Cameroon (Watters, 2003), the Ring languages being a small subset of these. Some debate has centred around the membership of GB to the Bantu versus Bantoid language family, but it is widely accepted that they are near cousins of Guthrie's Bantu (Watters, 2003). Distinguishing features of the GB languages, similar to that of wider Bantu, include a complex noun class system which demonstrates morphological agreement patterns with modifiers, a variety of tenses such the recent past and far past, and a complex tonal system. Many of these languages are understudied and underdocumented, thus a functional account of the available data may provide insights into the strength and accuracy of the typological principles and predictions made above. Rijkhoff's (2002) iconically based Principle of Scope will be examined with reference to the Ring languages to analyse their adherence to such. Questions surrounding the existence of word classes will also be analysed in the Ring with particular reference to the adjective, the [Shape] feature, and the relationship with numeral classifiers and the impact of the feature of [Transitivity] will be examined in relation to the layered structure of the clause and voice and valence changing constructions.

Additional reasons for the suitability of the Ring languages for such a functional typological analysis is Denny and Creider's (1986) proposal that, in Proto-Bantu at

least, shape and animacy were a significant feature in noun class allocation in addition to number. For instance, they propose that noun classes 3 and 4 include a shape classification of solid figures that were extended in shape. This begs the question as to whether noun class affixes provided some kind of 'spatial boundedness' to use Rijkhoff's (2002) term, to an otherwise unbounded concept label in the form of the root noun. We will examine the remnants of this system in Ring to determine whether it points to the existence of a [-Shape] language. Further impetus to explore the notions of shape and word classes in Ring is seen in Dimmendaal's (2011:137, 138) observation that the development of numeral classifier systems in related Bantu languages such as Ejagham of the Ekoid family, arose from the diminishment of noun class systems which were replaced by numeral classifiers that provided information on the shape of a noun in systems where the distinction between mass nouns and countables do not play a role in the grammatical system. He proposed that the emergence of these strategies "reflect a more deeply rooted cognitive basis (manifested in the mass/count continuum) where shape and form play a central role". Kiessling (2018) points out that such systems have begun to develop both in place of and alongside a number of Grassfields Bantu noun class systems, at times to compensate for a loss of noun classes. Thus, the prominent notions of shape and potential existence of numeral classifiers in closely related languages paves the way for a more in-depth study of the GB Ring languages in this regard to determine whether the approaches of functionalists such as Rijkhoff (2002) and Hengeveld (1992 a, b) are accurate. Finally, as it has been suggested, the existence of a set of nominal lexemes characterised by the feature [-Shape] has implications for the presence of a distinct set of words classes, that of the adjective in particular. As many descriptions of the GB languages suggest that adjectives are in fact more noun- or verb-like in nature (Akumbu & Chibaka, 2012, Möller, 2012) there may indeed be further support for Hengeveld's (1992a, b) Parts of Speech System and the theory of a 'further measures' approach to word classes as opposed to the largely semantically based definitions of Dryer (1992) and Dixon (2004).

1.5 Sources of data

Data from this thesis was selected from a range of grammatical descriptions along with personal correspondence with native Babanki speaker and linguist, Dr. Pius Akumbu. The majority of sources were published books and papers from established linguists who have worked in the field and collected a range of raw material on the languages. A small amount of data was taken from undergraduate

and post-graduate theses and dissertations from the department of African languages and linguistics of the University of Yaounde, particularly in the case of less well-documented languages such as, Mmen and Kom, for the purpose of comparison and pattern identification. These grammatical descriptions did not come from a functional framework and were largely atheoretical with the exceptions of some work by Watters (1979) on Aghem and some references made to Babungo in Rijkhoff (2002) from a functional perspective. This allowed for more straightforward comparability and the application of the RRG framework to the descriptive material. As these languages are relatively understudied as a group, some accounts contain only basic descriptions of the noun or verb phrase such as Bamunka and Mmen, while others have more comprehensive treatments of areas such focus and complex constructions such as Babungo and Aghem. Thus, particular reference is made to Babungo with regard to word order and verb classes due to its nature as one of the larger data sources, while data from the remaining Ring languages is drawn on for further illustrative and comparative purposes. The sources of language data are as follows; Mmen: Agh-ah, 1993, Möller, 2012, Babanki: Akumbu & Chibaka, 2012, Hyman, 1980a, Kom: Fonyuy Moye, 2003, Aghem: Hyman, 1979, Watters, 1979, Isu: Kiessling, 2011, 2018, Bamunka: Ingle, 2013 and Babungo: Schaub, 1985.

1.6 Hypothesis and Research Questions

Hypothesis: A functional-typological account provides the theoretical basis for identifying and characterizing the ways that word classes in the Ring languages are sensitive to the features of [Shape] and [Transitivity].

Research Question 1: How are typological word order (WO) predictions realised in the grammar of the Ring languages and what does this reveal about the syntax-semantics interface in typological definitions of word classes?

Research Question 2: Does the adjective exist as a distinct, closed word class in the Ring languages? What does this tell us about the syntax-semantics interface in part-of-speech systems?

Research Question 3: What do the classifier systems of the Ring languages tell us about the feature of [Shape] and its connection to the status of the adjective?

Research Question 4: How do we account for the position of modifiers in the Layered Structure of the Noun Phrase (LSNP)? Does the status of the adjective class play a role here, and what are the implications of this for word order prediction principles, such as Rijkhoff's (2002) iconicity model?

Research Question 5: Is the feature of [Transitivity] central to the existence of a distinct verb and noun class just as the feature of [Shape] is central to the existence of an adjectival class? And what is its impact on voice and valence-changing constructions in Ring?"

1.7 Theoretical Framework: Role and Reference Grammar

The proposed research will draw from a selection of grammatical descriptions of the Ring languages. As has been mentioned, it is an understudied group, thus some of the languages under study such as Babungo, Babanki and Aghem have more in-depth data available, while Bamunka and Mmen largely have literature on the noun phrase, with a section on the verb phrase in Mmen. Therefore, a general examination of word order will take Babungo as a case in point, while more specific chapters on the LSNP, word classes, and classifiers will draw more widely from the languages under examination.

The theoretical framework chosen for this research is that of Role and Reference Grammar (RRG). The RRG model's ability to capture semantic bases of language along with syntactic realisation is a helpful tool in working with functional typological approaches such as those of Hengeveld (1992a, b), Rijkhoff (2002), Dixon (2002) and Song (2001) in their seeking to incorporate both syntax and semantics into cross-linguistic definitions and comparisons. While Hengeveld (1992a, b) and, to a lesser extent Rijhkoff (2002) (he deems his work on Seinsart and the NP as largely a-theoretical) are working from a Functional Grammar (FG) perspective, Rijkhoff (2002) points to the compatibility of his iconic predictions with the RRG functional approach. This allows us to compare their work with that of authors such as Dixon and Aikhenvald (2004) and Dryer (1992) whilst attempting to maintain a somewhat neutral ground as to the tool of analysis. The linking feature in RRG demonstrates clearly the role of operators within the noun and verb phrase while demonstrating the direct connection with a language's semantic features without imposing a preconceived structure on a given language. Furthermore, when we move to an analysis of the LSC, the RRG notion of the Privileged Syntactic Argument (PSA) in contrast to the widely debated concept of a

universal subject, will again allow for an analysis of the data without imposing structures from the more familiar Indo-European linguistic systems.

1.8 Structure of the Thesis

This thesis will begin by providing background information of the GB Ring language subgroup and how they relate to wider Bantu as a whole. Syntactic features and historical development will be outlined with a particular focus on significant features such as the noun class system, nominal morphology and the nature of the verb. Chapters 3 and 4 will examine relevant literature on the field of typology and universals, the motivations behind patterns observed such as economy of use, grammatical hierarchies and iconicity, and why the RRG framework is a useful tool for analysing such typological approaches in the Ring languages with references to a range of theorists whose work is compatible with this framework such as Rijkhoff (2002), Hengeveld (1992a, b) and Dryer (1992). Chapter 5 will address Research Question 1 in examining word order in Ring and how it relates to the typological predictions of Dryer (1992) in particular with Babungo as a case in point. Due to questions around the reliability of purely semantic definitions of authors such as Dryer (1992), we will then look in more detail at various approaches to the concept of word classes from a functional approach in chapter 6, particularly that of the adjective. Dixon and Aikhenvald's (2004) view will be compared with that of Rijkhoff (2002) and Hengeveld (1992a, b) and relevant conclusions drawn with reference to the status of the adjective in the Ring languages as per Research Question 2. Chapter 7 and 8 will seek to address Research Question 3 in exploring what the existence of numeral classifiers and the historically semantic basis of Bantu nominal classes can tell us about [Shape] theory and thus shed further light on the status of the adjective in GB. The overlap of the [Shape] feature in noun classes and numeral classifiers in Ring will also be addressed along with possible grammaticalisation paths for the latter. Building on the knowledge from previous chapters, Chapter 9 will examine the layered structure of the noun phrase (LSNP) having established the status of the adjective in Ring. The adherence of the Ring languages to Rijkhoff's (2002) theory of iconicity regarding the order of modifiers in the integral NP will be examined and potential explanations offered for apparent discrepancies. Finally, chapter 10 will move on the layered structure of the clause examining the impact the notion of verb classes and transitivity and the potential impact on voice and valence changing constructions. In chapter 11, conclusions will be drawn and potential areas for future research proposed.

Chapter 2. The Bantu Languages

2.1 Introduction

The following chapter is an introduction to the Bantu language family as a whole, with reference to its possible origins in the reconstructed Proto-Bantu language, its development over time through both contact with and divergence from neighbouring languages, and questions surroundings the historical and linguistic features which identify a language as a part of this group. A general overview of the prominent typological characteristics of Bantu is provided followed by a more focused look at the features of the closely related Grassfields Bantu (GB) family of which the Ring subgroup is a part.

Williamson and Blench (2000) have pointed to a set of features across all major branches of the Niger-Congo group which can provide a framework differentiating Bantu from other language groups. These include, presence or absence of noun class systems, presence or absence of verbal extensions and the nature of pronoun systems (Nurse and Philippson, 2003:6). The GB Ring languages, the focus of the proposed research are close neighbours of the Bantu family, within the Bantoid family. Williamson & Blench (2000: 18, 31, 35) place Narrow Bantu and Grassfields Bantu within the Southern Bantoid subgroup within the Benue-Congo branch of Niger-Congo. Arguments have been made that suggest a correlation between the reconstructed noun classes in GB and the reconstructed Proto-Bantu noun class system (Hyman, 1980c:182, Watters, 2003: 240, 241). Blench (2015: 4) on the other hand points out that, while Bantu has been treated as a genetically unified family since the nineteenth century "it remains an open question as to whether there is any distinctive boundary between Bantu and the languages related to it." He goes on to point out that the debate about the boundaries between Bantoid and Bantu remains unresolved, and it is not entirely clear what would count as a resolution. All Bantoid languages show distinctive but extremely diverse relationships with reconstructed Bantu (Blench, 2015:28). This debate is beyond the scope of the thesis at hand, however, findings on the commonalities or otherwise of Ring with Bantu and Proto-Bantu may provide insights into this debate. While the Ring languages may exhibit exceptions to the general features acknowledged in the Bantu group, knowledge of Bantu features provide a useful framework for the typological study of the lesser known and documented GB Ring languages, in particular, proposed connections with a common ancestor in Proto-Bantu. In further support of the appropriateness of comparing Bantu and Bantoid languages

and their evolution over time, Güldemann (2003:184) points out that in studying Bantu grammaticalisation, "a comparison of Bantu with its closest relatives within Bantoid such as Tikar is especially fruitful". While a variety of classifications have been proposed the following is pointed to in Schadeberg (2003:154) as a plausible outline.

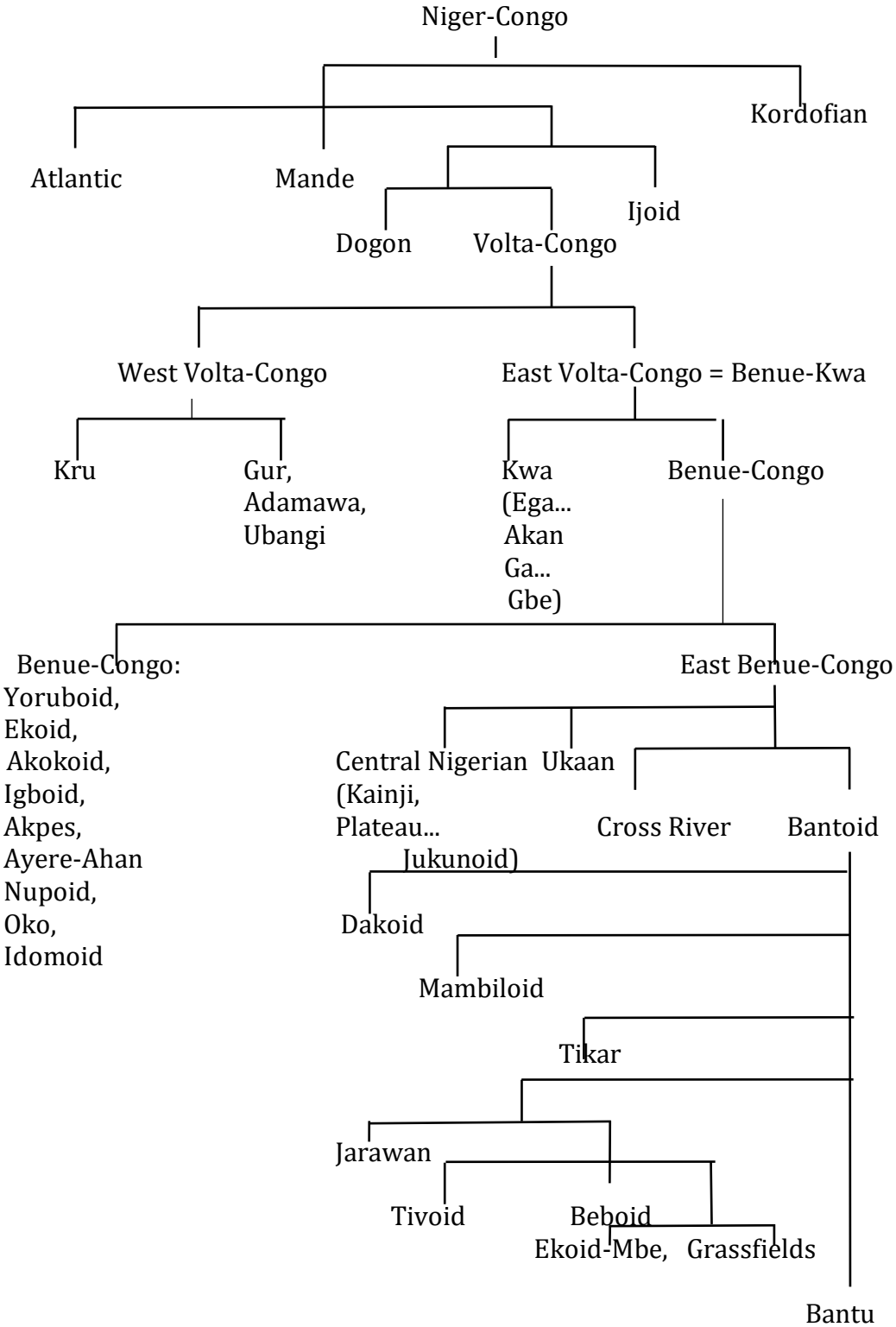


Figure 2. 1 The position of Narrow Bantu and Grassfields Bantu within Niger-Congo in Schadeberg (2003:154) adapted from Williamson and Blench (2000)

Blench (2015: 5) has since proposed revisions for the subclassification of Proto-Benue Congo, however, Grassfields and Narrow Bantu remain close neighbours. Furthermore, speaking on the Bantoid group, Blench (2015:1) points out that, they are a group of 150 to 200 languages geographically located between Nigeria and Cameroun and while they, do not form a genetic group, are "all are in some way more closely related to Bantu than other branches of Benue-Congo. The most well-known branches are Dakoid, Mambiloid, Tivoid, Beboid, Grassfields, and Ekoid." In light of his revised proposal for Proto-Benue Congo the possibility of a common ancestor between Grassfields and Narrow Bantu, a comparison of the Ring languages with Proto-Bantu reconstructions becomes more feasible.

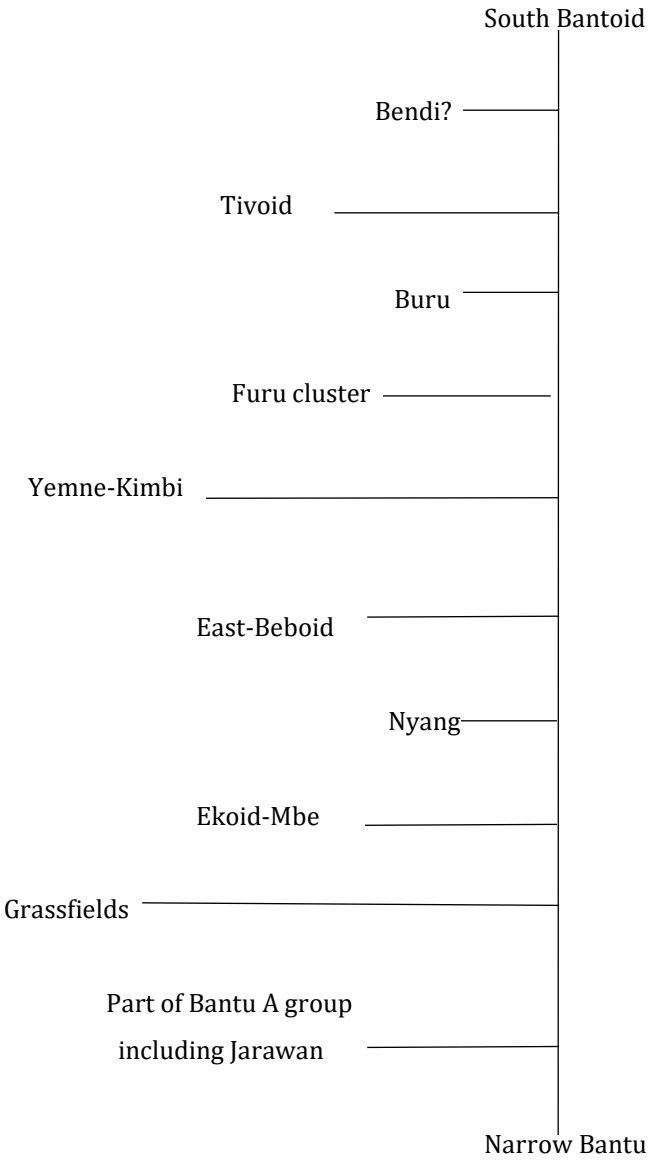


Figure 2. 2 Proposal for the divergence of Bantoid languages in Blench (2015:7)

Blench (2015:7) highlights that "in the absence of more extensive historical linguistics, it is assumed individual groups split away from a common stem and developed their own characteristics. Importantly, he highlights that, "the order in which this took places remains controversial". Güldemann (2011:130-133), too, questions the position of Bantu within Niger-Congo. He suggests that a macro-areal approach might inform the historical-comparative reconstruction of Niger-Congo which could may provide insights into our understanding into the development of Pre- and Proto- Bantu. While, Nurse and Phillipson (2003: 7) highlight that whether Proto-Bantu (PB) innovations are Bantu specific and may perhaps belong to a higher node is, as yet, unclear. Narrow Bantu may not in fact be a valid group in and of itself. Thus, again, while such debate is outside the scope of this research, the relationship between the features of Narrow Bantu, Ring and reconstructions of Proto-Bantu may provide insights in these questions.

An overview of typological features of both Bantu and Grassfields Bantu will now be provided. The Ring subgroup specifically will be looked at in more detail of this issue at the end of the chapter.

2.2 The Bantu Language Family

The Bantu language family, within the Niger-Congo phylum, is distributed across almost the whole of Southern Africa including Eastern and Central Africa. The number of speakers is approximately 240 million with almost a third of all Africans speaking a Bantu language as their native tongue. Estimations as to the number of Bantu languages range from approximately 440 to 680 (Nurse and Phillipson, 2003:1, 2). Despite some noted difficulties, such as challenges in drawing a clear line between Bantu and non-Bantu languages in the Northwest, and typological methods evolving and changing over time; the similarities across the phonology, syntax and morphology of the members of the Bantu family allow for the construction of a comparative overview. This will prove helpful in the proposed research. Areas of commonality include the existence of nominal stems in the Bantu languages which are reduplicated in various forms, nominal classes which are found across the Bantu languages with nominal stems of the same class and number marking by means of prefixes and a complex system of up to a dozen tenses realised via morphological marking (Schadeberg, 2003)

One of the main challenges facing linguists in this area is the matter of defining what is language and what is dialect when it comes to Bantu. Both linguistic differentiation and convergence have been examined in reaching a conclusion on this. The Bantu people over time have engaged in both the borrowing of linguistic

material from neighbours for the purpose of establishing relationships and alliances and also differentiated themselves from their neighbours in order to establish their own unique identities. These lines can be blurry and may hinder our clarity of distinction of the various languages and dialects. Schadeberg (2003: 154-158) offers the conclusion that Bantu languages behave much more like a dialect continuum than as clearly defined, individuated languages. This model of progressive differentiation and convergence across dialects or languages is known as the wave model (as opposed to the tree model). It has been suggested that the quick expansion and separation lead to differentiation, whereas contact leads to convergence deemed "punctuation" and "equilibrium" by Dixon (1997). Contra Dixon, however, Schadeberg (2003, 158) believes that Bantu underwent and was formed by these processes at the same time, rather than at different periods. However, the situation may not be as simple as that. The Bantu language family appears to have been formed by both kinds of processes at the same time and that contact can also lead to differentiation in an effort by speakers to create new identities. Bantu languages are conventionally divided up into geographic zones first proposed by Guthrie (1967,1971). Geographical area is denoted by a letter, and the individual languages is designated with a number, for instance Kichaga is identified as E62. Schadeberg (2003:146) highlights that this coding system is referential rather than genetic. The system has since been revised and edited with the addition of Zone J by the Tervuren scholars, for instance (Maho, 2001: 43. The following map provides an outline of Guthrie's Bantu zones along with Tervuren's zone J.

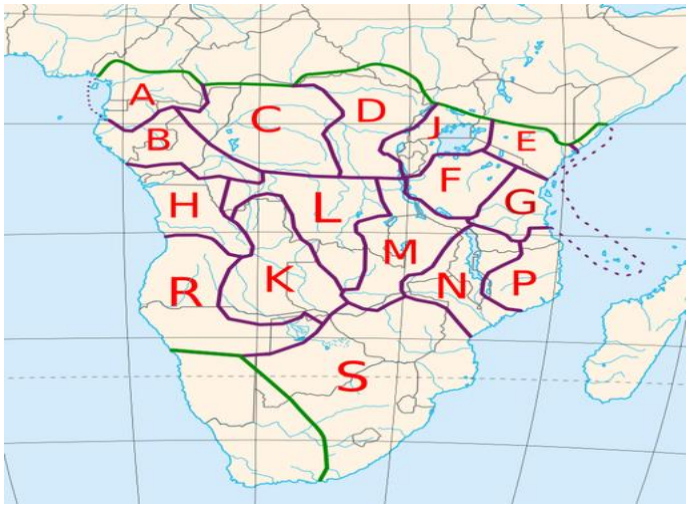


Figure 2. 3 Guthrie's Bantu zones with Tervuren's zone .J
Source: https://commons.wikimedia.org/wiki/File:Bantu_zones.png

2.3 Historical Definition of Bantu

The factors that follow, though not exhaustively, have been examined in coming to a definition of Bantu. Lexicostatistical surveys have looked at commonalties in Bantu and how they can be differentiated from their non-Bantu, Niger Congo neighbours (Bastin & Piron, 1999). Lexical innovations and phonological innovations have been examined. It has been possible to reconstruct probable consonant, vowel, and tone systems for Proto-Bantu (PB). As has been noted, Williamson and Blench (2000) have examined a set of features across all major branches of Niger-Congo which can facilitate the differentiation of Bantu from others. These include, presence or absence of noun class systems, presence or absence of verbal extensions, nature of pronoun systems and order of sentence constituents (Nurse and Philipson, 2003:6) More recently however, Blench (2015: 2) asserts, the line between Bantu and Bantoid is unclear, with languages from zone A having features closer to Bantoid with their reduced noun class system. While this debate is beyond the confines of the current research, findings relating to the Ring languages possible connection with the reconstructed Proto-Bantu family may prove insightful.

The following is an overview of the typological characteristics that have been found in Bantu as indicated by Nurse and Philipson (2003:7-10).

Vowels: 7 vowels have been designated to PB and most Bantu languages today have 7 or 5 (some have more, and some have nasalised vowels). Contrastive vowel length has been attributed to PB with some contemporary languages retaining while others neutralise the distinction. Synchronic vowel lengthening is common and occurs in certain distinctive context such as after glides and in penultimate position.

Consonants: The PB consonant system has 3-4 positions of articulation and distinctive voicing. Notable features consisted of clusters of nasal and homorganic stops and a general lack of fricatives. Processes such as aspiration, lenition in general, palatalization, (Bantu) Spirantization, postnasal voicing, and nasal harmony are widely recognised.

Syllables: Are open ((N)CV, NV, V) in most languages. Schadeberg (2003:147) points to *(N)CV as the dominant PB syllable structure while pointing out that the majority of PB reconstructions are morphemes (roots and affixes) and that morphemes frequently do not fit syllable structure.

Tones: Most Bantu languages are 97% tonal. In contrast to non-tonal languages, tones are just as much a part of syllable or word, as are consonants and vowels. All languages distinguish two surface tones (H, L), often analysed as /H/ vs. Ø. Common

tonal processes are: downstep; spreading/shifting, usually to the right; the disfavouring of successive H's (Obligatory Contour Principle); the avoidance of contour tones.

Morphology: Bantu languages are agglutinating. Verbs have a complex set of affixes. The majority of Bantu languages have non-derived and derived nouns. Derived nouns have an inflectional prefix and derivational suffix. Crucial information is carried in the verb and it may stand alone as a sentence. The majority of Bantu languages are pro-drop. Verbal prefixes and suffixes may be used to express negation, relativisation, tense, aspect, conditional, subject (person/noun class), object (person/noun class), focus/assertion, derivational extensions, mood, and links to syntactic and discourse features. Agreement, both, anaphoric and grammatical, is extended from the head noun across the noun phrase and into the verb.

Syntax: The typical order of sentence constituents across Bantu is S (Aux) VO (Adjuncts). A small number, as their only or dominant order have OV and a few allow V+Aux. The N tends to precede its modifiers within the NP. The common order is N+Adj+Numeral+other constituents, however this can be flexible due to contextual and pragmatic factors. Bantu languages tend to have few real prepositions or adjectives. They do not have articles, although definiteness can be expressed via the nominal argument (subject), object markers in the verb (object), or ordering of the demonstrative in the noun phrase.

2.4 Classification

The internal and external classification of the Bantu languages may be characterised as follows.

2.4.1 External

The Bantu languages are the largest part of the Niger-Congo family. While early approaches such as Meinhof's Bantu vs. Westermann's Sudanic suggested that Bantu stood as a unit in and of itself, this has since been opposed, for instance by Greenberg (1963) and is regularly being revised as we saw in Figure 2.1 by Williamson and Blench (2000). As has been noted, the boundaries defining Bantu versus Bantoid are still an open question (Blench, 2015). While a reconstruction of significant parts of PB phonology, lexicon and grammar have been possible, challenges still remain, for instance; that of finding specific Bantu innovations when their nearest neighbours are part of a wider linguistic area in which phonological attrition has led to a general reduction of morphology. Such challenges make it difficult to know if apparently Bantu-specific innovations missing in neighbouring

languages are due to loss (Schadeberg, 2003: 154). While Bantu appears to occur in a low position in Figure 2.1, Schadeberg (2003: 155) notes that this is in sharp contrast to its role as a model for the Niger-Congo family as many of its morphological features, particularly its noun class system and system of verbal derivation may be seen in numerous distant branches of the Niger-Congo family such as Kordofian and Gur.

2.4.2 Internal

The subgrouping of Bantu has posed a challenge for linguists in recent decades and a definitive position has yet to be asserted. As Blench (2015:4) points out, "though Bantu has been treated as a genetic unity since the middle of the nineteenth century, it remains an open question as to whether there is any distinctive boundary between Bantu and the languages related to it." While shared innovations such as sound changes and semantic shifts can point to a particular subgroup, Schadeberg (2003:156) points out that as soon as such an innovation is interpreted as 'shared' and therefore diagnostic for membership in a certain subgroup, all other innovations affecting languages both inside and outside the proposed subgroup must be considered as being "parallel" historical coincidences, or as having spread "laterally" i.e. by contact. This then gives some uncertainty as to the legitimacy of the initial assumption. He suggests that the recognition of non-Bantu cognates could help with this issue, but this takes specific PB innovations out of the equation. Schadeberg outlines a model used to counter this problem, that is; assuming a broad picture of the internal subclassification of Bantu, without defining its particulars too strictly. This consists of the northwest languages (approximately zones A, B and C) as the one branch and the remaining languages as another branch. These are also referred to as "Forest Bantu" versus "Savannah Bantu" respectively.

2.5 Bantu Nominal Morphology

Noun classes are a pervasive characteristic of African languages and are a central feature of the Bantu and Grassfields Bantu languages. Both prefixation and suffixation occur in Bantu nouns, with noun class prefixes being the identifying feature of the Bantu noun class system (Katamba, 2003: 103). These prefixes are central to the concordial system of Bantu wherein the noun takes its class prefix and appropriate matching prefixes in other words in the construction, such as adjectives and locatives (Katamba, 2003: 111). Noun classes can be paired in a variety of ways pointing to their singular and plural forms; these pairings are known as noun class genders. Double marking is a phenomenon found in some Bantu languages in which a given noun may take two noun class prefixes indicating both its regular class

marker along with a diminutive class marker (Aikhenvald, 2008: 63). For instance, Bleek's (1869) reconstructed and numbered a Proto-Bantu (PB) noun class system from which it is proposed that daughter languages have stemmed. This allows for the conduction of comparative studies. Revisions have been made to this including Meinhof's (1899/1932, 1906) additions of five additional classes for Ur-Bantu. Despite some minor alterations since then, the Bleek-Meinhof PB system has largely been maintained (in Katamba, 2003: 103, 104). While there are still questions as to which noun classes were present in PB and which were later innovations there is sufficient evidence to pave the way for diachronic and synchronic cross-linguistic analyses. No individual Bantu language has all twenty-four noun classes identified in PB with a number of noun classes having been lost to varying extents in daughters of PB; those with numerous noun classes known as a 'Canonical Bantu' noun class systems are more common while those with few noun classes are identified as 'Reduced Noun Class' systems (Katamba, 2003: 108).

2.5.1 Noun Class Assignment, Distribution and Pairing.

Some theorists such as Katamba (2003:106) suggest that gender systems are either semantically arbitrary or superfluously mark obvious differences at best. Denny and Creider (1986) have argued for demonstrable semantic motivational categories throughout the noun classes of PB, including those of animacy, configuration and kind, as we shall discuss in chapter 6. Speaking on double class marking in Bantu, Aikhenvald (2008: 63) asserts that the assignment of noun classes in Bantu only partially stems from semantic motivations while the remainder remain oblique. She points out that morphological principles also appear to be at work with all verbal infinitives belonging to class 15 for instance. Aikhenvald (2008: 23) also points out that while modern Bantu languages are much less semantically motivated than was the case for PB, "the semantic 'nucleus' is still discernible." Cognitivist linguists have done additional work in this area and argue that class membership can be justified on the basis of multiple criteria, including 'family resemblance, metaphor, metonymy etc.' (Katamba, 2003: 116).

Claudi (1997:64) hypothesises that the original function for gender marking on nouns might have arisen to make abstract ideas more 'concrete'. This may have been done by three possible routes: the 'demonstrative channel', 'derivational channel', and 'numeral classifier channel'. The most relevant for Bantu appears to be the derivational channel. The head noun of a compound referred to a generic category -> reanalysed as a derivational affix -> becomes a gender marker (Claudi, 1997). Grammaticalisation and semantic bleaching led to a loss of the ability to

appear independently and therefore they had to be appended to another noun while head nouns (prefixes) of the compounds may have taken on a pronominal role. In support of the notion of the semantic basis of noun classification, nouns belonging to the same gender tend have some level of semantic coherence. Clearer examples of semantic coherence are found in class 1/2 which hold human nouns, class 15 which contains infinitives and some body parts that come in pairs, and classes 16-18 which contain locatives. Güldemann (2003:187) also points to lexical heads as the sources for nominal prefixes in the grammaticalisation of pre-Bantu or even pre-Benue Congo.

A range of semantic bases for Bantu noun classes have been proposed over time. For instance, Creider (1975) outlines Sharmin's (1960) approach as it relates to the Bemba language. However other semantically opaque types are possible and, as has been noted, nouns should not be merely characterised on the basis of meaning.

Table 2. 1 Bantu noun class semantics (Sherman, 1960: 124 in Creider, 1975: 128)

Classes	**Common Types of Nouns**
1/2	people
3/4	trees
5/6	paired parts of the body
6a	uncountable like liquids, collectives
9/10	wild animals
14	abstracts, uncountables
15	the 'infinitive'
15/6	paired parts of the body
16	precise, limited, defined place, time at which
17	imprecise, vague, undefined place, direction
18	place in or around the edge of, time within which

Agreement patterns are commonly seen in groups of nouns with a common affix along with common modifiers. One example of concord is that of the associative noun phrase in which a head noun and dependent noun display noun class based agreement (Katamba, 2003: 111). This is further elaborated on in section 2.7.2 on the noun class system in Grassfields Bantu. There is often a singular and a plural affix for a given noun and these two noun classes with the same noun root can be

categorised together as a 'gender paring'. Gender in the case of noun classes refers to grammatical rather than biological gender. Regarding the pairings and areal distribution, Katamba (2003: 109, 110) points out that skewing is common with a preference for certain class pairings such as 1/2, 3/4 and 5/6 with some less usual parings such as 3/6 possibly being the result of mergers.

2.6 Syntax

The following typological features are characteristic of the Bantu syntactic system.

2.6.1 Word Order

The typical order of sentence constituents across the Bantu family is S (Aux) VO (Adjuncts) with a small number of languages having OV as their only or dominant order, and a few permitting V+Aux. Preposing and postposing of objects and subjects respectively is a common means of expressing focus, as is the use of intraverb morphemes. Bearth (2003:127) points out that it is a common tendency in Bantu to assign preferentially the positions next to the verb based on the hierarchy of parameters outlined by Duranti (1979:32) that is; (i) animacy of the nominal referent (human>animate>inanimate), (ii) semantic role relationship to the process expressed by the verb (beneficiary>goal>patient>locative), (iii) participant category (first>second>third person) and (iv) number (Plural>Singular). Within the nominal phrase the dominant word order is Noun-Modifier and while N + Adj +Numeral +other constituents is the prevalent order, flexibility to mark pragmatic functions is also common (Nurse and Phillipson, 2003: 9). Bearth highlights that widely supported views as to the motivations for this hierarchy relate to features of 'inherent topicality', or 'cognitive accessibility'.

2.6.2 The Nature of the Verb

The following structure of the verbal word is seen in most Bantu languages (Nurse, 2003:90).

(1) ***Initial – Subject – Negative – T(A) - Object≠root –Extension (s) – Final – Suffix***

All slots to the left and right of root-Extension involve verbal inflection. A number of Bantu languages also have compound verbs and these have been treated by some analysts as biclausal and some even have compounds with three words (Nurse, 2003:90). Nurse (2003:91) points to research on some Cameroonian languages in the northwest in which there may be a structural spectrum, from languages having

the one-word structure described, through languages where this structure is loosening, and on to languages where some or all of the pre-stem material is not phonologically bound at all.

2.6.2.1 Simple verb stems

Simple, non-derived verbs in Bantu appear to demonstrate a three-way classification based on the having one, two or three arguments. Most verbs belong to the class of two-place verbs due to the maximum number of core arguments that it is possible for them to take. Subject-verb agreement is obligatory while the verb-object phrase is not usually found unless the object represents a specific human referent or the referent of the object is already established as a discourse topic (Bearth, 2003:122,123). Underived three-place predicates are few in number. In semantic terms, they usually serve to denote transactions involving a giver, a goal or beneficiary, and a patient undergoing the transaction. The two co-occurring objects are commonly distinguished on the basis of their semantic roles. The goal, which is usually human or animate entity, tends to take the position immediately after the verb while the patient normally takes the second position following the verb. Contrary to the object of a two-place verb, the patient of a double object construction cannot take agreement (Bearth, 2003:123).

2.6.2.2 Derived verb stems

The Bantu languages have a wide range of derivative morphemes, or 'verb-extensions', that may be suffixed to the verb stem. The valence of a verb may be changed by adding one or more of these to the verb stem. For example, the applicative extension, if added to the two-place simplex verb –let-a 'to bring (something)' in Swahili, changes the latter into a three-place verb –let-e-a 'to bring (something to somebody)' (Bearth, 2003:127). Agreement patterns are the same as those for double object constructions.

2.6.2.3 Passivisation

A number of strategies are used in the realisation of the passive in Bantu. These include subjectivisation of core arguments, for example, through prefix agreement with the object rather than the subject. Subjectivisation of adjuncts is also used through processes such as shifting locative expressions as a whole to subject position or the two-step process of first objectivisation and second subjectivisation of the locative expression (Bearth, 2003:135-139).

2.6.3 Tense and Aspect in Bantu

Tense and aspect are usually encoded using a combination of three components: Inflection of the verb, tone, and the use of verb additional to and

preceding the main verb (auxiliaries or, in the northwest, serial verbs) (Nurse, 2003:92). The basic method of encoding tense and aspect is in using an individual marker, segmental or tonal, in a single word. Tone is frequently used in order to indicate verbal categories. Lexical stems usually fall into one of a small number of underlying classes. Following this, on the left of the stem the (tense) marker may carry its own tone, and on the right, the (aspect) does likewise. Total verb forms may also carry an imposed tonal melody for individual aspects and tenses. Other tones such as floating tones may combine with these. Underlying and surface tones are not usually the same due to a range of phonetic linking processes. As such, surface tones normally carry the grammatical information (Nurse, 2003:92, 93).

2.6.3.1 Tense

The Bantu languages commonly display multiple time divisions. The number of past tenses examined in Nurse (2003: 90-102) range from one to four while those with two and three are the most numerous. Distinctions include notions such as middle and far past, or immediate past in relation to the time of speaking. Nurse (2003:99, 100) points out that future tenses can be challenging to categorise as they could be viewed as an extension of the present and, as such, be represented by progressive or habitual. Firmness of intent or degree of certainty are common in future characterisations and these can rely on modal and volitional verbs, auxiliary verbs etc. A range of one to three future tenses was found in Nurse's study. Nurse (2003: 101) believes that a common occurrence, though an under-studied one, is flexibility of reference and appears to occur widely across Bantu. For instance, the far past can equal earlier today or last year depending on planting times, context etc.

2.6.3.2 Aspect

A small number of aspect categories occur regularly throughout Bantu showing more uniformity than tense categories. Three general aspectual categories have been identified: imperfective, contrasting with perfective, and anterior. Somewhat less widespread are progressive and habitual. A sixth type, persistive, seems to be a specific characteristic of Bantu (Nurse, 2003:96).

Anterior in Bantu is primarily expressed by reflexes of Proto-Bantu final *-ide ([-ile, -ele, -ire, -ie], etc.) pointing to a connection with earliest forms. It can also move over into past or stative. Where *-ide has been replaced as anterior (ANT) it's usually by grammaticalised forms of verbs meaning 'finish'. Perfective (PFV), describing the undifferentiated and time-bounded event as a whole is expressed by one-word forms, inflected at T(A). By contrast, imperfectives (IPFV) describe the internal

constituency of events and usually representing events of a larger period and therefore are not punctual. They often represent background events for events foregrounded by (PFV). While difficult to categorise, Nurse points out that it may be expressed by inflection or the auxiliaries. The fourth category PROG represents an action occurring on an ongoing basis at the point that a second event happens and for a short preceding period, thus contrasting with IPFV (Nurse, 2003:96-99).

2.6.3.3 Other Categories:

There are both local and non-local innovations present. An example of the latter would the consecutive (CONS) tense (Nurse and Phillipson, 2003:101).

2.7 Grassfields Bantu and the Ring Languages

The study at hand will look at the Ring languages, a subgroup of what Nurse and Phillipson (2003: 5) deem are probably the nearest relatives of the north-western Bantu languages in Cameroon known as Grassfields Bantu (GB). GB is a cluster of over fifty languages spoken in the West and North-western Provinces of Cameroon. (Watters, 2003).

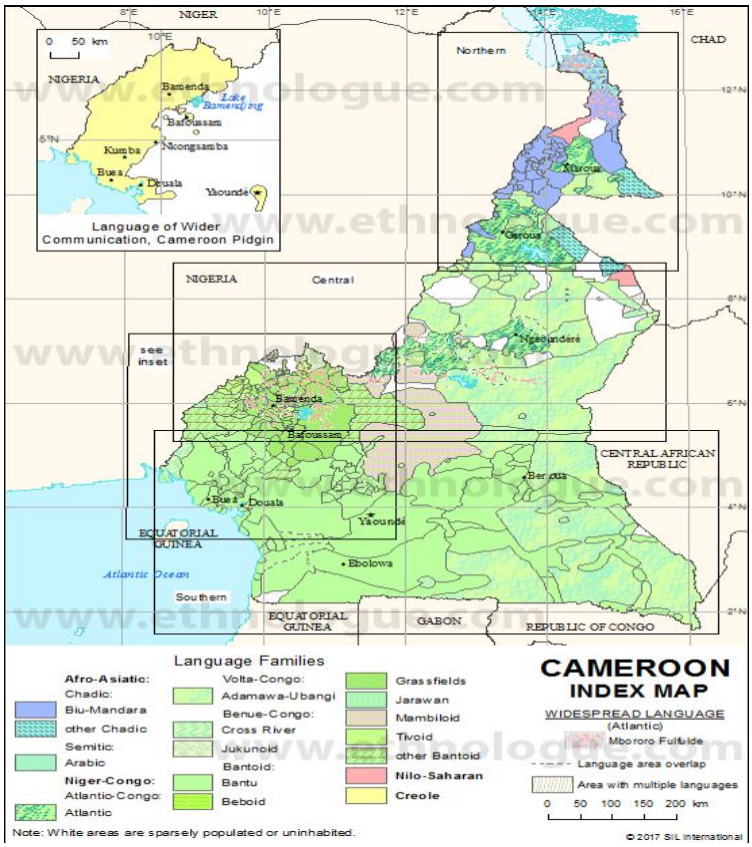


Figure 2. 4 Cameroon index map of languages including Grassfields Bantu. Source: https://www.ethnologue.com/map/CM_x

In terms of the external classification of the GB languages, it remains unclear whether there is any clear boundary between traditional Bantu and GB Bantu. It is commonly accepted however that, alongside a number of language clusters in the

Cameroon-Nigeria region, GB languages are the nearest cousins of Guthrie's Bantu (Watters, 2003) as we saw in Figure 2.1.

The internal unity of GB is largely accepted with Stallcup (1980a:54) suggesting a 60% lexical similarity, while Piron (1995:16) claims a 41% similarity. Watters and Leroy (1989) proposed a graded division of these languages as illustrated by Figure 2.5. This was later supported by Piron (1995).

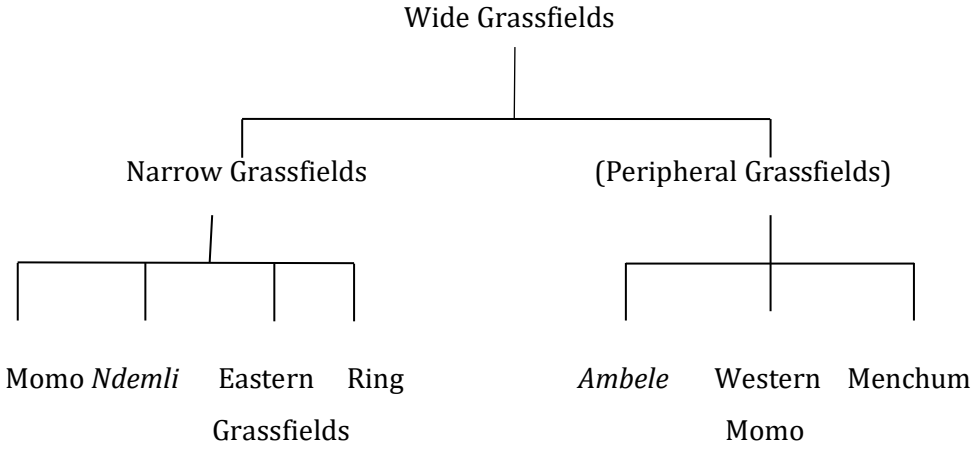


Figure 2. 5 Piron's internal classification of Wide Grassfields (branch average method) (Individual languages in italics.) From Watters, 2003:228.

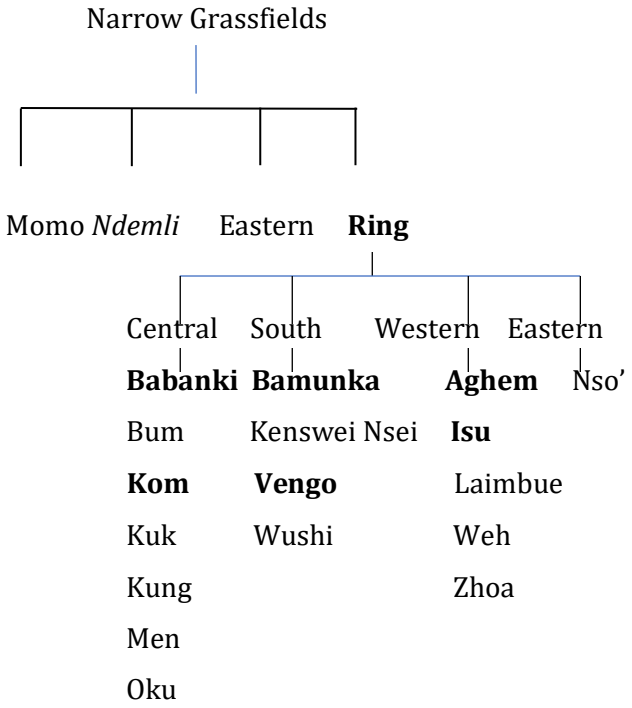


Figure 2. 6 The position of the Ring languages within the Grassfields family

This study will look in particular at a selection of members of the Ring subgroup drawing on a selection of members from the Central, Northern and Western subgroups.

2.7.1 Vowels, Consonants, and Tone

With regard to vowels, Watters (2003:234) points to a range of eight or ten vowels in Grassfields Bantu which are likely in line with Proto-Mbam-Nkam. Men (Centre Ring) for instance has the following nine vowel system: /i e ɛ ɨ ə a u o ɔ/ (Moller: 2012:4). Both long vowels and diphthongs are common in GB with a variety of processes such as assimilation, lengthening and nasalization being identified. In terms of consonants, Watters (2003:234-236) outlines the following; stops usually involve the opposition between the voiceless set / p t k / and the voiced set / b d g /. Fricatives include / f s / with some varieties also using / v z ɣ /. Semi-vowels (glides) are almost universal. The nasal set can include /m n ɲ ŋ/. The palatal nasal /ɲ/ occurs less frequently and its phonological status is often uncertain (ibid). The consonants mentioned above all occur in the initial consonant position of the syllable (and stem). In contrast, the final consonant position of syllables, and stems, limits the consonants. Rather than fifteen to twenty-five consonants, only one to eight occur in the final position.

As with wider Bantu, the Grassfields Bantu languages exhibit highly complex tone systems. They have generally been divided into a tone system of two tone levels, High (H) and Low (L). Verbs are divided into two classes; H tone and L tone. Nouns have been divided into four classes, all of which have with L tone prefixes: L-LL, L-LH, L-HL, L-HH (Watters, 2003: 236).

2.7.2 The Noun Class System

As we have seen, one distinct feature of the Bantu and GB languages is its complex method of classifying nouns. While debates around the basis of the original Bantu class system centre around commonalities in meaning and semantic bleaching of elements of compound nouns, today classes are distinguished along the lines of grammatical categorisation with remnants of original semantic motivations (SIL Cameroon, 2005). Grammatical criteria encompass the form of a noun and its agreeing elements. An example of agreement in Grassfields Bantu that finds a parallel in Narrow Bantu is that of the associative noun phrase. The associative NP in the Ring languages has a general pattern of a head noun (N1) and the dependent noun (N2) along with an associative marker which can be have an explicit morpheme agreeing with the head noun or possibly tonal agreement (Ingle, 2013: 81). A similar pattern is seen in Grassfields languages such as Obang and Bafut (Tamanji, 2009; Asohsi: 2015). These associative constructions can denote meanings such as part-whole relationships, purpose or possession. Example (2) from Bafut illustrates an associative construction indicating place of use.

(2) Bafut (Tamanji, 2009: 93)

fɨ̀-kùù	fɨ́	ǹ-dânwì
C19-bench	C19-AM	C9-church

'a church bench'

Watters (2003:239) notes that noun classes form a set of isoglosses dividing GB languages into two major sub-groupings. One group consists of the Eastern Grassfields languages. The other consists of the Peripheral, Momo and Ring languages. Hyman (1980c:182) provides a full set of reconstructed noun class formatives, specifically noun prefixes and concord affixes, for Proto-Eastern Grassfields as well as for the combination of Proto-Momo and Proto-Ring (i.e. "Western Grassfields"). These reconstructions demonstrate the criteria listed in Table 2.2.

Watters (2003:240, 241) asserts that such reconstructions pointedly make the claim that the GB noun classes correspond to the Proto-Bantu noun classes 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, and 19. He goes on to highlight the following observations: Certain GB languages distinguish noun class 6 from 6a, a pre-Proto-Bantu distinction. Class 6a is used for liquids and is phonologically similar to Proto-Bantu noun class 6, while Class 4 is present in only a few Peripheral-Momo-Ring languages. No GB language attests to Proto-Bantu classes 11, 12, 14 or 15, though Schaub (1985:172) claims 15 for Babungo as distinct from 7. With regard to the locative classes 16, 17 and 18, residual forms of the Proto-Bantu classes appear to be present in a number of languages. The proposed connection between GB and Proto-Bantu will be relevant for the research at hand, particularly in chapter 7 when examining possible semantic motivations behind GB noun class assignment.

Table 2. 2 Reconstructed noun class formatives for Proto-Eastern Grassfields and Proto-Momo and Ring in Watters (2003:240)

	Proto-Eastern Grassfields		Proto-Momo & Ring	
Noun Class	**Noun Prefix**	**Concord**	**Noun Prefix**	**Concord**
1	ǹ-	ù-	ù(n)-	ù-
1a	<null>	(=1)	---	---
2	bà-	bə́-	bə́-	bə́-
3	ǹ-	ú-	ú-	ú-
3a	ì-	(=3)	---	---
4	---	---	í-	í-
5	lì-	lí-	í-	í-
6	(=6a)	(=6a)	á-	gá-
6a	mà-	má-	mà- *	mà-
7	à-	í-	kí-	kí-
8	bì-	bi̱-	bí-	bí-
9	ǹ-	ì-	ì(N)-	ì-
10	ǹ-	i̱-	í(N)-	Cí-
13	---	---	tí-	tí-
19	fə̀-	fə́-	fí-	fí-

2.7.3 The Verb in Grassfields Bantu

Watters (2003) points to the following verb structures in GB; the canonical form of is –CV or –CVC. Also seen are –CVV and –CVCV, but less frequently. There are no final theme vowels. Two verb classes exist in GB languages, those of high tone and low tone. Watters (2003:245) notes that GB languages have a limited set of verbal suffixes, or extensions which do not include passive or applicative forms. They are largely productive with a limited set of verb roots, and have a complex semantic structure Primarily four suffixes are attested: -sV ‘causative’, -tV ‘pluralizer, distributive, attenuative’, -nV ‘reciprocal, valence change’, and –kV ‘iterative’.

2.7.4 Syntax

The GB languages have a basic word order of is SVO, with some variation. A head-complement order prevails with possessive and demonstrative adjectives as well as genitive phrases and relative clauses all following their head noun. Furthermore, objects and other adjuncts follow their head verb. GB languages follow a Bantu-wide trend of agreement of noun complements with the head noun is pervasive (Watters, 2003: 248).

2.7.4.1 Tense and Aspect

As with the Bantu languages, the tense-aspect-mood (TAM) systems of GB contain a complex set of past and future tenses (Watters, 2003). The verb in GB languages generally consists of the verb root and a set of TAM affixes though unlike Bantu, no GB language has object prefixes Watters (2003:246). Watters points to the range of differences with the GB with regard to TAM marking, from the most complex Bamileke family members with having the largest number of formal tense distinctions including realis and irrealis moods, and four sets of past and future markers to the less complex Ring and Momo languages such as Babungo (Ring: this study) in which in which F1 and F2 form a single category, as do F3 and F4, and Ngie (Momo) in which that P1 and P2 form one category as do P3 and P4.

2.7.4.2 Passivisation, Topic and Focus

Passivisation by mean of morphology or syntax is not apparent throughout the GB languages. However, indefinite personal forms may be used to express similar notions. Topic is usually sentence initial with some languages using morphological markers to highlight constituents, while focus is commonly achieved through morphological and syntactic means such as focus morphemes, clefting and reduplication (Watters, 2003: 252, 253).

2.7.5 The Ring Languages

This study will largely look at the following five members of the Ring languages Grassfields sub-group with a particular emphasis on Babungo due to the availability of more comprehensive linguistic data on this language. The languages have been selected from the western, central and southern Ring languages. Reference will also be made to neighbouring Grassfields languages and Narrow Bantu for areas of commonality and support.

2.7.5.1 The Babungo (Vengo) Language

The Babungo language is a Southern Ring subgroup language of the Western Grassfields Bantu family with a speaker number of 14, 000. Word order is generally SVO with modifiers following the head unless they're in emphatic form. It has a

complex noun class and tone system with fourteen noun class identified by noun affixes and concord elements though not all classes have affixes on the noun. Eight classes take a prefix, one a suffix, and five have no marker on the noun (Schaub, 1985).

2.7.5.2 The Bamunka Language

Bamunka is a South Ring language spoken by members of the Bamunka village located in the north-west province the Bamunka village is located in the Ndop Plain in proximity to Bamenda. It comprises just over 30, 000 inhabitants. A part of the Niger-Congo family of the Grassfields Bantu (GB) languages, Bamunka was given a completed orthography in 2006 with ongoing work being done on the Noun Phrase, the Verb Phrase and the Clause. The word order of Bamunka is typically SVO. Morphological processes of verbs include tense and aspect marking using auxiliary verbs and grammatical tone (Sorsamo, 2008:3). Adjectives commonly follow the noun, though in certain cases such as with regard to size they may precede it. Class agreement with adjective and noun class is commonly found, with a minority showing no class agreement.

2.7.5.3 The Mmen Language

Mmen is a Centre Ring Grassfields language. Bafumen or Mmen is the name given to the village in which the highest number of speakers are found being 30, 000 (Troyer et al. 1995:8). As is the case with Bamunka, Mmen utilises a concord system based on agreement according to its 13 noun classes and corresponding prefixes. A variety of pairings between the singular and plural classes, referred to as genders, also occur.

2.7.5.4 The Babanki Language

Babanki is a Centre Ring Grassfields Bantu language spoken in the villages of Kejom Keku and Kejom Ketingguh with minor variations in pronunciation in both areas (Akumbu and Chibaka, 2012). The number of speakers is currently 39, 000 and increasing. It is also an SVO language with 12 noun classes in total.

2.7.5.5 The Aghem Language

Aghem, also known as Wum and Yum, is a West Ring language with a population of 26, 700 speakers (and increasing). It is located in the Wum Central subdivision of the Menchum subdivision. It has 12 noun classes and five basic tenses (Hyman, 1979).

2.7.5.6 The Kom Language

Kom is a Centre Ring language with between 150, 000 and 200, 000 speakers (Schultz, 1997). It demonstrates many similarities with the other Ring languages

under investigation with a set of 13 noun classes, agreement marking on modifiers and a complex system of seven tenses.

2.7.5.7 The Isu Language

Isu is a West Ring language, with approximately 10,400 speakers and is closely related to Aghem, so much so that it is may be considered a dialect of Aghem (Kiessling, 2011: 3). Isu has twelve nouns classes and a variety of contrasting tenses; four degrees of past reference and two degrees of future reference, all of them marked by verbal proclitics with inherent tonal properties. these tenses are superimposed on a basic categorial division of perfective vs. imperfective aspect (Kiessling, 2011: 3, 4)

2.8 Summary

This chapter provided an overview of the narrow Bantu language family with reference to its historical origins in the reconstruction of Proto-Bantu, debates surrounding the identification of Bantu subgroups as languages or dialects, and highlighted the ongoing discussion as to whether Bantu and Bantoid may be seen as distinct categories. A typological overview of Bantu features such as word order, noun class categorisations, and areas of commonality of tense and aspect were given along with reference to more detailed areas of syntax such as verb classes and passivisation. Questions surrounding the allocations of nouns to particular classes as being semantically or arbitrarily based, or a combination of both, were raised. Finally, a description was given of the Grassfields Bantu languages, with particular reference to the Ring language subgroup, a near neighbour of the wider Bantu family with strong commonalties in noun class categorisations with a large number of classes corresponding to Proto-Bantu suggesting a common origin. Similarities are also present in the tonal nature of the GB languages along with the range and nature of tense and aspect markers demonstrating that while exceptions are present, a knowledge of wider Bantu provides a helpful framework, at least historically, for a typological and functional investigation of the GB Ring languages.

Chapter 3. Typology and Universals

3.1 Introduction

The study of universals in language and predictions that can be made about a given language type has been an area of growing interest known as the field of linguistic typology. This research will look at a selection of the Ring languages in order to examine the validity of various typological approaches, such as word order predictions, the notion of iconicity and the features of [Shape] and [Transitivity] as predictors of the presence or absence of discrete word classes. The use of the RRG framework will enrich this typological study of the Ring languages by providing insights into their adherence to typological predictions and discovering possible semantic underpinnings for these findings.

This chapter will look at various approaches to understanding the concept of typological patterns and universals in the work of theorists such as Greenberg, Comrie, and Dryer and will examine categories of typological research such as word order, case-marking and valence-changing devices. Questions surrounding the notion of the universal subject will be raised providing further impetus for the preferred use of the notion of privileged syntactic argument (PSA) in the RRG framework as proposed in this research. An overview of the potential motivations for such typological patterns such as iconicity and language processing factors will also be introduced.

3.2 Typology and Universals

The study of linguistic universals can be approached in two broad ways. Greenberg's view identifies universals based on concrete rather than abstract analyses while the Chomskyan approach views universals in terms of abstract structures, such as the deep structures of generative syntax and abstract principles governing the forms of grammatical rules. While the latter view is motivated by the presumption of the innateness hypothesis and the universality of child language acquisition, the problem is that this assumes aprioristic knowledge with regard to these principles, which can only very indirectly be demonstrated by empirical evidence. By comparison, a functional, empirical approach can provide more cross-linguistically relevant data that proves easier to examine. This view works on the assumption that universals serve to make languages more functional, either generally as a communicative system, or more specifically to the particular communicative needs of humans (Comrie, 1981:25, 26). Thus, the communicative data itself may be measured and compared with a greater degree of objectivity. This

does not discount all theories of innateness but rather allows for a range of possible explanations for universal linguistic tendencies. Language universals can be characterised by four broad types; absolute vs. non-absolute, and implicational vs. non-implicational. Absolute universals are those which exist in all languages, for instance, the ability to turn affirmative sentences into negative ones, while non-absolutes reveal universals tendencies that cannot be merely attributed to chance, statistically speaking, though some exceptions may be found, for instance, the greater quantity of SOV and SVO orders in world languages (Song, 2001:6). Implicational universals are formed in the following terms, 'if *p* then q', the presence of one property implying another. An example would include the following, 'if a language is verb-initial, then it is also prepositional' (Song, 2001:7). Non-implicational universals do not predict the presence of one property on the basis of another, but rather the presence of one typological property. Song (2001:8) points to the salience of SOV and SVO word orders an example of this. Interestingly, this may also be identified as a non-absolute universal, thus we see some typological categories intersecting resulting in three more refined typological parameters; (a) absolute implicational universals, for example, if a language is verb-initial it is also prepositional, (b) absolute non-implicational universals, such as the ability of all languages to make affirmative sentences negative, and (c) non-absolute implicational universals, for instance, Greenberg's (1963b) Universal 21 which states that if some or all adverbs follow the adjective they modify, then the language is one in which the qualifying adjective follows the noun and the verb precedes its nominal object as the dominant order (in Song, 2001:7,8).

Linguistic typology differs from the notion of universal constraints found in all languages in that it relates to the classification of structural types across languages and works from the functional approach. Far from being distinct from the study of universals, Song (2001) points out that research on language universals feeds on typological discoveries, that is the individual structural properties of a language and its correlations with other languages. Such typological findings help to provide the data needed for the establishment of linguistic universals. Typologists examine correlations among several grammatical categories such as word order, case, agreement, imperatives etc. and examine the status of such correlations cross-linguistically. They ask which features are accidental, universal, or specific to a given language. A number of diverse languages are studied and strong patterns can be identified between certain linguistic structures. Croft (1990:9) provides the following example; the seemingly random irregularity of the objective forms of the

English pronouns (me, us, him, etc.) is actually a manifestation of a widespread pattern of relationship between case and animacy, namely that direct objects that refer to more highly animate beings are more likely to have distinct object case forms. A clear instance of the relationship between typology and universals is seen in the worldwide research done on the word order categories of languages. Not only were 6 distinct word order types established, but the statistical frequency of SOV and SVO languages allow these particular structural tendencies to be categorised a universal as seen above.

3.3 Typological Categories

There are a wide range of potential typological categories to be examined in a given language including word order, case, the notion of 'subject', valence changing devices and relative clauses. Some of those particularly relevant to the study of the GB languages at hand will be elaborated on below. Common typological categories in which universal and varying degrees of constraints are found include those in 3.3.1-5 below.

3.3.1 Word Order

A number of word order parameters have been identified across languages. Greenberg's universal 15 states, "There are many instances where language has a tendency to mirror the temporal order of events by linear order; a wish necessarily precedes its realisation, a statement of purpose necessarily precedes its realisation etc." (Comrie 1981:88). The original word order parameter identified six logically possible word order types, namely SOV, SVO, VSO, VOS, OVS, OSV. The data of world languages is heavily skewed in favour of the first three though there are solidly attested examples of the others. Greenberg's work went on to find a number of apparent correlations between word order type and other phenomena such as the in universal 5 in which he states that, "if a language has dominant SOV order and the genitive follows the governing noun, then the adjective likewise follows the noun." His work has been built on by Lehmann (1973, 1978a, 1978b) in his 'Fundamental Principle of Placement' or FPP which the primary syntactic elements of the sentence to be the verb and object (noun phrase), and leaves out the notion of subject due to its lack of relevance for several languages (Song, 2001:56-58). Thus, Greenberg's typology is refined into two group OV versus VO languages. Predictions include, in OV languages verbal elements such as negation and causation occur the right of the verb, while in VO they occur to the left, and, in OV languages, nominal elements such as adjectives and genitives occur to the left of the noun, but to the right in VO languages (Song, 2001:57). Vennemann (1974a)

adopted a similar line of thought in his 'Principle of Natural Serialisation' (or PNS), working off the notion of operators (dependants/modifers) and operands (heads/modified) proposing that they tend to show serialisation in one direction or another. Critiques have been made of this theory regarding languages which display properties of both types, and the necessity of transforming Greenberg's unilateral universals into bidirectional ones if Venneman's approach is taken to its logical conclusion (Hawkins 1983, Comrie, 1989). More recently, based on a sample of over 600 languages, Dryer (1991) has sought to provide evidence to support the VO/OV or verb-initial/verb-final distinction. Rijkhoff (2004) takes a general OV/VO approach and he provides further insights into the classification of nominal constituents and cautions against purely semantic definitions in studies on word and constituent order. These approaches will be further discussed and the Ring languages analysed as to word order patterns in chapter 5.

3.3.2 Case marking

Fixed word order patterns in a given language tend to answer the question 'who did what to whom?'. An alternative method is that of case-marking wherein, by morphological means (e.g. affixes) or function words (e.g. adpositions), this question is answered. Languages may mark these distinctions on the head of the clause (head-marking) or on its dependent argument (dependant making). The three relevant constituents to this framework are that of *S* (subject of an intransitive clause), A (Agent of a transitive clause), and P (patient of a transitive clause). Song (2001:141) outlines the five logically possible combinations, the most common being nominative-accusative in which the A and S are marked in the same fashion, and Ergative-absolutive in which the S and P are marked in the same fashion.

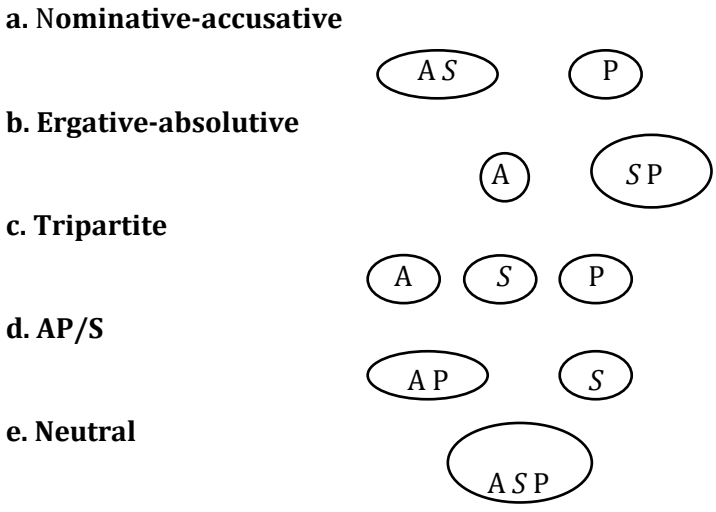


Figure 3. 1 Five logically possible combinations of A S and P (Song, 2001:141)

Tripartite and AP/S systems are rare while the Neutral system is not relevant to case-marking as constituents are never grouped together. Other possible systems include the split-ergative system which demonstrates both nominative-accusative and ergative-absolutive systems such as Dyirbal. The choice of system appears to be based on a Nominal Hierarchy (Dixon, 1994:85), for instance, the ergative-absolutive system may account for inanimate participants and the nominative-accusative system for the rest, as in Mangarayi (Song, 2001:148). Divisions may differ from one language to another

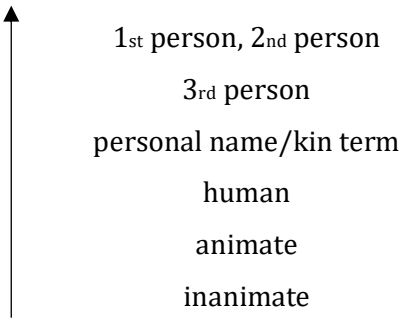


Figure 3.2

Figure 3. 2 The Nominal Hierarchy (Song, 2001:148)

Other systems include the active-stative system in which *S* takes the same marking as A if the intransitive verb is more activity-based in its semantic nature, and that of P if the intransitive verb is more state-like. The Direct-inverse system, found in linguistic areas such as the Algonquian and Tibeto-Burman languages, works on the basis of the Nominal Hierarchy in Figure 3.2 in that higher beings acting on a lower being take one set of verbal marking and vice-versa (Song, 2001:153). Song provides an adapted version of Siewierska's (1996) outline of the frequency of case-marking systems on a sample of 237 languages. See Table 3.1 with total referring to the total of each type of case marking system used in the aggregate.

Table 3. 1 Frequency of case marking systems (Siewierska, 1996 adapted by Song, 2001:156)

	Pronoun	Noun	Verb	Total
Nominative-accusative	82	63	131	276
Ergative-absolutive	28	41	15	84
Active-stative				
Direct-inverse	1	0	13	14
Tripartite	0	0	4	4
	6	4	0	10

3.3.3 Subject

An explicit definition of subject is one that has been argued amongst linguists. Problems have related to the syntactic criteria in establishing subjecthood. Linguists have found that subject can be categorised in terms of prototypes similar to that of colour and that the concepts occurs in a diffuse rather than a disparate sense. That said, not all sentences will necessarily contain a subject and there may be languages in which such inter-subjective intuitions may not be appropriate. This was seen in section 3.3.1 surrounding the controversy as to whether subject should be included as a central component in cross-linguistic word order classifications. In intransitive sentences the assignment of subject is usually clear. In transitive constructions, however, subject properties may be assigned to Agent (A), in which case we have nominative-accusative syntax, or to Patient (P), in which we have ergative-absolutive syntax. Some languages have a strong preference for one or the other such as English and Dyirbal respectively, while others are mixed (Comrie 1981:108). Semantic and pragmatic factors also play a role in the assignment of subject as has been demonstrated in work on the imperative and resultative clauses. This is also demonstrated in the tendency of languages towards nominative-accusative syntax displaying an interaction with the naturalness of identification of S with A or P. In semantic and pragmatic terms this can be explained by the human tendency to select more agentive entities as topics of discussion which leads to a natural correlation between agent and topic, so that in general terms, we expect that agent and topic will correlate. Comrie (1981:114) points out that this explains why a wide range of languages have a grammatical relation of subject that is found at the intersection of agent and topic, while relatively few define grammatical relations reflecting an intersection of patient and topic. Comrie views the notion of subject as a diffuse rather than as a discrete category which can be a helpful typological tool

when used alongside independently established correlations, such as agent and topic properties, to help us describe and explain disparate phenomena across a wide range of languages (Comrie, 1981:114).

Within the RRG framework, the notion of the Privileged Syntactic Argument (PSA) is used rather than that of universal subject. This framework captures the primary argument in a given clause based on construction-specific relations and is defined as a restricted neutralization of semantic roles and pragmatic functions for syntactic purposes. Pivots and controllers are used to help ascertain the PSA in a given construction along with its grammatical relation on the Actor- Undergoer Hierarchy. In syntactically accusative constructions in languages like English and German, the highest-ranking argument is the default choice for PSA, whereas in syntactically ergative constructions in languages like Dyirbal, it is lowest ranking argument which is the default choice (Van Valin 2005: 94). This helps avoid complications in languages which do not work well under the traditional formal notion of subject and provides typological information without imposing external grammatical structures upon a given language. This will be further elaborated on in Chapter 4.

3.3.4 Word Classes

In examining typological patterns and word order predictions regarding noun and verb phrases the notion of word classes and how they should be defined becomes crucial. As Haspelmath (2012:110) points out, "nouns, verbs and adjectives were not considered an interesting issue in generative linguistics for the first few decades; it was simply assumed by almost everyone that all languages have them." More recent methods used in differentiating linguistic patterns from one language to another is that of prototypes and patterns. A cluster of grammatical values on different parameters. A 'Prototype Category' is a category with a clear 'core' or 'central' member of the category, but fuzzy or variable boundaries (Croft:1990). Typological evidence to determine central or peripheral members include the following: frequency criterion of markedness, common zero marking, loss of category behaviour, and the exclusion of non-prototypical members (Croft, 1990:162-163) The notion of prototypes and markedness is important in the definition of word classes cross linguistic with authors such as Dixon (2004) taking a language specific semantic approach to notions such as adjective while Hengeveld (1992a, b) and Rijkhoff (2002) take both functional and syntactic factors such as markedness into account. Dryer (1992) on the other hand takes a semantics first approach with little reference to markedness of syntactic features. The definition

chosen will be crucial when comparing the GB languages in cross-linguistic terms as regards their word classes and will be examined in this study.

3.3.5 Voice and Valence

Another area of typological interest involves the categories of voice and valence changing operations. In relation to voice, passivisation is an operation generally found in nominative-accusative languages and may be realised lexically, morphologically, or periphrastically. The anti-passive, in the other hand, is more characteristic of ergative-absolutive languages and, like the passive, has a detransitivising function, this time of the traditional object rather than subject. Dixon (1994) however has observed a co-occurrence of both operations in certain languages such as Eskimo and Mam (ergative-absolutive systems). The Ring languages in question will be examined with regard to these notions through the framework of RRG using the PSA rather than subject or object characterisations.

Valence increasing and valence decreasing constructions such as causatives, benefactives, reflexives and reciprocals are also of relevance to typological research and will be analysed in the study that follows. Semantic underpinnings of various types of realisation of these operations have been linked to the choice of syntax used be they lexical, morphological, or syntactic. In causative constructions, for instance, the distinction between direct vs. indirect (length of temporal distance of the cause and result) and manipulative vs. directive (physical vs. non-physical) may be reflected in the type of construction chosen. Song (2001:277-278) notes that there is a strong tendency for manipulative or directive types of causation to be found on the left of the following continuum of formal fusion, while directive or indirect types tend to be realised by methods to the right of the continuum.

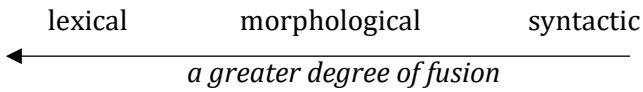


Figure 3. 3 Formal fusion of the three causative types

Such predictions, along with those of other valence-changing operations in the GB Ring languages will be studied.

3.4 Problems with Cross-linguistic Comparability

There are some problems facing cross-linguistic comparability. Building on the difficulties surrounding prototype versus non-prototype members of a group, structural variation makes it difficult to use purely structural criteria and discrete grammatical categories across languages. Semantic solutions to defining

grammatical categories have been proposed by authors such as Dixon (1992) and Keenan and Comrie (1977). Keenan and Comrie (1977:63) pointed to this in their analysis of Relative Clauses. "…it's necessary to have a largely syntax-free way of identifying RCs in an arbitrary language. Our solution to this problem is to use an essentially semantically based description of RC." Hengeveld (1992a, b) and Rijkhoff (2002:284-287) however, have argued that solely semantic definitions that are very language specific can make cross-linguistic comparability difficult. For instance, if semantic functions are taken into account, without regard for syntactic features, noun- or verb-like elements may be grouped together with adjectives or with plural words as quantifiers. Dryer (1988) himself pointed out that many of the elements deemed 'adjectives' used in his typological work were rather verbs or relative clauses. This points to the need for a functional approach to language which takes the syntax-semantics interface into account and a way of establishing constituents in a way that is cross-linguistically appropriate. The proposed research aims to use Role and Reference grammar to analyse the given data which looks at the syntax-semantics interface and may prove helpful in overcoming this problem. Reference will also be made to Hengeveld's (1992a, b) and Rijkhoff's (2002) approaches to word classes and cross-linguistic comparison which takes into account semantic function and syntactic features such as markedness.

There are also non-typological factors that affect the sampling problem. These are issues such as sample size, genetic descent from a parent language and areal contact. Croft (2003:21) points to the use of *variety samples* which aim at maximizing linguistic diversity and *probability samples* which, pointing to Bell's (1978: 127) definition, Croft describes as selecting "a sample from the set of languages whose probability of being chosen over another sample is known in advance." This helps highlights which correlations between traits in the sample selected are significant. Problems with the variety sample involve weighting the family branches chosen accurately and addressing areal diffusion of typological traits. The latter can be addressed by seeking to maximise geographical dispersion of the sample. A challenge facing the probability sample is distinguishing between languages and dialects when working from a sample approach. Dryer (1989a) has sought to address this by pooling languages into a genus which is the equivalent of a major branch of Indo-European. If all languages are SOV there will be one data point for that genus. If some are SVO there will be two data points for that genus. A final problem, factoring in stable versus unstable phenomena in language change, statistical tests can be used to determine the independence of cases with Perkins

(1989) suggesting a subset of languages as small as 40-100 (Croft, 2003: 20-26). While working with a small selection of languages, this study will aim to align the findings of this research with wider typological studies such as those of Dryer (1992) and Rijkhoff (2002). Complicating factors such as areal bias cannot be fully addressed, however, references to the possible origins of GB Ring in Proto-Bantu will be addressed to some extent, while remaining questions may provide a basis for future research.

A final difficulty involves the distribution of the sample over other typological features of language structure, such as major word order. Typologists usually seek to incorporate a distribution of languages by major word order type. Since major word-order is frequently correlated with particular structural features, this frequently has the effect of bringing most of the structural types into the sample. A good typological sample should work towards a balanced distribution of major word-order types, not just subject-object-verb order but also genitive and adposition order as in the types defined in Greenberg (1966b) (Croft, 1990:24). Again, this study will seek to investigate the adherence of the languages in question to already established typological studies.

3.5 External Motivations for Typological Functional Relations

We will now look at the potential motivations for typological findings from a functional perspective. Functionalism posits that a large class of basic linguistic phenomena are the result of the adaptation of grammatical structure to the function of language. Fundamentally, in relation to grammar, the function of language is universal across cultures in that language is the general-purpose communication device. Croft (1990:156) points out that functionalism should therefore seek to explain those facts about language which are universal across all languages. We will look the external motivation for typological patterns under the heading of markedness, iconicity, and diachronic change.

3.5.1 Markedness and Economic Motivation

Markedness refers to the asymmetrical grammatical properties found in otherwise equal linguistic elements such as inflections or words in word classes. Typological markedness relates to the causal relationships that motivate such asymmetries. Croft (2003:87-92) links the expression of such conceptual values in the grammatical structure under the term structural coding. He provides, the following definition for structural coding, “the marked value of a grammatical category will be expressed by at least as many morphemes as is the unmarked value of that category”. Comrie (2003: 112) explains that the connection between

frequency of use and unmarked expression has been accounted for by some based on the principle that people will shorten the linguistic expressions that are used most commonly for economy. This is sometimes referred to as 'Zipf's Lever' – "High frequency is the cause of small magnitude" (Zipf, 1935:29). This has been referred to as economic motivation or economy which may also account for behavioural markedness in that frequent expressions are economised by being physically shortened (Haiman, 1985).

3.5.2 Iconicity

The notion of iconicity captures the idea that the structure of our experience i.e., the structure of the world, including, from a functional viewpoint, the perspective imposed on the world by the speaker. The structure of language can therefore be motivated or explained by the structure of experience to the extent that the two match. Croft (2003:102) posits that underlying structural coding are the competing motivations of economy and iconicity. Or, as Croft puts it, in terms of two parts of Grice's (1989:26) Maxim of Quantity, "do not make your contribution more informative than is required [for the current purposes of the exchange]" and "make your contribution as informative as is required (for the current purposes of the exchange)" representing economy and iconicity respectively. The principle of iconicity can be realized in a number of ways. For instance, by syntagmatic isomorphism in which there is a correspondence between the forms and meanings found in the combination of words and inflections in a sentence (Croft, 2003: 102, 103). The following illustration in Figure 3.4 is an example of syntagmatic isomorphism.

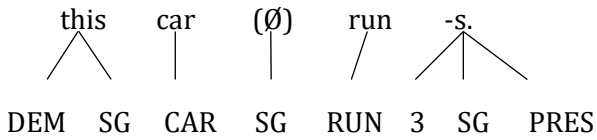


Figure 3. 4 Illustration of syntagmatic isomorphism in Croft (2003:103)

Croft (2003:102, 103) suggests that both economy and syntagmatic isomorphism compete resulting in a range of attested and unattested (or rare) correspondences between form and meaning. Furthermore, both economy and iconic motivations can work together as in the case of polysemy in which several meanings are subsumed under a single form (economy) and the meanings are related (iconicity) (Comrie, 2003: 105, 106).

3.5.3 Hierarchies

Iconic factors are useful in identifying the presence of grammatical and semantic hierarchies that motivate typological findings such as word order patterns. Salient features of such hierarchies include grammatical relations, animacy, and definiteness. Hierarchies can be a useful concept in comparing languages and recognising common constraints and their level of impact cross-linguistically. This may be illustrated in Johnson's (1977:156) 'Relational Hierarchy' in which grammatical relations are treated hierarchically as follows:

1) **subject > direct object > indirect object > other object**

Keenan and Comrie's (1977: 66) 'Accessibility Hierarchy' went on to further sub-divide 'other objects'. Van Valin's (2007) Role and Reference Grammar also places hierarchical structures regarding grammatical relations at their core in its 'Actor-Undergoer Hierarchy' which will be relevant to the data analysis into the semantic underpinnings of the GB languages under investigation. Hierarchical patterns may also be found to operate within the noun phrase among the modifiers of the head noun. We see this in Rijkhoff's (2002) hierarchical account of the layered structure of the NP which may be related to the RRG framework as we shall see in chapter 9 on the LSNP. The proposed research will look at iconic motivations for syntactic structure in the GB Ring languages, particularly with reference to the LSNP.

3.5.4 Competing motivations

The idea of competing motivations in determining grammatical structure and universals has been looked at by typologists in relation to economy and iconicity. Other authors point to competing motivations in notions such as the Principle of Increasing Complexity, the Principle of Head Proximity, and the Principle of Scope (Dik, 1997; Rijkhoff, 2002). Apparent anomalies in adherence to one iconically based prediction may be explained by the presence of a competing and more dominant principle. For instance, Rijkhoff (2002) has argued that the Principle of Domain Integrity (PDI) takes precedence over his Principle of Scope in the ordering of constituents of the NP in that the PDI's avoidance of the use of complex constituents between elements of the matrix NP is a more dominant principle.

3.5.5 Diachronic Typology

The *diachronic perspective* views language types not as unchanging, static realties, but as stages through which languages pass. The proposal that a language

can shift from any one attested typological type to another has been captured in the hypothesis of 'connectivity' (Croft, 2003:232-234). Languages in an intermediate state may be explained by two related notions; stability and frequency. Stability refers to the likelihood of a language moving out of one language state to another, due, perhaps, to principles such as 'mobility' in which certain modifiers such as Dem, Num and Adj are more mobile than Gen and Rel, while frequency refers to the likelihood that a language will enter particular language types (Croft, 2003:235). While issues such as dramatic changes in language birth and death can affect these predictions, Croft (2003:236) points out that they still play a significant role in typological analysis. He further suggests that the diachronic perspective highlights the need to look for 'probable' versus 'less probable' language stages rather than 'possible' versus 'impossible' language stages (ibid:239). Viewing the linguistic process as unidirectional is a constraint that limits the number of types of language change. The process by which lexical items change in their grammatical function has been deemed grammaticalisation, and this appears to occur in recognisable unidirectional and cyclic patterns (ibid:253). Examples include phonological change such as the syntagmatic coalescence and paradigmatic attrition of a morpheme and morphosyntactic change which can include rigidification of word order, fossilisation of morphemes and regrammaticalisation wherein a morpheme gains an entirely new function (Croft, 2003:253-260). Knowledge of diachronic factors must be taken into account for a full understanding of current linguistic synchronic realities.

3.6 Internal Motivations: Linguistic Processing

A final area of internal motivation takes into account the realms of perception and linguistic processing, and how these may influence the realisation of syntactic structure. Croft (2003: 116) argues that economy and iconicity are ultimately adaptive processes which allow for maximally efficient communication given the limitations of the language medium and the environment. Thus, in terms of economy, processing for both speaker and hearer is made more efficient by shortening the most common forms (structural markedness) and simplifying the less-used forms (behavioural markedness). Regarding iconicity, it is proposed that processing is made easier in that linguistic information that is iconically structured reduces the kinds of information structure humans must acquire and it simplifies the conversion process from the perceived structure of non-linguistic information to the comprehension and expression of it linguistically (Croft, 2003:116). Givón proposes that "a coded experience is easier to store, retrieve and communicate if

the code is maximally isomorphic to the experience" (Givón, 1985:189). While, support for such processing approaches are found in Bybee's (1985a, 1995, 2001) psychological model of higher frequency and unmarked forms being those that are most deeply entrenched in memory. This builds on the activation network model which proposes that knowledge is represented as patterns of activation of nodes in a network and that more deeply entrenched nodes have higher levels of activation. This model can also provide support for the typological framework of 'competing motivations' seen in section 3.5.4 in that patterns of activation form differing nodes that can compete depending on the number and weighting of the nodes in question (Croft, 2003:114, 115). While investigation in language processing explanations is outside the scope of this study, it is useful to be aware of the basis for the notions of iconicity and competing principles that will be examined in this research.

3.7 Conclusion

This overview has pointed to the benefits of typological analyses in providing data for the establishment of universals and assessing cross-linguistic grammatical structures in order to attain information on various motivations such as markedness and semantic underpinnings. Overviews of relevant typological categories such as a word order, case marking and subject were provided along with useful tools in dealing with patterns found in the forms of grammatical hierarchies and prototype theory. In the examination of word classes, conflicting opinions existing around syntax-first versus semantic only definitions of grammatical categories were introduced, and it was suggested that analyses which takes the syntax-semantic interface into account may be the most helpful. Both external and internal factors were suggested as possible motivations for the typological patterns found including economy, iconicity and linguistic processing. This study will use the RRG framework as a suitable tool of typological analysis in a number of the categories examined. It will make reference to the work of Hengeveld (1992a, b) and Rijkhoff (2002) in utilising grammatical definitions which takes both semantic structure and grammatical realisation into account in cross-linguistic comparison. Semantic underpinnings along with competing principles which may be at play will be included in this study of the GB Ring languages, particularly with regard to the layered structure of the noun phrase and clause. Thus, the suitability of various typological approaches to notions such as word order, iconicity and the presence or absence of word classes as they relate to the features of [Shape] and [Transitivty] will be examined. Psychological/biological motivations are outside the scope of this study, as are diachronic motivations, but the latter will be briefly referred to

regarding neighbouring languages and the effect of Proto-Bantu reconstructions on the current findings.

Chapter 4. Theoretical Framework – Role and Reference Grammar

4.1 Introduction

Having introduced the Ring languages under examination and the benefits of a functional typological approach to understanding their grammatical structure along with their semantic underpinnings, this chapter will outline the suitability of the theoretical framework of Role and Reference Grammar (RRG) as an appropriate linguistic tool in the analysis of such patterns. The syntax-semantics interface will be explored in the RRG approach to the layered structure of the noun phrase and the layered structure of the clause. Its ability to capture semantic bases of language along with syntactic realisation will point to its helpfulness in working with functional typological approaches such as those of Hengeveld (1992a, b) and Rijkhoff (2002) in their seeking to incorporate both syntax and semantics into cross-linguistic definitions and comparisons. Key features of the RRG account will be overviewed and explained including constituent and operator projections, the notion of logical structures, the linking algorithm, and the preferential use of the notion of the Privileged Syntactic Argument (PSA) over that of the much-debated notion of 'subject'.

4.2 Theoretical Framework

The grammatical framework that will be used in the proposed study is that of Role and Reference Grammar. Role and Reference Grammar is a structural-functionalist theory which views language as both a communicative and formal system. This is in contrast to the generative tradition of Chomsky and others which focuses on the formal characteristics of language structure to uncover underlying 'rules' which generate surface grammar. The functional approach, on the other hand, looks at language use in a given context and analyses the more concrete aspects of the grammar at hand. It also seeks to take into account the pragmatic context of a language and how this influences its syntactical structure. Therefore, in RRG, analyses look at the interaction between syntactical and semantic characteristics of a given language and, rather than standing alone as an independent entity, syntax is seen to be influenced by semantic and pragmatic factors. RRG grew out of an attempt to answer two fundamental questions:

1. What would linguistic theory look like if it were based on an analysis of Lakhota, Tagalog and Dyirbil rather than English?

2. How can the interaction of syntax, semantics and pragmatics in different grammatical systems be best captured and explained? (Van Valin, 2018:1).

Typological issues such as the idea of 'subject' and the interaction between the notion of 'subject' and 'topic' were central to the conceptualisation of the RRG framework. An explicit definition of the notion of 'subject', for example, is one that has long been argued amongst linguists. Problems have related to the syntactic criteria in establishing subjecthood. Linguists have found that subject can be categorized in terms of prototypes similar to that of colour and that the concepts occurs in a diffuse rather than a disparate sense. That said, not all sentences will necessarily contain a subject and there may be languages in which such inter-subjective intuitions may not be appropriate (Comrie, 1981). This is where RRG concepts such as that of the 'Privileged Syntactic Argument' rather than the 'subject' become helpful. RRG itself is largely descended from Fillmore's (1968) case grammar and both look at the mapping of semantic representation into the syntactic surface structure.

This functional framework will be helpful in looking at both the semantic underpinnings and syntactic realisations of the GB Ring languages under analysis. Questionable elements such as that of 'subject' may be captured under the notion of the Privileged Syntactic Argument (PSA) which allows for both language specific features and cross linguistic comparability. While later typological analyses such as those proposed by Rijkhoff (2002) are closely related in their notion of layered structures and iconic features. Thus, the RRG framework will also be a helpful framework in later investigations into the adherence of the Ring languages to typological predictions of similar functional frameworks. The following is an overview of the categories and interactions found in the RRG model.

4.3 Clause Structure

In order to avoid imposing structure onto languages where it is not appropriate, the RRG model avoids traditional formats for representing clause structure such as grammatical relations and X-bar syntax.

The RRG framework for the analysis of clause structure is known as the 'layered structure of the clause' [LSC]. This consists of (1) the 'nucleus', which contains the predicate(s), (2) the 'core', which contains the nucleus plus the argument(s) of the predicate(s), and the (3) 'clause'. Syntactic arguments occurring in the core are referred to as 'core arguments' and may be direct or oblique. Direct core arguments are those not marked by an adposition, in languages like English and German, or those marked by direct cases (nominative, accusative, dative or ergative, absolutive, dative) in case-marking languages like Russian or Dyirbal. Oblique core arguments are marked by adpositions or oblique cases, e.g. instrumental, locative. Each level of

the clause is modified by a 'periphery', which contains adjunct modifiers, both phrasal (PPs or clauses, modifying the core and clause) and non-phrasal (adverbs, modifying all three layers). These aspects of the LSC are universal. Some languages also include pre- or post-core slots such as English and Japanese respectively (Van Valin, 2005).

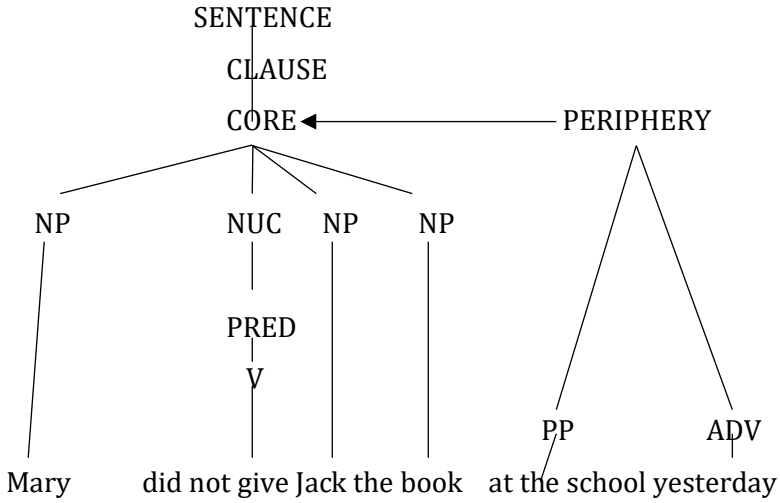


Figure 4. 1 The Layered Structure of the Clause (Van Valin, 2005)

While the units themselves are syntactic, they are motivated by an interaction with semantic elements. For example, the distinction between nucleus and core argument, within the core, is driven by the differentiation between the semantic predicate and the arguments of that predicate, while the core/periphery distinction is related to that between arguments and non-arguments. However, the correlations are not 1:1. In certain languages arguments can be incorporated into the nucleus, for instance, with meteorological predicates such as rain in English the dummy *it* is a syntactic argument within the core but not a semantic argument of the predicate. In an English passive with an expressed agent, the agentive entity is a semantic argument of the predicate, but is in the syntactic periphery as opposed to the core. As has been noted, certain languages may also contain additional elements of syntactic structure which are not universal such as a pre-core slot for wh-words and 'fronted' complements in languages such as English, or in other languages a post-core slot. There is also the possibility of a left-detached position in which are placed 'left-dislocated' elements in languages such as English, and the option of a right-detached position (Butler, 2012).

The description of morphemes and morphosyntactic meanings of the predicate, core and clause are known as operators. In the formal representation of the LSC,

operators are represented in a distinct projection of the clause from the predicates and arguments (the constituent projection). The only universal operators are negation and illocutionary force. The presence of all others may vary from one language to another. Clause level operators include Status, Tense, Evidentials and Illocutionary Force. Core-level operators include Core Directionals, Event Quantification, Deontic Modality and Internal Negation. Aspect, Derivational Negation and Nuclear Directionals are Nuclear-level operators. RRG diagrammatic representations are designed to be concrete rather than abstract representations of syntactic structure in contrast to more generative models. Figure 4.2 outlines constituent and operator projections in the LSC.

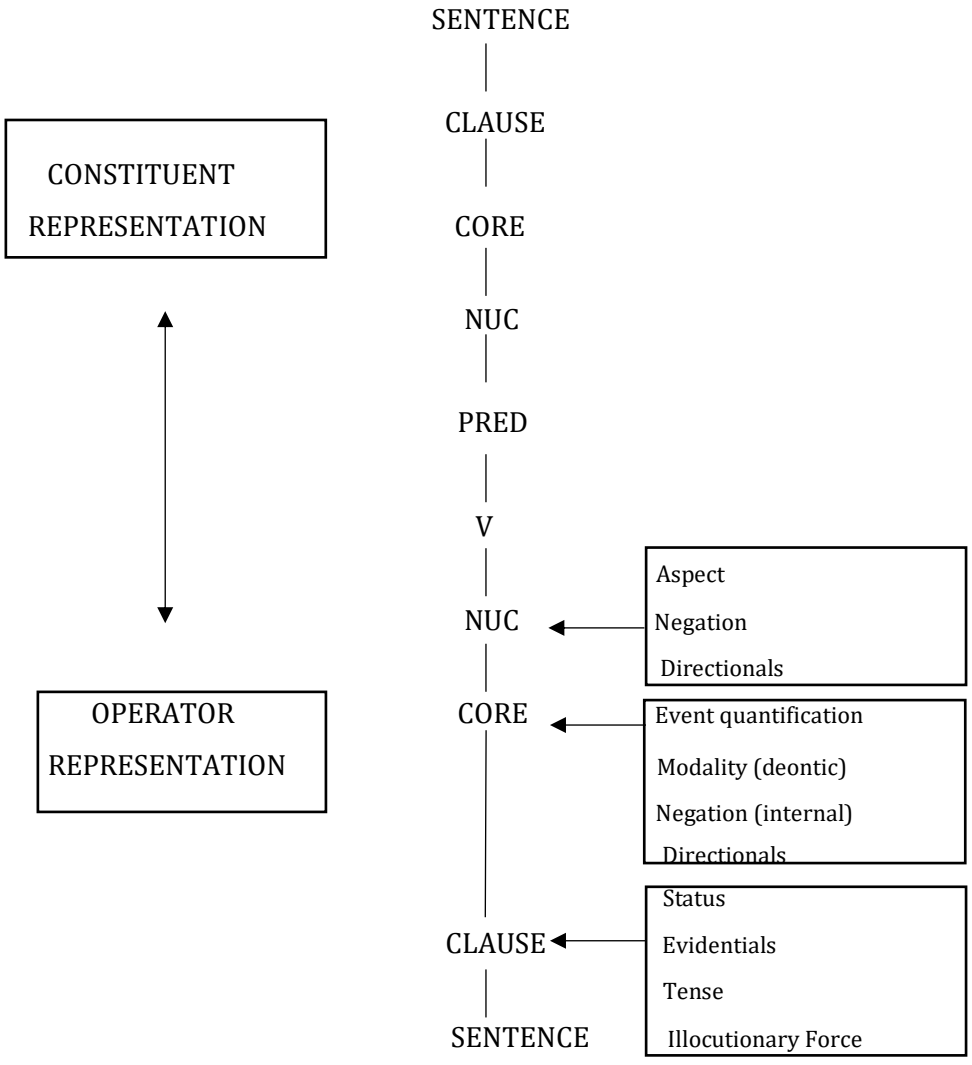


Figure 4. 2 Overview of clause level constituent and operator representation (Pavey, 2010:76)

4.4 Semantic Structure

Semantics plays a central role in Role and Reference Grammar [RRG], and the aspects of semantics in RRG to be addressed herein are: (1) the lexical representation of verbs and other predicating elements, (2) semantic roles, (3) the role of the lexicon in grammar, and (4) interclausal semantic relations. A logical structure is used to express the semantic structure of the sentence, expressed in a predicate logic format. This consists of constants representing a lexical decomposition of the predicate, along with variables representing arguments of the predicate. For example,

(1) [**do'** (x, Ø)] CAUSE [BECOME **have'** (y, z)]

Constants in bold with primes are part of the vocabulary of the semantic metalanguage which is used for decomposition, as opposed to words of any particular language (Butler, 2012).

The heart of the RRG approach to lexical representation is a system of lexical decomposition is based on Vendler's (1967) Aktionsart classification of verbs into states, activities, achievements and accomplishments. In addition, there is a class of semelfactive verbs (Smith 1997). The telic uses of activity verbs are termed active accomplishments. Examples of the six classes are given below.

Table 4. 1 Aktionsart Classification of Verbs (Van Valin, 2007: 34)

States: be sick, be tall, be dead, love, know, believe, have
Activities: march, swim, walk (– goal PP); think, eat (+ mass noun/bare plural NP)
Semelfactives: flash, tap, burst (the intransitive versions), glimpse
Achievements: pop, explode, shatter (all intransitive)
Accomplishments: melt, freeze, dry (the intransitive versions), learn
Active accomplishments: walk (+ goal PP), eat (+ quantified NP)

The lexical representations are as follows:

Table 4. 2 Lexical representations for Aktionsart categories (Van Valin, 2005: 45)

Verb Class	**Logical Structure**
STATE	**predicate**´ (x) or (x,y)
ACTIVITY	**do**´ (x, [**predicate**´ (x) or (x, y)])
ACHIEVEMENT	INGR **predicate**´ (x) or (x,y), **OR** INGR **do**´ (x, [**predicate**´ (x) or (x, y)])
SEMELFACTIVE	SEML **predicate**´ (x) or (x,y) SEML **do**´ (x, [**predicate**´ (x) or (x, y)])
ACCOMPLISHMENT	BECOME **predicate**´ (x) or (x,y), or BECOME **do**´ (x, **[predicate**´ (x) or (x, y)])
ACTIVE ACCOMPLISHMENT	**do**´ (x, [**predicate**$_1$´ (x, (y))]) & INGR **predicate**$_2$´ (z, x) or (y)
CAUSATIVE	a CAUSE b, where a, b are LSs of any type

4.5 Linking

The linking between syntax and semantics is governed by the 'Completeness Constraint.' This is defined as follows: all of the arguments explicitly specified in the semantic representation of a sentence must be realised syntactically in the sentence, and all of the referring expressions in the syntactic representation of a sentence must be linked to an argument position in a logical structure in the semantic representation of the sentence, together with the syntactic template selection principle and the RRG linking algorithm. The lexical representations determine the syntactic form of a sentence (Van Valin and La Polla, 1997). Linking may occur from semantics to syntax or from syntax to semantics, the elements involved including the notions of macroroles and PSA along with linking guidelines outlined below.

4.5.1 Macroroles and the Privileged Syntactic Argument.

The linking between syntax and semantic involves the interaction of two concepts. The RRG theory of semantic roles differs from others in that it posits two types of semantic roles. The first are specific thematic relations, including the traditional notions of agent, theme, patient and experiencer. The second are generalised semantic roles called 'semantic macroroles' and have no exact equivalent in other theories, although they do bear some resemblance to

Jackendoff's 'action tier' and Dowty's proto-roles. Transitivity in RRG is defined in terms of the number of macroroles (Actor or Undergoer) that a verb takes: a transitive verb takes two, an intransitive verb takes one, and an atransitive verb has zero macrorole arguments (Van Valin, 2007:39). The transitivity of verbs and other predicates is determined by macrorole assignment principles determined by Van Valin (2005). The general concepts of Actor and Undergoer can then be narrowed down to more specific roles such as Effector, Patient or Theme which are assigned according to the actor–undergoer hierarchy. DO represents the component present in voluntary actions, whilst *do'* is a component of activity predicates in general. The hierarchy assumes that for the logical structure of a transitive verb, the actor macrorole will usually be allocated to the leftmost argument present, while the undergoer macrorole will be allocated to the rightmost argument (Butler, 2012).

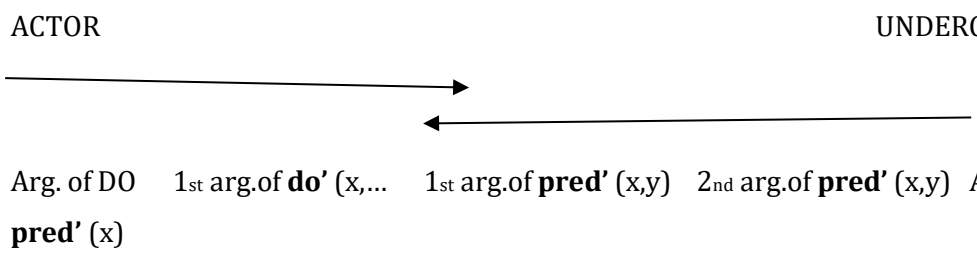
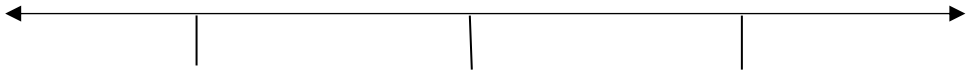


Figure 4. 3 The Actor-Undergoer Hierarchy (Van Valin, 2005:61)

All thematic relations are defined in terms of argument positions in state and activity LSs; all other LS types are composed of them plus elements like BECOME, INGR and CAUSE. The following diagram illustrates the five thematic distinctions (each broken down into more specific categories) which correspond to the five possible argument positions in LSs. The overarching macroroles mentioned above each subsume a number of specific thematic relations thus revealing the interaction between the two semantic concepts as seen in the actor-undergoer hierarchy.



Arg. of DO	1st arg.of **do'** (x,…	1st arg.of **pred'** (x,y)	2nd arg.of **pred'** (x,y)	Arg.of **pred'** (x)
AGENT	EFFECTOR	LOCATION	THEME	PATIENT
	MOVER	PERCEIVER	STIMULUS	ENTITY
	ST-MOVER	COGNIZER	CONTENT	
	L-EMITTER	WANTER	DESIRE	
	S-EMITTER	JUDGER	JUDGEMENT	
	PERFORMER	POSSESSOR	POSSESSED	
	CONSUMER	EXPERIENCER	SENSATION	
	CREATOR	EMOTER	TARGET	
	SPEAKER	ATTRIBUTANT	ATTRIBUTE	
	OBSERVER	IDENTIFIED	IDENTITY	
	USER	VARIABLE	VALUE	
			PERFORMANCE	
			CONSUMED	
			CREATION	
			LOCUS	
			IMPLEMENT	

Figure 4. 4 Thematic relations continuum in terms of LS argument positions (Van Valin, 2005:58)

4.5.2 Privileged Syntactic Argument

As has been mentioned, the notion of 'subject' is one which has been contested by linguists. While it may appear to be the most 'agent-like' argument in a given clause, the English language alone points to this not being the case with the traditional 'subject' in the following sentences taking the semantic role of 'undergoer'. The car is the location and Larry is the theme which falls under the macrorole of undergoer (Pavey, 2010:142; Van Valin 2005: 53, 54).

(2) English
Larry is in his car.
be-in' (car, Larry)

In place of the concept of 'subject' the RRG approach uses that of the Privileged Syntactic Argument (PSA). This may be approached in both syntactic and semantic terms. RRG proposes that certain restrictions are placed on NPs and PPs (arguments

and non-arguments), and such restrictions can point to the presence of a privileged syntactic function. Syntactic PSAs may be identified by verb agreement or case marking patterns. With regard to verb agreement, in English, the verb agrees with a) the actor of a transitive predicate, b) the actor or undergoer single argument of an intransitive predicate, c) the undergoer in a passive construction (Pavey, 2010:143). Therefore, it is clear that the 'subject' in this case does not agree with actor role only. The term PSA encompasses both actors and undergoers that ***control*** verb agreement in a clause. The fact that the distinct semantic functions of actor or undergoer are not relevant to the allocation of the PSA is termed ***Neutralisation.*** The fact that only an actor or undergoer, and not a non-macrorole argument, may take the label of PSA is deemed ***Restricted Neutralisation*** in that we cannot depend on semantics alone to tell us if a particular argument is 'special', syntactic patterns and groupings must be addressed (Pavey, 2010:143). A second method of ascertaining a syntactic PSA is that of case marking patterns. Consider the following sentences.

(3) a) He wrote the book (Actor of transitive verb)
b) He arrived (Actor of intransitive verb)
c) He grew (Undergoer of an intransitive verb)
d) He was hit by the car (Undergoer of a transitive verb – passive)

In examples 3 we see the nominative case form being used as the single argument of an intransitive verb (b & c), the actor of a transitive verb (a), and the undergoer of a passive voice construction (d). Thus, we again see restricted neutralisation of semantic macroroles pointing to a syntactic PSA (Pavey, 2010:144).
As has been noted, a number of types of PSA are present in the RRG system. Firstly, there are *controllers*, which may trigger verb agreement, as we have seen antecede a reflexive, or provide an interpretation for a missing argument in an adjacent unit, and secondly there are *pivots*, which can constitute the missing argument in control constructions (Butler, 2012). It is possible for both to occur in the same construction.

(4) a) Chris slapped Pat$_j$ and then ___$_i$/*$_j$ ran away.
CONTROLLER PIVOT
a') Pat was slapped by Chris$_j$ and then ____$_i$/*$_j$ ran away.
CONTROLLER PIVOT

b) Chris ran up to the table and _____ slapped Pat,
CONTROLLER PIVOT

b') *Chris$_i$ ran up to the table and Pat slapped _____$_i$.
CONTROLLER PIVOT

b'') Chris ran up to the table and _____ was slapped by Pat.
CONTROLLER PIVOT

(Van Valin, 2005:95,96).

This illustration shows the presence of a privileged syntactic argument in each clause, the controller in the first and the pivot (omitted NP) in the second. Each is the traditional subject, as is revealed by the impossibility of having the undergoer of a transitive verb as the controller in (4a) or the pivot in (4b') or of having the actor of a passive verb as controller in (4a'). PSAs can be either semantic or syntactic (Van Valin, 2005: 101) initially defines the PSA in the sense of restricted neutralisation, whereas, constructions in languages such as Acehnese, which do not have restricted neutralisations, are described as having semantic pivots and controllers. Van Valin explains this by pointing out that semantic 'PSAs' do have an important role in the syntax. Both syntactic and semantic PSA can co-occur in the same construction. The 'want' construction illustrates a helpful example of a semantic PSA.

(5) Mary wants to read **want'** (Mary, [**read'** (Mary)])])

In example 5, Mary is always the actor of 'want', never the undergoer, thus we see no neutralisation of macroroles and are dealing with a semantic PSA (Pavey, 2010:145). The second argument of want constructions may have the same patterns of verb agreement and case as described above and are therefore syntactic PSAs with a neutralisation of semantic roles as seen in example 6 (a-b) below. The semantic role of the missing argument, the pivot is given in brackets.

(6) a) Mary wants _____$_i$ to make toast (Actor of a transitive verb)
b) Mary wants _____$_i$ to be shorter (Undergoer of an intransitive verb)
c) Mary wants _____$_i$ to be chosen for the role by the director (Undergoer of a transitive verb – passive).

Thus, we see that the notion of 'subject' is not always straightforward crosslinguistically. An analysis of both syntactic and semantic features of a given construction can however point to the argument holding a specialised position of PSA which always for ease of typological comparisons across languages that would otherwise prove difficult or inaccurate.

4.5.3 Linking Steps

As has been noted, the operation of linking may take place from semantics to syntax or from syntax to semantics. The necessary steps for each along with linked examples are outlined below.

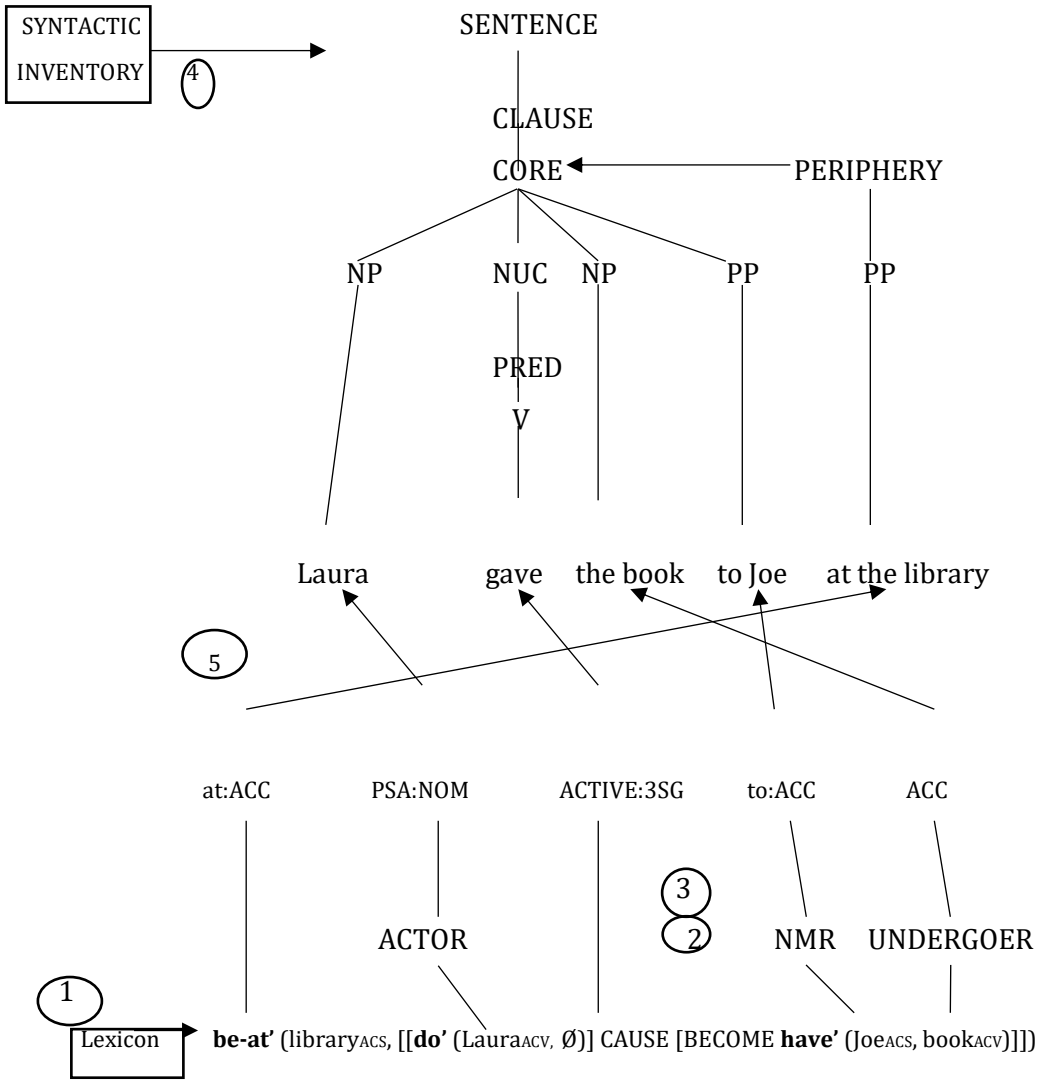


Figure 4. 5 Linking semantics to syntax in an English ditransitive clause

(7) The semantics-to-syntax linking steps

1. Construct the semantic representation of the sentence
2. Assign actor and undergoer
3. Determine PSA selection, case and adposition assignment
4. Select the appropriate syntactic template from the syntactic inventory, and
5. Link the elements form the semantic representation into the appropriate positions in the syntactic representation (Nolan, 2012:17)

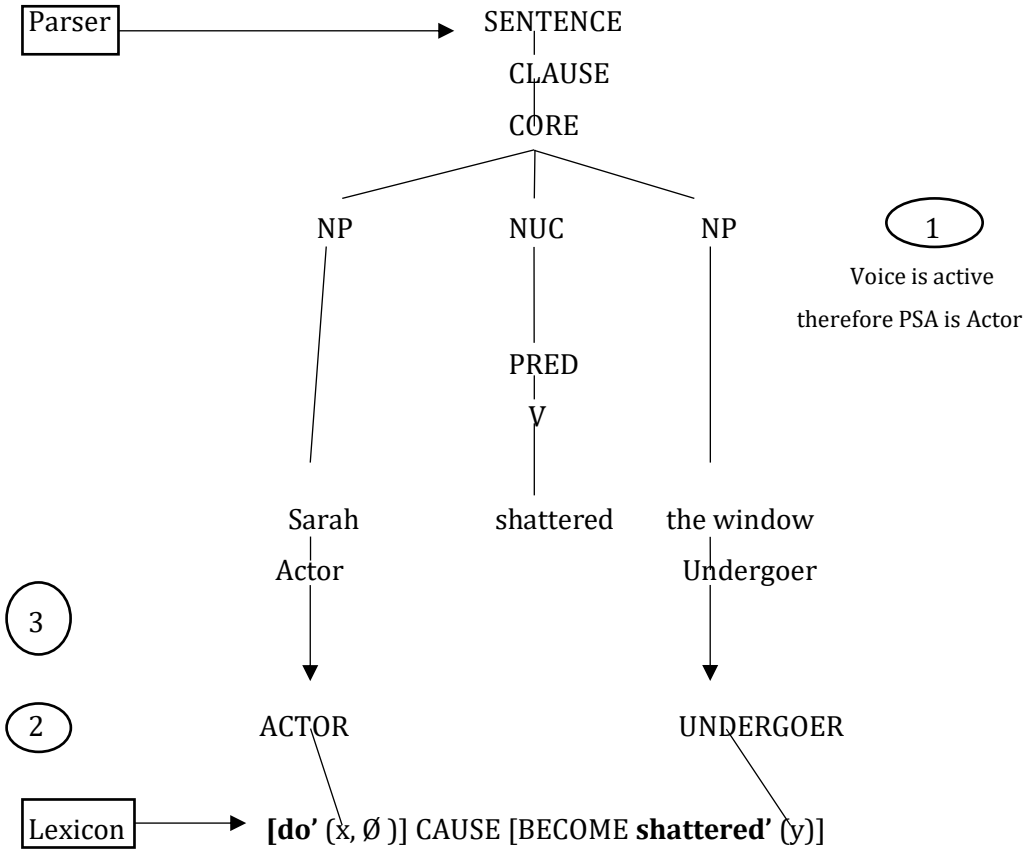


Figure 4. 6 Linking syntax to semantics in a simple English transitive clause

(8) The syntax-semantics linking steps

1. Extract encoded information from the overt morphosyntactic form of the sentence, including the voice of the verb (if the language has voice), case marking, word order and adpositions.
2. Retrieve the LS of the predicate in the nucleus from the lexicon and assign macroroles to the extent possible, and
3. Link using the information derived from steps (1) and (2) (Nolan, 2012:18).

4.6 Complex Constructions

The RRG framework can also provide a semantic and syntactic account of more complex constructions.

4.6.1 Nexus-juncture relations

Van Valin (2005) notes three central components of the Layered Structure of the Clause (LSC) are also the three fundamental building blocks of complex sentences in human language. The unmarked pattern in the construction of complex sentences includes combining nuclei with nuclei, cores with cores, clauses with clauses, or sentences with sentences. These are known as levels of 'juncture' in RRG, i.e. nuclear juncture, core juncture, clausal juncture, and sentential juncture. Sentential junctures are complex constructions consisting up of multiple sentences, while clausal junctures involve sentences which contain multiple clauses.

An example of a nuclear juncture is as follows:

(9) French (Van Valin, 2005:235)

Je	ferai	manger	les	gâteaux	à	Jean.
1SG	make.FUT	eat	the	cakes	to	John

'I will make John eat the cakes.'

[two nuclei, faire and manger, in a single core] (Van Valin, 2005:235).

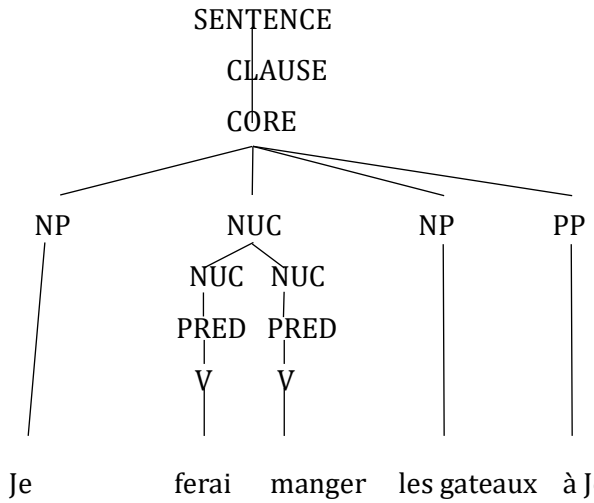


Figure 4. 7 Nuclear Juncture Relations (VanValin, 2005:236)

With regard to core junctures, two or more cores (which may themselves be internally complex) are involved in a clause. In this type of core juncture, the two cores share a core argument; 'sharing a core argument' is defined in terms of the

linking algorithm mapping syntactic and semantic representations into each other as we see in example (10).

(10) French (Van Valin, 2005:188)

Je laisserai Jean manger les gâteaux.
1SG let.FUT John eat the cakes
'I will let John eat the cakes.'

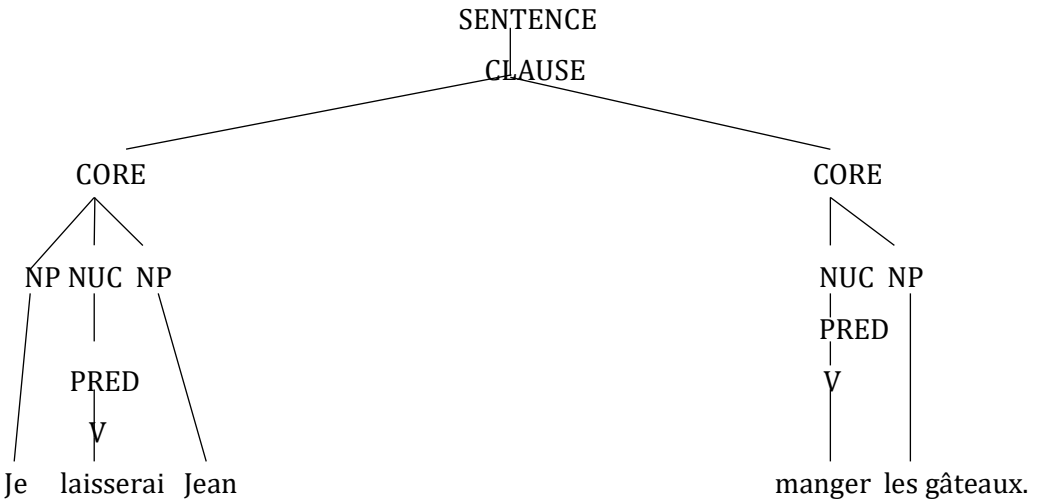


Figure 4. 8 Core Juncture Relations (VanValin, 2005:189)

A further distinctive in the RRG theory of complex sentences is the set of possible syntactic and semantic relations between the units in a juncture. Syntactically speaking, the relations between units are called 'nexus' relations in RRG. Traditionally, only two basic nexus relations are recognised, coordination and subordination. Subordination is then further divided into two subtypes, daughter subordination and peripheral subordination. In addition to distinguishing two types of subordination, RRG includes a third nexus type: 'cosubordination'. This is essentially tight, dependent coordination. The dependence is operator dependence in that the units obligatorily share one or more operators at the level of juncture (ibid).

The four levels of juncture combine with the three nexus types to produce eleven possible complex sentence types. There is no sentential cosubordination, because there are no sentence level operators, hence no possible operator sharing. Additionally, both subtypes of subordination are possible at the clause, core and nuclear levels. Not all combinations occur in every language. The nexus-juncture

types can be placed into a hierarchy in terms of the tightness of the syntactic link between the units as seen below (Van Valin, 2018: 8).

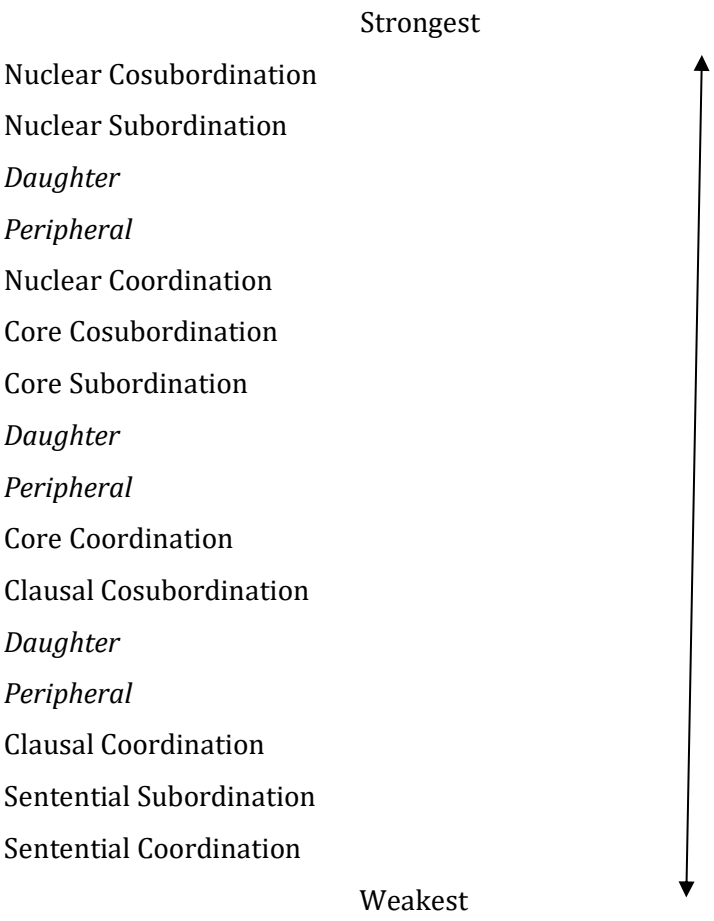


Figure 4. 9 Interclausal Relations Hierarchy (Van Valin, 2018: 8)

4.7 The Layered Structure of the Noun Phrase

In the same way that clauses contain a predicate as their head marked as PRED in their nucleus node of the RRG representation, nouns, too have a nucleus node represent by N, the head noun (Pavey, 2010: 180, 181). Similar to the clause structure in RRG, the noun phrase is represented by both constituent and operator projections. These are found at nucleus, core and phrase levels. An illustration of NP constituent and operator projections are seen in Figure 4.10.

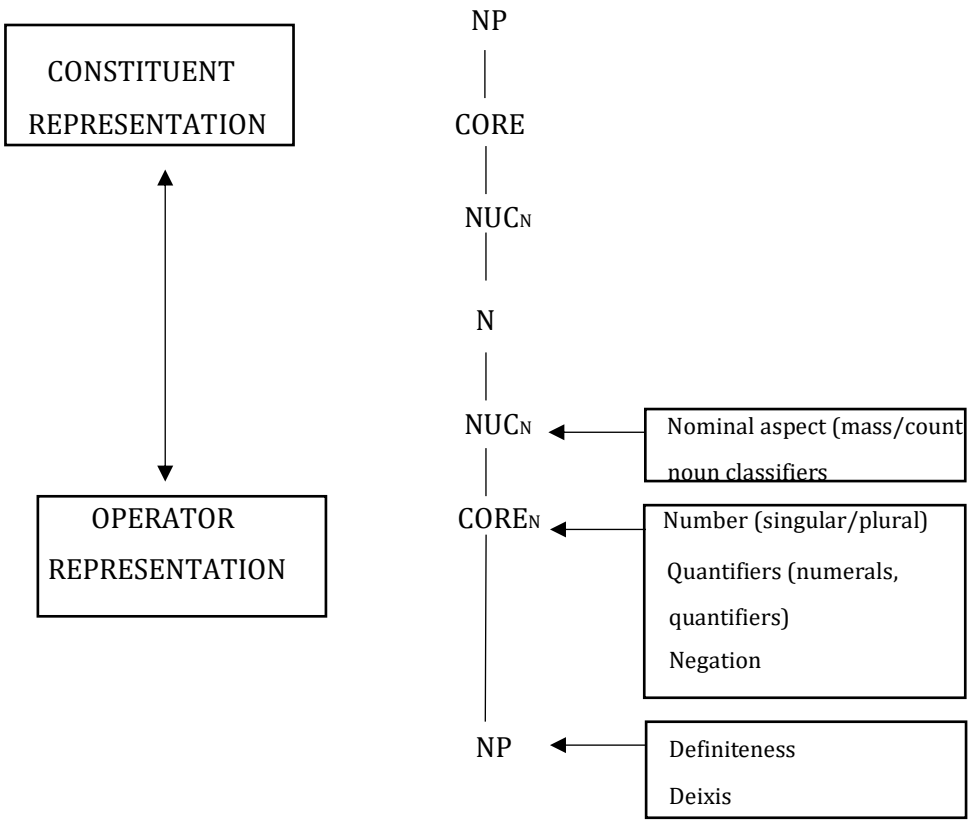


Figure 4. 10 Overview of NP constituent and operator representation (Pavey, 2010: 188)

As is the case with the clause, there are peripheries modifying all three levels of the NP; the nuclear$_N$ periphery contains adjunct restrictive modifiers such as adjective, nominals modifiers and relative clauses, the core$_N$ periphery is a type of adjunct containing PPs and adverbials, while non-restrictive modifiers are found at the phrase level (Van Valin, 2005: 25, 26). Two further positions are those which are similar to the pre- and post-core slots in the clause. These are, 'Np-initial position' [NPIP] and 'NP-final position' [NPFP]. Non-arguments cannot be the subject in a clause and thus take pre- or post-core slots, the NPIP and NPFP positions are used in a similar way for elements such as possessive pronouns in English or in languages in which demonstratives are a subtype of pronoun (Van Valin, 2005: 26, 27).

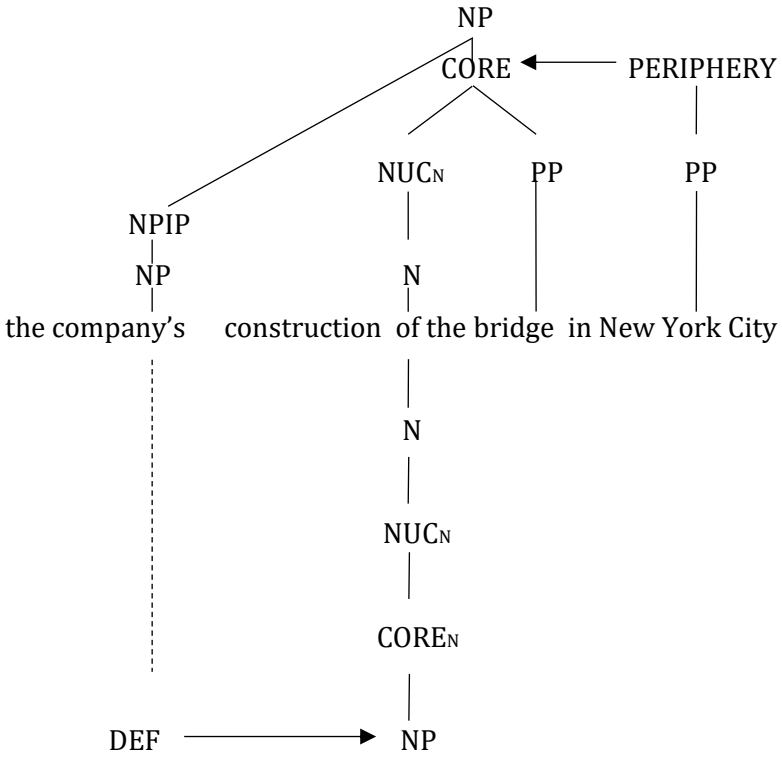


Figure 4. 11 The layered structure of the NP in English with NPIP (Van Valin, 2005:27)

4.8 Conclusion

In contrast to formal, syntax-first systems such as those of Chomsky (1993, 1995) and Baker (2003) mentioned in section 1.1, the RRG model is a monostratal theory allows for the analysis of lesser known and less familiar languages without imposing upon them the syntactic constraints of a formalist system. This chapter provided an overview of the syntax-semantic basis of the RRG which ties in well with the functional typological approaches of authors such as Hengeveld (1992a, b) and Rijkhoff (2002). The RRG approach to the layered structure of the clause and noun phrase were examined along with their semantic structures based on the actor-undergoer hierarchy and the use of logical structures. The notion of the PSA as preferable to that of subject was analysed and linking steps provided from syntactic to semantic structure and vice-versa. This framework will provide a useful tool in the analysis of the GB Ring languages in conjunction with the typological analyses around word order and constituent order in the layered structure of the noun phrase and clause.

Chapter 5. Word Order in Babungo

5.1 Introduction

In order to examine word classes from a typological perspective in Ring, along with the influence of the features of [Shape] and [Transitivity] on the presence or absence of particular word classes, it is important to define word classes in a way that is cross-linguistically measurable and nuanced in order to gain the fullest insights from such a study. It has been mentioned that heavily syntax-first or semantic-only perspectives can prove challenging in such instances. As the current research is coming from a functional perspective, this chapter will examine the typology of word order in Ring using a functional framework, that of Dryer (2007), that is largely semantically defined. Following a brief overview of various approaches to word order typology, Dryer's (2007) approach will be applied to Babungo, as a case in point, in an effort to investigate and highlight problems that can arise when the syntax-semantics interface is not sufficiently taken into account in cross-linguistic research.

A number of approaches examining the value and methods of word order typology will be introduced and compared in this chapter. Starting with Greenberg's (1966) seminal work on linguistic universals, the strengths and weaknesses of his observations will be explored. Questions surrounding his six-way approach to word-order typology will be addressed referencing authors such as Lehmann (1973, 1978a, b) and Venneman (1974 a, b) who point to a VO-OV word order split as preferable due to issues such as the debatable existence of the universal 'subject' and the presence of subjectless languages. Comrie's (1981, 1989) and Hawkins (1982,1983) critique of this approach is then addressed by the work of Dryer (1991) which contends the notion that little if nothing can be predicted by an SVO ordered language. Drawing on the evidence in favour of the use of a VO-OV typology, Babungo will then be taken as a case in point to examine Dryer's (1991, 2007) word order proposals. Babungo will be examined as to whether it adheres to his predictions and critiques.

5.2 Word Order Typology

The study of word order characteristics and how they fit into the patterns identified in world languages is of great interest in the field of linguistic typology as we saw in chapter 3. The study of word order typology took off with the development of Greenberg's (1966) word order typological sample of thirty languages. The basic idea is that there is an association between a number of word

order characteristics. For instance, a single word order characteristic of a language such as the order of verb and object can predict a number of other word order patterns in the given language. Many of Greenberg's universals are implicational, 'if P then Q', while others are statistical relating to frequency of occurrence. Dryer (2007) points out that when we examine the word order of a language, there are two kinds of questions one can ask. The first question is that of what the order of elements is in the language, while the second question is that of how the word order in the language conforms to cross-linguistic, universals and tendencies. A number of approaches have been proposed as to the divisions of word order types and the appropriate categorisation of correlated linguistic elements.

5.3 Greenberg's Universals

Greenberg's (1963) pioneering work on word order typology identified three common language types SVO, SOV, VSO, along with three others, VOS, OVS, OSV, which he claimed did not exist or are extremely rare. There is greater evidence for the existence of the latter three since then with VOS found in a variety of areas and the object initial languages mainly found in South America. In addition to making logically distinct universal claims on language relating to word order Greenberg (1963) also pointed to correlations between language types and word order properties which he called 'implicational universals' in which $p \supset q$ (meaning p implies q). Such implicational universals are unilateral in that $p \supset q$ does not suggest $q \supset p$. An example of each of these absolute and implicational universals are found below. While more recent research has demonstrated that absolute or 'exceptionless' universals may indeed have exceptions some have stood the test of time such as Universal 3 below. Song (2001:53) highlights this as a move from not only a morphological to a syntactically based typology, but a preference for a partial over a holistic (idealistic) typology.

UNIVERSAL 3

Languages with dominant VSO order are always prepositional.

UNIVERSAL 25

If the pronominal object follows the verb, so does the nominal object.

Because VOS and VSO pattern similarly it's common to refer to them as verb-initial languages. Due to the rarity of OSV languages it's common to refer to SOV languages as verb final. Dryer notes that the idea of a verb medial language does not seem helpful as they do not appear to form a natural category. Greenberg's (1966)

work seems to suggest a basis for two ideal language types VO and OV. Dryer (2007) makes this reference to a more general split between verb-initial and verb-final languages which pattern similarly noting that the basic idea is that they are a mirror image of each other in which OV containing characteristic patterns which are the reverse of VO. Lehmann (1973 and 1978) and Venneman's (1973, 1974a, 1974b and 1976) work in the 1970s built on this idea.

5.3.1 Critiques of Greenberg- Lehmann and Venneman

Some problems with Greenberg's (1966) generalisations have been addressed, for example Lehman (1973, 1978a, b) and Venneman (1974 a, b) suggest that the correlations found in Greenberg's work were weaker than he assumed. The discovery of several exceptions to the two basic word order correlations led to their development of the notion of diachronic implications.

Lehmann (1973, 1978a, b) proposed the 'Fundamental Principle of Placement (FPP)' challenging Greenberg's (1963) three element word order suggesting that a syntactic construction is made up primarily of the verb and object (noun phrase) whilst leaving out the element of 'subject' as it is not a primary constituent in the sentences of many languages. For instance, 'subjectless' sentences in languages such as Latin and Sanskrit (Song, 2001:56). Going back to the notion of the PSA and the unhelpfulness of the notion of a pure 'subject' using the RRG framework, this will be a consistent and useful observation in the analysis that follows. Lehmann thus reduced Greenberg's typology into two types; OV and VO. He explains languages that contain properties of each type as undergoing typological change from one language type to another due to contact or internal development (Lehmann, 1978b). The following table illustrates the position of nominal and verbal modifiers (vm) in Lehman's (1973, 1978a, b) two-way typology.

Table 5. 1 Lehman's (1973, 1978a, b) Order of modifiers in two-way typology (in Song, 2001:58)

OV	VO
AN	NA
V-vm	vm-V

Venneman (1974a) also supports the notion of an OV-VO distinction without regard to subject. In contrast, however, he explains Greenberg's (1963) universal statements on word order in terms of categorial analogies in which the object and the verb are primary concomitants of each other (Song, 2001:58). He appeals to the

'Principle of Natural Serialization (PNS)' which distinguished between the order of operators (dependents/modifiers) and operands (heads). The PNS suggests that the order of operators and operands tend to be serialized in one direction, either operators before operands or vice-versa (Bartsch and Venneman, 1972 in Song, 2001:58, 59)) illustrates in figure 5.1.

{operator {operand}}=> { [operator [operand]] in OV languages
[[operand] operator] in VO languages }

Figure 5. 1 Venneman's operator-operand distinction in Song (2001:59)

5.3.2 Critiques of Lehmann and Venneman

Some criticisms of these two approaches include the setting aside of the subject by Lehmann as unhelpful as the SVO word order does not appear to correlate as well with predictions as those made with VSO and VOS languages (Comrie, 1989:96). Furthermore, Comrie (1989:96) believes that terminological confusion can arise in the usage of VO-OV distinctions as this could mean either a) the relative basic word order of verb and object or b) a VO language is one that has all of the properties of a typical VO language. However, because some languages may display exceptions, such as Persian being an OV language with some properties of those typical of VO such as prepositions and postnominal genitives it could be classified as VO by the definition found in b). Therefore, Comrie prefers Venneman's operator-operand distinction to avoid this confusion.

Vennemann's (1974a, b) work has undergone criticism too however such as Lehmann (1973, 1978b, c) questioning the status of elements in the operator-operand categories, suggesting that auxiliary for instance belongs in the modifier or operator rather than operand category. Hawkin's (1983) has also suggested that Venneman's approach is reductionist in its taking from the special status of the verb by collapsing it together with other 'operands'.

5.4 Dryer's Support for OV-VO typology

Despite the above criticisms, Dryer (1991) has essentially agreed with the conclusions reached by Lehmann and Venneman in taking a two-part OV-VO approach in typological studies of word order. Using a sample of 603 languages he demonstrated the value of an OV-VO typology, in particular showing that, contrary to Comrie's (1989) criticism, SVO languages largely fall in line with the properties of those categorised as VO. Dryer (1991) has pointed out that while this claim

regarding SVO languages is valid to a point it must be noted that inconsistencies in SVO languages are localised in certain limited characteristics.

5.4.1 Critiquing Comrie's View

Dryer (1991) conducted a larger scale study to challenge some assertions that SVO languages pattern as an intermediate type between V-initial and V-final. Both Hawkins (1979) and Comrie (1981:90; 1989:96) point to the claim based on Greenberg's (1963) study that appears to offer evidence for the existence of exceptionless universals regarding word order in V-final and V-initial languages but never in SVO languages with regard to a range of six characteristics. Comrie (1989:96) claims the following:

"Knowing that a language is VSO or VOS, we can predict its values for other word order parameters; knowing that a language is SOV, we can with considerable reliability predict its other word order parameter values; knowing that a language is SVO, we can predict virtually nothing else."

In response to Comrie 's (1981:80; 1989:96) claim that while we can predict the word order characteristics of V-initial and V-final languages with considerable reliability, with SVO languages we can predict "virtually nothing else", Dryer (1991) provides evidence of eleven word order characteristics such as adposition type, order of relative clause and noun, order of copula and predicate and order of plural words with respect to the noun that pattern after the V-initial fashion.

Three characteristics for which SVO languages do appear as an intermediate type are discussed by Dryer, that of the order of genitive and noun, position of question particles and position of wh- words. So, Lehmann and Venneman's distinction of an intermediate type is right to an extent, but their criteria of characteristics for the VO-OV distinction is largely based on elements for which SVO languages pattern after the V-initial type. Dryer (1991) suggests that overlooking limited and localised nature of inconsistencies in SVO languages with regard to patterning is a mistake, particularly in light of Comrie's (1981:90; 1989:96) claim that with SVO languages we can predict "virtually nothing" with regard to word order patterns. This has demonstrated as false by Dryer with the exception of a few characteristics and we can predict the other characteristics of SVO languages about as well as those for V-initial and V-final languages, thus lending support to Dryer's proposed two-way distinction.

5.4.2 Critiquing Hawkin's CCH

Dryer (1991) also addresses Hawkins' (1982, 1983) Principle of Cross-Category Harmony (CCH). This principle predicts that while it is most common for V-final

languages to place all modifiers before the noun and V-initial to place all modifiers after the noun, it should be most common for SVO languages to place some modifiers before and some after the noun. Hawkins (1991) distinguished between N1 languages (both modifiers follow the noun), N2 languages (one modifier precedes and one follows the noun) and N3 languages (both modifiers precede the noun). Dryer attributes this largely if not completely to the SVO patterning exception with regard to the order of genitive and noun. Dryer (1991:469) demonstrates, with specific regard to these predictions relating to the modifiers of genitive and adjective with respect to the noun. Using a larger sample of languages, and greater diversity in contrast to Hawkins' disproportionate use of languages from Eurasia, he found that none of Hawkins predictions in this regard bear out with the exception of the prediction that V-final languages with both modifiers following the noun are the least common. This itself is explained by the fact that, contrary to the common pattern of V-final languages, this is the one type in which the genitive must follow the noun. In relation in V-initial languages CCH predicts that the most common patterns should be that both modifiers follow the noun. While Hawkins' (1983) data supports this, Dryer's (1991) larger and more linguistically diverse sample reveals that types in which both modifiers follow the noun (N1) isn't any more common than the N2 type in which one modifier precedes and one follows the noun. Dryer again points to the fact that N3 is the only type in which the genitive must precede the noun in contrast to a general preference for an NGen order among V-initial languages.

Finally, with regard to SVO languages CCH anticipates that the most common type should be N2 in which one modifier precedes and one follows the noun. While Hawkin's data supported this, Dryer language sample found SVO&N1 to be more common.

Table 5. 2 Cross-Category Harmony and SVO languages (Dryer, 1991: 471)

Language and Noun Position Type	No. of languages in Hawkin's Data	No. of languages in Dryer's Data	Avg. Proportions Over area
SVO&N3	9	8	.26
SVO&N2	22	16	.42
SVO&N1	21	29	.33

Dryer (1991) does point out however that the crucial figures are found in the average proportions column which seem to support CCH's predictions for SVO with N2 as the most frequent type. However, it was found that this type was common in both V-initial and V-final languages. Secondly, he points out that we must recognize that there are two types of SVO&N2 languages; SVO&NG&AN and SVO&GN&NA. However, there is only one SVO for type N1 and N3 respectively. These should result in twice as many SVO&N2 languages as there are for SVO&N1 and SVO&N3. This is not the case according to Dryer's (1991) results as, while the average of proportions over areas is .42 it is actually less than would be expected due to chance.

Further data from Dryer (1991) reveals that the type N2 is no more common among SVO languages than it is among V-final or V-initial languages.

Table 5. 3 Averages of proportions over areas for clause type by noun-position type (Dryer, 1991: 473)

Noun Position Type	V-final	SVO	V-initial
N3	.40	.26	.18
N2	.51	.42	.41
N1	.09	.33	.41

There is apparent support for CCH with regard to line one of Table 5.3 as the figures get progressively lower along the N1 line form V-final to V-initial. This can be explained however with reference to the tendencies surrounding the order of genitive and noun addressed earlier which revealed a limited area regarding the order of genitive and noun in which SVO languages do in fact pattern in an intermediate manner. Further preliminary research by Dryer (1991:31,32) on the positioning of a wider range of modifiers (adjectives, genitives, demonstratives, and numerals) further reveal that CCH does no better than chance with regard to predictions of SVO languages functioning as an intermediate type.

While Dryer (1991) has acknowledged a limited group of characteristics such as genitive-noun order for which SVO languages pattern as an intermediate type between V-initial and V-final languages, there is a large weight of other characteristics which pattern closely to that of verb-initial languages. Thus, two positions have been taken. Any language which demonstrates flexibility in word

order may instead be assigned to one or both of these. One suggests that SVO languages pattern like V-initial languages and that there is thus a fundamental split between OV and VO languages. The other position holds that SVO languages are an inconsistent type, intermediate between V-final and V-initial languages, and that the OV:VO typology is therefore incorrect.

The following analysis of Babungo, an SVO GB Ring language, will offer support for Dryer's (2007) thesis that SVO languages exhibit properties very similar to V-initial languages, thus supporting the OV:VO typology with some mild discrepancies relating to SVO.

5.5 Overview of Word Order in Babungo

Schaub (1985:62, 63) summarises that the basic orders of constituents in verbal sentences are as follows:

Intransitive:	S – V - Adv (optional constituents)
Semitransitive:	S – V – PP/LOC – Adv
Transitive:	S – V – O/U – Adv
	S – V – O/Ben – Adv
Bitransitive:	S – V – O/U – PP/Ben (IO) – Adv
	S – V – O/Ben – PP/U – Adv
	S - V – O/U – PP/LOC – Adv

All of the above combinations may be summarized as follows:

S – V – O(U/Ben) – PP(Ben/U/LOC) – Adv

A number of exceptions are possible but for discourse/pragmatic purposes, such as putting the subject into focus by shifting it behind the verb. The verb, however, is repeated after the subject as a dummy verb (without accompanying tense or aspect particles) when a direct object follows. Additionally, if the direct object has already been mentioned, it can be frontshifted for topicalisation (this is not a focusing device). In this case the subject has to follow the verb (which is the focus position for the subject): S – V – O becomes O – V – S. There are also sentences found with an adverbial at the beginning. This, however, may be considered as discourse feature, marking episode breaks; i.e. a new episode is introduced by a setting, or it may be an adverbial at the beginning of another sentence (Schaub, 1985:62, 63).

5.6 Analysis under Dryer's Word Order Characteristics

Dryer (2007:72) summarized the following categories relating to observed patterns of SOV, SVO, and verb-initial language.

Table 5. 4 Predictable word order categories

SOV	SVO	Verb-initial
AdvV	VAdv	VAdv
NP Po	Pr NP	Pr NP
GN	GN or NG	NG
StMAdj	AdjMSt	AdjMSt
ClauseSubord	SubordClause	SubordClause

The following will look at word order in Babungo with reference to the characteristics of SVO languages outlined by Dryer (2007) to see if they fall in line with his thesis of SVO languages being characterised largely under the category of v-initial (VO) languages. The template used for analysing various word order combinations will be based on the categories outlined by Dryer (2007) and data examples are drawn from Schaub (1985).

5.6.1 Adpositions

In line with the verb-initial languages Babungo utilizes prepositions.

(1) Babungo (Schaub, 1985: 64)

ŋwə́ nyɨ̀ŋ nə̀ ŋwǐŋ wī

She run-pf with child her

'She ran away with her child' (Schaub, 1985: 64)

5.6.2 Comparative constructions

Comparison is expressed using the verb 'shɔ̆ɔ' (pass, pass on, surpass) and usually consists of two clauses with the second being compared to something or someone in the first. When the comparison is between two actors, the second actor is the object of the verb 'surpass'. When the difference is between other clause constituents, the object of the verb 'surpass' is a headless relative clause. While using a semantic definition, the order falls in line with Dryer's (2007: 65) prediction of AdjMSt (Adjective+Marker+Standard), a syntactic approach would highlight that

the word class of adjective is not appropriate. This will be addressed in chapters 6 and 7 on word classes.

(2) Babungo (Schaub, 1985: 113, 144)

Làmbí	nyɨŋ	shɔ̀ɔ	mə̀
Lambi	run-pf	surpass-pf	me

'Lambi ran faster than me'

5.6.3 Adverbial subordinators

Largely in line with Dryer's findings on verb initial languages, adverbial subordinators occur at the beginning of the subordinate clauses cases in the majority of cases.

(3) Babungo (Schaub, 1985: 38)

yúu	ŋwə́	gə̀	táa	yìwìŋ
when	he	go-pf	to	market

'when he went to the market'

The only exceptions relate to condition clauses wherein the conditions "contrary to fact" use the marker *tô'* within the verb phrase clause.

(4) Babungo (Schaub, 1985: 41)

ŋwə́	nə̌	tô'	lùu	wùmbə̌	ŋwāa
he	P4	if-contr.fact	be	friend	my

'If he were my friend'

A similar situation is seen in the distributive condition clause in which the 'if distributive' *kɔ̀lə́* is combined with question words for 'what' or 'where' resulting in notions like 'whatever' or 'whenever'.

(5) Babungo (Schaub, 1985: 41)

ŋwə́	kɔ̀lə́	fá'	kə̀
he	if-distr	work-impf	what

'Whatever he works'

Concessive clauses also utilise the distributive condition clause marker in the verb phrase along with a manner clause which uses a subordinating conjunction which precedes the subordinating clause. (Schaub, 1985: 44).

Interestingly, in the WALS account of typological features, Dryer (2003) points to an instance of clause internal subordinating markers occurring in Nkore-Kiga (Bantu; Uganda) also a verb-initial language. He highlights that this is the dominant type in only 8 languages and while it occurs in many others it is not the dominant form. Thus, in terms of the dominant form, Babungo is in line with a clause initial order.

5.6.4 Genitive/Noun order

Dryer's (2007) thesis suggests one of the few areas where an SVO language departs from the verb-initial pattern is regarding ordering of genitive and noun. Verb-initial languages favour NG while both are found in SVO languages such as English. Possession in Babungo points to an NG order. An associative marker concording with the class of the head noun marks possession, this may be a marker of tonal agreement. However, when it comes to possessive pronouns both an NG and a GN order are found, the latter reflecting emphasis (see examples 7 and 8) however and thus, in line with Dryer, would not constitute canonical but rather pragmatic word order.

(6) Babungo (Schaub, 1985: 146)

Fənwə	fə	wùumbă	ŋwāa
Bird	AM	friend	my

'The bird of my friend

(7) Babungo (Schaub, 1985: 203)

ŋkáw	kə̂	lùu	ŋkáw	kāŋ
Chair	this	be	chair	my

'This chair is my chair'

(8) Babungo (Schaub, 1985: 203)

ŋkáw	kə̂	lùu	ŋkă̌ŋ	ŋkáw
chair	this	be	my-emph	chair

'This chair is my chair'

5.6.5 Manner adverbs

Babungo doesn't appear to use manner adverbs but instrumental phrases using the preposition 'nə' (with).

(9) Babungo (Schaub, 1985: 148)

ŋwə́	fà'	nə̀	wūtə̄
He	work-pf	with	power

'He worked with power' (i.e. he worked hard)

Once again, the VAdv pattern falls in line with verb-initial languages.

Thus far, we have seen that like other SVO languages including English the word order characteristics of Babungo largely fall in line with the patterns found in verb-initial languages. The discrepancy regarding the GN/NG order is a common one in SVO languages. The following section with look at other bidirectional characteristics of word order in Babungo which should be predictable under the verb-initial framework.

5.6.6 Bidirectional Word Order Correlates

The following are a selection of characteristics that occur bidirectionally just as those above, for example, if a language is OV it's postpositional and vice versa.

5.6.6.1 Verb and adpositional phrase

VO languages characteristically take an adpositional phrase after the verb. This is supported in the Babungo language.

(10) Babungo (Schaub, 1985: 145)

mə̀	sə̌ŋ	ŋwə́	nə̀	fə̀ntī
I	beat-pf	him	with	stick

'I have beaten him with a stick'

5.6.6.2 Verb and non-argument noun phrases

Dryer (2007: 90) defines non-argument noun phrases as those that are not marked with an adposition, but, are also not syntactic arguments or part of the lexical structure of the verb. While many non-argument noun phrases are marked by prepositions, 'locational nouns' in Babungo provide the closest example of what may be interpreted as non-argument NPs without adpositions. They are in line with Dryer's prediction in that they occur on the same side of the verb as the object.

Location noun: *tɔ́* 'head'

(10) Babungo (Schaub, 1985: 159)

fənwə́	náy	tɔ́	ŋwə́	(fúu	tɨ)
bird	rest-pf	(on) head	his	(on	tree)

'A bird is resting above his head (on the tree)'

5.6.6.3 Main verb and auxiliary verb

The common VO pattern is for the auxiliary to precede the main verb. Tense markers in Babungo take both markers and auxiliaries. Based on tonal analyses Schaub (1985) has determined that the P3 and future markers are auxiliary verbs. Supporting the VO pattern, they precede the verb.

(11) Babungo (Schaub, 1985:213)

ŋwə́	yàa	jwí	ŋkúusə
He	P3Aux	come-pf	Nkuusə

'He came on Nkuusə' (name of weekday)

(12) Babungo (Schaub, 1985: 213)

Mə	táa	jwí	mbìsī
I	F1Aux	come	tomorrow

'I shall come tomorrow'

5.6.6.4 Copula verb and predicate

This is believed to correlate with verb/object order. The copula patterns as preceding the predicate in VO languages which is supported in Babungo.

(13) Babungo (Schaub, 1985: 83)

Làmbí	lùu	wúu	kwàlə
Lambi	be (Cop)	person	big (Pred)

'Lambi is an important man'

(14) Babungo (Schaub, 1985: 83)

Fàntī	fə̂	lùu	fə́kwálə
Stick	this	be(Cop)	big (Pred)

'This stick is big.'

5.6.6.5 Question particles

Dryer (2007) suggests that SVO languages can exhibit an intermediate pattern between OV and verb-initial languages relating to question particles. SVO with question initial and question final particles are both found. Dryer (2007:93) highlights that this relates to yes-no questions that are neutral with regard to their answer, as rather than leading questions which can occur in certain languages wherein the question particle is used to indicate that the speaker has already made an assumption about the answer. This is similar to a question tag in English such as, "You have work tomorrow, don't you?". Babungo demonstrates the use of question final particles only.

(15) Babungo (Schaub, 1985: 8)

Làmbí táa ŋìi mū

Lambi in house Q

'Is Lambi in the house?'

5.6.6.6 Complementiser and clause

The clause follows the complementiser in Babungo as per the VO pattern.

(16) Babungo (Schaub, 1985: 5)

mə́ bítə́ lāa lùu kə́ nə̀

I say-pf that I F2 come

'I said that I would come.'

5.6.6.7 Article and noun

There does appear to be a correlation of verb/object order though weaker and Dryer (2007: 94, 95) points out that it is possible to identify definiteness rather than just the article. Schaub (1985:98) determines that definiteness and indefiniteness are not marked in Babungo but that the anaphoric demonstrative adjective which is closely related to the definite article in other languages is used to mark nouns that are already defined in context.

(17) Babungo (Schaub, 1985: 98)

Làmbí tùŋ nyâa táa gáa nyáa yɔ́ nyɨ́ŋ

Lambi shoot-pf animal in grass animal that-anaph run-impf

'Lambi shot an animal in the bush. The animal ran away.'

The order here is not in line with the common order of DetNoun. One possibility is that Schaub's (1985) assessment of the anaphoric demonstrative here as determiner is inaccurate. Dryer (2007) suggests that, while in some languages like English, determiner and demonstrative are in the same class of words and cannot be used together. In Fijian, however, demonstrative is a separate word class and follows the noun. This may be the case in Babungo.

5.6.6.8 Subordinate and main clause

These usually follow the main clause in VO languages but the position of subordinate clause may show a significant degree of freedom. Babungo shows evidence of a main clause and subordinate clause.

(18) Babungo (Schaub, 1985: 30)

mə́	yě	ŋwə́	fáŋ	mə́	sɨ́	gə́	táa	yìwìŋ
I	see-pf	him	when	I	P2	go-pf	to	market

'I saw him when I went to the market.'

5.6.7 Unidirectional Word Order Correlates

The pairs of elements discussed above correlate bidirectionally with the order of object and verb. In other words, given the order of object and verb, the characteristics noted can be predicted whilst given one of these other characteristics, one can predict the order of object and verb. For example, given the order OV, points to VAux and vice-versa. The pairs of elements in 5.6.7.1 and 5.6.7.2 do not occur in this fashion (Dryer, 2007: 96).

5.6.7.1 Noun and relative clause

The majority of VO have nouns which are followed by a relative clause. This is reflected in Babungo in which the head noun is always in front of the relative clause.

(19) Babungo (Schaub, 1985: 33)

wə̀	ntɨ́ə	fáŋ	ŋwə́	nə̀	sàŋ	ghɔ̂,	(ŋwə́)	jwì
Person	that	who	he	P4	beat-pf	you	(he)	come-pf
féenə̀								
here								

'The man who has beaten you has come here.'

Dryer (2007: 97) notes that among all four language types there is a weak correlation in that one order, 'If RelN, then OV', is more common among OV than among VO languages. However, we cannot say that the reverse correlation is true.

5.6.7.2 Plural word and noun

The category does not apply to Babungo as affixes rather than plural words are used to indicate plurality.

5.6.8 Intermediate unidirectional and bidirectional cases

Dryer (2007) has indicated intermediate cases in which two of the four language types follow a bidirectional pattern while the other two hold to a unidirectional pattern. Some cases however could be classified either way. For example, the adverbial and clause subordinator pattern is bidirectional in that OV with final subordinators and VO with initial subordinators is more common than the other two possibilities. But, of the other two cases, one is far more common than the other. OV with initial subordinators are much more salient than VO with final subordinators, hence the intermediate classification. Another example would be that of complementiser and clause.

5.6.9 Word Order Characteristics Showing No Correlation

The following are characteristics of SVO languages that do not typically correlate with the verb-initial expected orders.

5.6.9.1 Adjective and Noun

In relation to attributive rather than predicative adjectives, NA is slightly more common than AN in OV and VO languages. Dryer (2007: 103) notes that this can be a problematic category as adjectives may include demonstrative nouns and numerals. A point to consider is that, in some languages, it has been suggested that adjectives can belong to a class of or be a subclass of nouns or verbs. For instance, in Tamil, Asher (1982 : 186, 187) points out that "the question of whether it is appropriate to recognise a separate morphological category of adjective in Tamil has long been debated on the grounds that all but a very small handful of adjectival modifiers of nouns are derived forms". These can be derived from verb or noun roots. While, Enfield (2004: 346) suggests that based on a grammatical analysis, adjectives in Lao may be established "first as verbs (as opposed to nouns), second as stative verbs (as opposed to active verbs), and third as a sub-class of their own." Therefore, the question remains as to whether it may be misleading to identify an AN/NA category. Dryer (2007) asks whether typological categories are more semantic or more motivated by the categories in each language. In Babungo the

order seen is NA with adjectives taking an agreement affix that corresponds to the head noun of the phrase.

(20) Babungo (Schaub, 1985: 72)

mə yə fá kwálə

I see-pf thing big

'I have seen a big thing.'

5.6.9.2 Demonstrative and noun

Like the adjective it is common to find both orders in OV and VO languages. In Babungo the order in NDem, as with adjectives.

(21) Babungo (Schaub, 1985: 51)

fázɨ̄ kə̂ lùu fə́jə̂ə

food this very good

'This food is very good.'

5.6.9.3 Numeral and noun

Both NumN and NNum are common among OV and VO languages in relation to cardinal numbers. Babungo reveals a NounNum order.

(22) Babungo (Schaub, 1985: 74)

(mə kíi) ŋkáw kə̀mù'

(I have) chair one

'(I have) one chair.'

5.6.9.4 Negative particle and verb

Dryer (2007: 105) notes that morphemes here are neither affixes nor auxiliaries. While both orders of negative and verb are found in OV and VO languages, the preverbal position is more common. He notes that though it doesn't correlate with the order of object and verb, it does correlate weakly with the order of subject and verb .i.e., a preverbal preference in verb-initial languages. In Babungo, negation is marked by a sentence- or clause-final particle 'mē' along with the negative particle 'kèe' is found in the verb phrase. The negative hortative also uses the sentence initial particle 'kɨ́' (Schaub, 1985: 24, 91). This demonstrates that both pre-verbal and post-verbal markers are found.

(23) Babungo (Schaub, 1985: 91)

ŋwə́	kèe	gə	táa	yìwìŋ	mē
He	neg	go-pf	to	market	neg

'He did not go to the market.'

5.6.9.5 Tense-aspect particle and verb

This category relates to uninflected words which mark tense and aspect like auxiliaries but are non-verbal. They tend to precede the verb in both OV and VO languages with a slightly higher rate of this occurring in OV.

Schaub (1985) has indicated that the P3 and future tense markers in Babungo are auxiliaries whilst all other tense markers are particles. Schaub suggests that certain markers such as P3 are at an intermediate stage of developing from an auxiliary verb into a tense marking particle. For further discussion see Schaub (1985: 347-353). These auxiliaries and markers precede the verb in all cases.

(24) Babungo (Schaub, 1985: 213)

ŋwə́	níi	jwì
He	P1	come-pf

'He has come (today).'

Aspect is marked using auxiliaries, particles and verbal affixes. The habitual aspect and perstitive aspect utilise particles and again both precede the verb. Two markers are used in the case of habitual, a combination of the P3 marker and the simultaneous aspect marker (Schaub, 1985: 214-221).

(25) Babungo (Schaub, 1985: 217)

ŋwə́	yáa	kɨ	gə́	sɔ̃''
He	P3	sim	go-impf	hunt

'He used to go hunting.'

5.6.9.6 Degree word and adjective

Dryer (2007: 107, 108) argues that Greenberg's 30 language sample was misleading with regard to degree word/adjective patterns since the verb-initial languages in his sample were primarily AdjDeg. He posits that, in fact, both orders are common among verb-initial languages, and that the order of DegAdj is possibly somewhat more common among verb-initial languages.

In Babungo we see evidence for both orders thus supporting Dryer's (2007) thesis. For example, degree of quality in adjectives can be marked by the emphasis word ŋkèe (very) before the adjective or the verb shɔ̂ɔ(surpass) following the verb.

(26) Babungo (Schaub, 1985: 236)

ŋwə́	lúu	ŋkèe	tɔ́fə̄
He	be	very	clever

'He is very clever.'

(27) Babungo (Schaub, 1985: 236)

ŋwə́	lúu	tɔ́fə̄	shɔ̂ɔ
He	be	clever	surpass-impf

'He is too clever.' (Schaub, 1985: 236)

A question to be addressed here is whether example (27) is relevant as it is technically a verb acting as an intensifier. This may give strength to the argument that a more semantic rather than technically syntactic approach is needed in typological analyses.

5.6.10 Other typological characteristics correlating with order of object and verb

This relates to elements that seem to correlate with order of object and verb but do not involve the order of two elements. Two previously mentioned are internally headed relative clauses which rarely occur outside OV languages and articles which seem to be more common in VO than OV languages. The following are further illustrations.

5.6.10.1 Position of interrogative expressions in content questions

This can also correlate with the order of object and verb and are found at the beginning of the sentence in verb-initial languages and in-situ in OV languages. It is not a very strong correlation, however. SVO does not pattern with verb-initial languages in this case as both types are found. Interestingly Babungo demonstrates a pattern of both in-situ and verb final.

(28) Babungo (Schaub, 1985: 10)

kɔ̀	ndə́	kɔ̀	ká	tɨ́	Ndùlá
give-pf	who	give-pf	money	to	Ndula

'Who gave money to Ndula?'

(29) Babungo (Schaub, 1985: 10)

Làmbí yɨ kə̀

Lambi do-pf what

'What did Lambi do?'

5.6.10.2 Affix position

The general tendency seems to be suffixes with OV languages and prefixes with VO languages. Dryer (2007: 110) suggests that the pattern is unidirectional in three of the four types. We find suffixes in OV and VO and prefixes in VO. So, it can be said that VO languages more commonly have suffixes, but it can't be said that VO languages more commonly have prefixes. However, if a language is exclusively suffixing it is more likely to be OV. Babungo demonstrates a mixed pattern in its usage of affixes. For instance, valency is increased and decreased using suffixes, perfective and progressive aspect are marked by prefixes and ingressive aspect is marked by a suffix. For example, the progressive aspect is marked by a prefix which consists of a repetition of the initial consonant of the verb root plus a central vowel.

(30) Babungo (Schaub, 1985: 218)

ŋwə́ tɨ́tə̄ə̄ yìbɨ̄i

He dig-prog pit

'He is digging a pit.'

On the other hand, ingressive aspect is marked by the verb suffix –nə

(31) Babungo (Schaub, 1985: 218)

ŋwə́ nɔ̀ŋnə̀ fúu fwáŋ

He lie-pf-ingr on bed

'He lay down on the bed.'

5.6.10.4 Case distinguishing transitive arguments

There are various ways in which the arguments in a clause can be distinguished. One approach is using a case affix or adposition. Dryer (2007) has noted that weak correlations are found and that case affixes are most common in OV languages, then in verb-initial languages, and are least common in SVO languages.

We do not see case affix marking in Babungo and Schaub (1985: 199) notes that pronouns do not have a case system. What we do see is the use of adpositions for pronouns and otherwise.

(32) Babungo (Schaub, 1985: 199)

ŋwə́	kɔ̀	fá	tɨ́	ghɔ̂
He	give-pf	thing	to	you

'He has given something to you.'

(33) Babungo (Schaub, 1985: 87)

Làmbí	ghɔ́	Ndùlá	gə̀	táa	yìwìŋ
Lambi	and	Ndula	go-pf	to	market

'Lambi and Ndula went to the market (together).'

Schaub (1985) does note that, while there is no case marking found in phrases, there may be a remnant of a locative case marked by an underlying low tone which may be considered a remnant of a case affix.

5.7 Summary

Beginning with Greenberg's (1966) work on unrestricted and implicational universals, this chapter has explored both the benefits and critiques of his approach. Both Hawkins (1979) and Comrie (1981:90; 1989:96) showed support for Greenberg's (1966) six-way word order typology, against a VO-OV distinction as proposed by Vennemann's (1974a, b) and Lehmann (1973, 1978b, c). Comrie points to SVO languages as an inconsistent type that could not be placed accurately in the VO or OV group. Dryer (1992, 2007) however, offered evidence to the contrary demonstrating that SVO languages pattern closely with VO languages. Using Dryer (2007) as a framework, his approach has been largely supported by an analysis of bidirectional and unidirectional word order patterns in the Grassfields Bantu Ring language Babungo. Dryer's (2007) critique of Greenberg's conclusions in certain areas is also supported by the Babungo data. For example, in relation to the degree word/adjective patterns, he argues that Greenberg's data were primarily DegAdj in verb-initial languages. Dryer suggests that, contrary to Greenberg's suggestion, both orders are common among verb-initial languages, and that the order of IntensAdj is possibly somewhat more common among verb-initial languages. In

Babungo we see data that exhibits both orders thus supporting Dryer's (2007) thesis.

In terms of discrepancies that arose in the analysis of Babungo under Dryer's framework, they were predicted by Dryer's (2007) own work, such as the presence of both an NG and GN pattern in SVO languages, departing here from the verb-initial pattern. Furthermore, while examples (23) and (24) are in line with Dryer's prediction that both orders of Intensadj/AdjIntens occur in VO languages, in the second case we see a verb acting as an intensifier. Degree of quality in adjectives can be marked by the emphasis word ŋkèe (very) before the adjective or the verb shɔɔ(surpass) following the verb. Thus, are we in fact dealing with a serial verb construction?

Such findings beg the question as to whether the definitions used in cross-linguistic typological analyses are sufficient. Of significance to the current study is the realm of word order and constituent predictions relating to Rijkhoff's (2002) questioning of Dryer's (1991) purely semantic definitions relating to word classes such as adjective and numeral. He points out that in an effort to move away from rigidly defined formal grammatical categories, some semantic motivations in categorising elements, such as that of 'adjective', have become too loosely defined, importing English language notions of the constituent of adjective where another term would serve us better. Quoting Dryer (1988), Rijkhoff (2002:284) notes that in many of the languages he has studied much of what are called adjectives are really verbs, and so-called 'adjectives' modifying nouns are actually relative clauses. While, in the framework used in this chapter, Dryer (2007: 103) points to the problematic issue of word classes in saying "...in the broadest sense of the word, adjectives include demonstrative 'adjectives' and numerals. Thus, while Babungo has provided strong support for Dryer's (1991, 2007) proposal of a VO-OV word order typology, the questions raised surrounding the nature and definition of distinct words classes, such as those used in typological linguistic analyses, will be examined in the chapters that follow.

Chapter 6. Word Classes in Ring and the Status of the Adjective

6.1 Introduction

As we saw in chapter 5, the development of definitions for word classes is crucial in cross-linguistic typological analyses. It is also central to the development of accurate theories and predictions surrounding issues such as word order and the comparability of categories such noun, adjective or relative clause. While Dryer (1992, 2007) has offered strong support for a VO-OV typology, a self-admitted flaw in his work has been the use of purely semantic definitions as they relate to word classes. He has acknowledged that in previous work much of what he calls adjectives are really verbs, and elements called adjectives modifying nouns are actually relative clauses (Dryer, 1988 in Rijkhoff, 2002:284). Thus, while acknowledging the benefits of a VO-OV typology, this chapter seeks to address the question surrounding word class definitions taking the adjective as a case in point. Two contrasting views within the field of functional linguistics will be compared; that of Dixon (2004) versus Hengeveld (1992a, b) and Rijkhoff (2002) with the word class of adjective taken as a case in point. Dixon (2004) leans towards a more semantic definition in cross-linguistic terms, with grammatical distinctions being language specific. They further argue that the word class of 'adjective' is thus present in all languages. This view is critiqued by Hengeveld's (1992a, b) 'Parts-of Speech' system which suggests that not all word classes are necessarily present in all languages. He proposes a 'theory of further measures' that takes both semantic and syntactic features related to markedness into account in typological comparisons. Based on arguments in favour of Hengeveld's approach, a modified version of his Parts-of-Speech (PoS) system proposed by Rijkhoff (2002) will be used to analyse a selection of data from the GB Ring language to explore whether the word classes of verb, noun and adjective are distinct classes in the Ring languages under this framework. An analysis of the modifier deemed as adjective in a selection of the Ring languages through the lens of RRG, lends support to Rijkhoff's (2002) claim that purely semantic definitions for such categories may not be helpful in typological analyses. It may be that what have been identified as a distinct class of adjectives or modifiers of the reference phrase in these GB languages may not be a specialised class in and of themselves, but rather noun and verb forms which have had 'further measures' taken on them (Hengeveld 1992 a, b). This further highlights the need for accuracy and comparability when conducting typological research. The PoS theory above may provide an explanation as to why something to this effect

may be the case in the Grassfields Bantu languages being studied. Finally, Rijkhoff's (2002) [Shape] theory will be introduced in conjunction with the PoS approach. This theory argues that only languages with [+Shape] nominal subcategory can have a distinct class of adjectives, thereby, providing further insights into the semantic motivations behind such cross-linguistic variation in word classes.

6.2 Defining Word Classes

The notion of word classes has been one of interest when it comes to cross-linguistic analysis. The tension exists between coming up with language specific versus cross-linguistically appropriate definition of word classes and the extent to which semantic and syntactic factors should be taken into account. When looking at areas such as word order and the layered structure of the noun phrase (LSNP) in the GB Ring languages at hand, it will be necessary to have an accurate understanding of word classes that works with the RRG framework and accounts for possible iconic motivations for these phenomena.

While the scope of this study is in within a functional-typological perspective, alternative approaches to the realm of word class categorization should be acknowledged, for instance, in the formalist and cognitive semantic schools of thought. The works of Baker (2003) and Chomsky (1995), for example, can be consulted for insights from a formal perspective on word class categories. Notably, on the topic of an adjectival class, Baker (2003:239) argues that all languages "have one and only one syntactic category of adjectives and that this is defined by "the presence or absence of a single, privative feature" (ibid:239). From a cognitive semantic perspective, approaches addressing both discrete/prototypical allocations definitions of word classes are found in (Bolinger, 1980; Wierzbicka, 1995 and Langacker, 1987, 1999, 2008) while Givon (1984) and Taylor (2002) take the approach of a semantic continuum. Langacker (1987:53), for instance, points to "universally valid semantic categorisations" with regard to the categories of noun and verb making use of a model of protoypes and schemas. While Givon (1984:51,52) makes reference to a time-stability scale with time stable nouns at one end, rapidly changing events/actions at the other and adjectives falling in the middle. Taylor (2002:164) notes that while Cognitive Grammar makes reference to syntactic categories such as verb and noun, they "are not regarded as elements of an autonomous syntactic level of organization, but are themselves taken to be symbolic units". He posits a Cognitive Grammar approach of tendencies rather than absolute properties in the realm of categorization of nouns and verbs speaking of a "phonological pole of [NOUN] and [VERB]" (ibid: 184). Interestingly, Baker and

Croft (2017) provide an insightful account of areas of commonality in formalist and functional approaches. For instance, Baker and Croft (2017:188) point to a similarity in Baker's (2003) and Hengeveld's (1992) approach to word classes, noting, "when Baker says that only verbs can license specifiers—that is, that only verbal phrases can take a subject directly—this is parallel to Hengeveld's claim that a verbal predicate is one that has a predicative use only."

Authors such as Dryer (1992) and Dixon (2004) have suggested that semantic definitions suffice when it comes to cross-linguistic comparisons of word class categories such as adjective. Rijkhoff (2002) has challenged this, however, in his theory that internal NP ordering patterns iconically reflect the underlying semantic structure of the NP. In such cases, loosely defined categories of terms such as adjective may render this theory unworkable in some aspects or give rise to discrepancies based on poorly defined terms. Rijkhoff (2016) has noted in a recent paper that his 2004 investigation of the relative order of Demonstrative - Numeral - Adjective - Noun in the simple noun phrase, required 50% of the languages in his sample be excluded, due to the fact that there was at least one problem with cross-linguistic comparability. One problem was that of adjectival notions and cardinality being expressed by verbs or nouns (i.e. as relative clause or genitives).

Two opposing views on the notion of word class, that of Dixon and Aikhenvald (2004) and Rijkhoff (2002) and Hengeveld (1992 a, b) will be outlined with particular reference to the class of adjective as a case in point. The question as to whether such problems surrounding word class definitions and cross-linguistic comparability provides further explanations for apparent exceptions to Rijkhoff's (2002) iconicity predictions will also be explored.

6.3 Dixon's Approach to Word Classes

A pressing question among linguists has been 'do all languages have adjectives'? Dixon (2002:1) has asserted that the categories of noun, verb, and adjective are implicit in the structure of all human languages based on languages function in communicating meaning and that basic concepts are encoded as words. He argues that each class has a prototypical conceptual basis, referring to its semantic features and prototypical grammatical functions. For instance, a noun always has a feature of 'entity' with its primary function as head of the NP that can be a core argument and while verbs have the feature of 'action' with a primary function as head of predicate. Dixon further proposes that all languages have a class of adjectives which, while more variable in size and more difficult to recognise, can be distinguished.

6.3.1 Semantic Properties of the Adjectival Class

Dixon (2002) has proffered both semantic concepts and grammatical distinctions in recognising an adjectival word class. These include both core and peripheral adjectival properties; Core properties: Dimension, Value, Age and Colour, and Peripheral properties: Physical, Human Propensity, Speed, Difficulty, Similarity, Qualification, Quantification, Position, and Cardinal Numbers. A number of parallels of these parameters are found in Pustejovsky's (1995) qualia theory, however he points to the need for an inclusion of the logical and relational properties of the adjective in its use.

Table 6. 1 Comparison of Dixon's adjectival properties with qualia properties (Nolan, 2009:271)

Dixon's adjectival properties	Pustejovksy's qualia roles
Core properties	
a) Dimension	Magnitude: formal and Dimensionality: formal
b) Value	Weight: constitutive
c) Age	Weight: constitutive
d) Colour	Colour:
Peripheral properties	
e) Physical	Material: constitutive and Shape: constitutive
f) Human propensity	No equivalent
g) Speed	No equivalent
h) Difficulty	No equivalent
i) Similarity	No equivalent
j) Qualification	No equivalent
k) Quantification	No equivalent
l) Position	No equivalent
m) Cardinal numbers	No equivalent

A comparison of the two approaches reveals that these may in fact be accounted for in Dixon's approach. This is important as the lexical entry for nominal in RRG is

partially based on Pustejovsky's qualia parameters which allow for certain adjectives to combine with them based on the nominal formal and constitutive compatibility. See a comparison of the two semantic approaches to the adjectival word class above in Table 6.1.

While these semantic properties are crucial in identifying the adjectival class in the RRG framework, Dixon's (2004) description of language specific grammatical distinctions, which we will examine next, may be too loosely defined when it comes to typological analysis involving the class of 'adjective' particularly with regard to Rijkhoff's (2002) iconicity predictions, as he has pointed out that much of what has been deemed 'adjective' on a language by language basis is really a complex elements such as an appositional noun phrase or modifying relative clause.

6.3.2 The Adjectival Class as Grammatically Distinct

In recognizing the adjectival class Dixon (2004:10, 11) points out that, firstly, they are usually derived from nouns or verbs, and, secondly, their functional possibilities are greater than those of noun and verb mentioned above. Adjectives tend to fulfil two roles in grammar:

(a) As an intransitive predicate or copula complement stating that something has a certain property.
(b) As a specification that helps focus on the referent of the head noun in an NP that relates to a predicate argument.

A key point is his proposal that word classes must be recognised based on the internal grammatical criteria for that language. This is the first challenge to Dixon (2002) as typological analysis requires a basis for cross-linguistic comparability. As noted by Rijkhoff (2002), Dryer (1992 a, b) himself takes a semantic approach, using purely semantic features for cross-linguistic studies can lead to problems in which phrasal modifiers or members of word classes closer to that of verb or noun have been deemed as adjective based on their semantic function alone. Dryer (1988 in Rijkhoff 2002:284) has stated 'there are many languages in which what I call adjectives are really verbs, and 'adjectives' modifying nouns are really just a kind of relative clause'. While a syntactic element is not precluded in Dixon's approach, grammatical definitions are language specific, so linguists are forced to rely largely on semantic function leading to problems in typological comparability. Rijkhoff's model relies on a study in the simple, integral (i.e. non-complex) NP, therefore the inclusion of elements such as relative clauses or verb deemed as adjectives based

on semantic function is bound to skew results. An example may be seen in Dixon's (2004) criteria in point (b) above. When related to the following example from Bamunka we see a lexeme specifying the referent of the head noun in an NP relating to a predicate argument. However, while there is debate surrounding the elements nature there is strong evidence that it is in fact the second noun in an associative noun phrase with an associative marker rather than a case of a pure adjective with adjectival agreement.

(1) Bamunka (Ingle. 2013: 68)

ɔ́	↓nɔ́	kǒ	ndʉ̂'	sʉ́'nə́	mə́	tə́	mǒ
3SG	PRT	give	wine.C6a	be.sweet	C6a.AM	to	1SG

'He gave me sweet wine.'

While Dixon's (2002) definition may appear to be helpful regarding the clause from Babungo below it would be problematic when comparing the two clauses cross-linguistically as the nature of the element 'sʉ́'nə́' in Bamunka could be interpreted as an adjective or as the second noun in an associative NP. A more universal approach which takes grammatical operations such as morphological marking on lexemes may be more useful than a language internal syntactic approach.

(2) Babungo (Schaub, 1985: 72)

(mə	yè)	fá	kwálə
I	see-pf	thing	big

('I have seen) a big thing'

In highlighting the wide range of variation of the grammatical properties of adjectives when contrasted with noun or verbs, Dixon (2004:11) asserts that in many languages, adjectives can take the morphological marking of verbs (tense, aspect, mood) when functioning as an intransitive predicate and all of the same marking as nouns (number, case, etc.) when functioning as a modifying adjective in an NP. While Dixon (2004) does not provide explicit examples in relation to this statement, he does point to instances of languages in which their adjectives may take verb-like or noun-like grammatical marking. For example, in Tariana, the adjective *hanu* 'big' takes a tense-evidentiality suffix when in the position of the head of an intransitive predicate just as a verb would do (ibid: 6).

(3) Tariana (Dixon, 2004:6)

ñamu(-ne)S hanu-ite-pidanaINTRANSITIVE PREDICATE

evil.spirit(-FOCUSED.A/S/CS) big-NCL:animate-REMOTE.PAST:REPORTED

'the evil spirit was said to be big'

In Yir-Yoront, an Australian language, he highlights that at first glance, "there is no obvious clear-cut criterion to distinguish adjectives from nouns, the two types of word having virtually the same morphological and syntactic properties" (ibid: 13). Alpher (1991: 22) confirms this saying "No structural property identified to date is criterial for all adjectives and only adjectives as opposed to common nouns." For instance, both nouns and adjectives may occur with the postposed *morr* meaning "real, actual, very". Alpher (1991: 23) does go on to make a semantically-based distinction based on their usage, however. While in Dyirbal, both nouns and adjectives take noun class markers (though with certain limitations on each) (ibid: 23, 24). Dixon (2004) here is not providing such criteria for evidence that adjectives do not exist in such languages, but rather as a call to further develop and refine our criteria for the adjectival class.

The definition of 'adjective' appears to rely more heavily on semantic function than the interface with the syntactic function of operators such as tense and aspect cross-linguistically. Distinguishing verb-like adjectives from verbs involves language specific differentials such as certain modifiers being used with predicate adjectives and not verbs in Fijian and reduplication carrying different meanings for verbs and verb-like adjectives in Chinese. However, the language specific nature of such differences makes cross linguistic comparability difficult in less clear cases. For instance, Dixon (2002:19) notes that in Tupiri both verbs and verb-like adjectives can take a relative clause marker with a difference in meaning. If the 'adjective' is truly part of a relative clause then we are no longer dealing with a simple element of the integral NP as per Rijkhoff (2002), but a complex construction which may skew results in an iconicity analysis if simply deemed as adjective. We see similar issues in differentiating nouns form noun-like adjectives, while certain devices may be helpful in distinguishing classes such as morphological possibilities relating to noun class and gender, Dyirbal was found to be an exception wherein most nouns relate to just one noun class while adjectives can occur with a noun marker of any class. As this goes against the expected pattern of adjectival agreement with the head noun, Dixon (2002:23) notes that this criterion is not watertight.

6.3.3 Limits of Dixon's model

We have seen that, while the semantic characteristics proposed by Dixon (2002) and Pustejovsky (1995) are a helpful criterion in identifying adjectival classes, the wide variation in language specific syntactic operations used to determine word class by Dixon (2002) may be too loosely defined. The term 'grammatically distinct' may be so language specific as to lose cross-linguistic typological comparison. When it comes to analysing such elements in light of Rijkhoff's (2002) iconicity predictions relating to the simple integral NP which can only consist of simple elements not complex constructions. This may be a challenge in using Dixon's definition as his syntactic approach could mistake what is in fact an associative NP rather than a noun-adjective construction as we saw in example (2) above. Furthermore, his allocation of elements as verb-like adjectives appear in at least one case of Tupiri to be part of a modifying relative clause rather than a simple modifying lexeme which would also have the possibility of producing non-iconic results as per Rijkhoff's (2002) if included as a simple adjective. Hengeveld (1992 a,b) offers an alternative approach which involves a monomorphemic definition of word class which incorporates both semantic and syntactic features. This approach allows for a more universal cross-linguistic comparison and allows for the possibility for a given language to have a large or small closed adjectival class, or in some cases none at all. Such elements may better be defined as verb or noun-like elements with further morphological measures taken on them for the function of modification.

6.4 Hengeveld's Approach to Word Classes

In contrast to Dixon's (2002) approach, Rijkhoff (2002) and Hengeveld (1992 a, b) have proposed that some languages do not in fact appear to have dedicated word classes for the communicative functions of predication, reference, and modification (associated with the classes of verb, noun, and adjective respectively). Cross-linguistic studies show that the classification of languages into the four major classes of verb, noun, adjective, and adverb are not always straightforward, and indeed it appears there are languages with lack one or more of these distinct lexical categories. While Croft (2000), for instance, takes a more prototypical approach, Hengeveld (1992a, 1992b) focuses on the functions that a lexical item(s) can fulfil without having to use additional grammatical measures.

A further problem faced by linguists on the universality of categories, such as verbs or nouns, is related to how these classes are distinguished in a given framework. Rijkhoff and Van Lier (2013:8) asks whether they should be recognised

at the level of lexical roots (in the lexicon), at the morphological level (word formation), and/or at the syntactic level (phrase structure)? As we saw in an analysis of Dixon's (2002) approach to word classes, the difficulty arises in cross-linguistic comparability. As Rijkhoff and Van Lier (2013:8) notes, "If lexical categories are language specific, the crucial question is how they may be compared across languages". Hengeveld (1992a, b) has offered a solution to this as a result of a cross-linguistic investigation of parts-of-speech (PoS) systems in a representative sample of the world's languages. He offers a definition of word classes solely in terms of the functions they can serve without any additional function-indicating morphosyntactic devices taken on them. This allows for cross-linguistic typological studies to take place using a framework that eliminates the possibility of mistaking complex structures such as associative NPs or relative clause for modifying lexemes from the word class of adjective for instance. Hengeveld (2013:8) summarizes this approach as follows:

'a verb (V) is a lexeme that can be used as the head of a predicate phrase only; a noun (N) is a lexeme that can be used as the head of a referential phrase; an adjective (a) is a lexeme that can be used as a modifier within a referential phrase; and a manner adverb (MAdv) is a lexeme that can be used as a modifier within a predicate phrase.'

6.4.1 Hengeveld's Parts-of-Speech (PoS) System

Hengeveld's (1992a, b) approach led him to develop a parts of speech theory which allows for crosslinguistic variation in membership of the four major lexical classes; verb, noun, adjective, and adverb. Hengeveld (1992a, b) classifies basic and derived lexemes in terms of their distribution across the four functional slots in Table 6.2 below. The two parameters of predication and reference define the following four functions; head of predicate phrase, modifier of the head of predicate phrase, head of referential phrase, and modifier of head of referential phrase.

In terms of lexical roots versus parts-of-speech and the notion of derivation, Hengeveld (1992b; 2013: 32) takes both basic and derived lexemes into consideration. Thus, English can be classified as a language with a class or "part of speech" of manner adverbs, even though the majority of adverbs are derived. It is important to note, however, that Hengeveld (1992b) makes a distinction between a derived *predicate* and a derived *constituent* (that is a constituent that is not a predicate). Thus, derived lexemes here include predicates that are derived, but not attributes that are derived. Taking the adjectival predicate as a case in point, Hengeveld (1992b: 48) clarifies that a lexeme (a basic or derived predicate) can be

classified as an adjectival part of speech if it can be *"put to attributive use without further measures being taken"* (emphasis mine). For example, in Mojave, the predicate *homi* 'tall' does not require relativization when used attributively while *su:paw* 'know' does, thus the former is part of an adjectival part of speech while the latter belongs to a verbal part of speech Hengeveld (1992b: 48, 49) While Hengeveld (1992b) does not provide an explicit list of what 'further measures' include, the illustrations given point to any kind of morphological or syntactic measure taken on a predicate (be it basic or derived) in order for it to function as a given head or modifier. For example, the verb sing in examples (5) and (6) "requires a further measure such as participialization or relativization" to occur as a modifier whilst "the noun *London* in example (7) cannot be used as a modifier without being introduced as a preposition "(ibid: 58, 59).

(4) English (Hengeveld, 1992b: 59)
the intelligent detective

(5) English (Hengeveld, 1992b: 59)
the singing detective

(6) English (Hengeveld, 1992b: 59)
the detective who is singing

(7) English (Hengeveld, 1992b: 59)
the detective from London

So, verbs are characterized by the fact that they have no non-predicative uses, i.e. they can be used predicatively only apart from further measures being taken. Non-verbal lexemes, on the other hand, may have additional, predicative uses, but their defining use is a non-predicative one. (Hengeveld, Rijkhoff and Sierwerska, 2004: 530). There is some conflict in the literature as to the inclusion of derived predicates in identifying further measures, however, this will be addressed in section 6.4.2 below.

Table 6. 2 Four major lexical classes and functions (Hengeveld, 1992a,b)

	HEAD	MODIFIER
PREDICATE PHRASE	verb	manner adverb
REFERENTIAL PHRASE	noun	adjective

As we have seen in this approach, a word class is defined exclusively in terms of the function a lexeme may serve without any additional function-indicating morphological or syntactic devices. This is known as Hengeveld's (1992, a, b) Parts-of-Speech (PoS) system which works via a Theory of Further Measures. These further measures refer to the morphosyntactic properties acquired or lost by a sign in a non-prototypical syntactic role. These properties can be used as diagnostics for the markedness of a lexical item in a given syntactic environment and are defined as follows (Hengeveld, 1992b: 58):

A *verbal* predicate is a predicate which, without further measures being taken, has a predicative use *only*.
A *nominal* predicate is a predicate which, without further measures being taken, can be used as the head of a term (NP).
An *adjectival predicate* is a predicate which, without further measures being taken, can be used as a modifier of a nominal head.
An *adverbial* predicate is a predicate which, without further measures being taken, can be used as a modifier of a non-nominal head.

Hengeveld's approach points to three major languages types of varying degrees. This system yielded a 7-way typology of parts of speech (PoS) systems which was later refined and extended to include intermediate groupings as seen in Table 6.3.

Table 6. 3 Part of Speech system with flexible word classes based on Hengeveld (1992 a, b)

PoS system		Head of Predicate Phrase	Head of Referential Phrase	Modifier of Head of Referential Phrase	Modifier of Head of Predicate Phrase
Flexible	1	CONTENTIVE			
	2	Verb	NON-VERB		
	3	Verb	Noun	MODIFIER	
Differentiated	4	Verb	Noun	Adjective	Manner Adverb
Rigid	5	Verb	Noun	Adjective	-
	6	Verb	Noun	-	-
	7	Verb	Noun	-	-

Some languages utilise a fully differentiated system (PoS 4) with groups of lexemes corresponding one-to-one to each of the four major lexical categories such as English as in example (8). Examples 8 – 10 are taken from (Hengeveld and Van Lier, 2013:32 - 34)

(8) English (Hengeveld and Van Lier, 2013:31)

The tall$_A$ girl$_N$ sings$_V$ beautifully$_{MAdv}$

The two remaining language types contain a range of languages which do not contain a one-to-one correlation between lexeme classes and the four functional categories. The first are deemed flexible languages in that they contain a major group of words that can fulfil the functions typically served by two or more of the traditional word classes. For instance, in Samoan, words can function in the role of predication, reference, and modification, without any lexical or grammatical constraints. Thus, it would fall in PoS system 1, a language with a class of contentives. Turkish, on the other hand has a distinct class of verbs, but a flexible class that can function in any of the three roles of noun, adjective and manner adverb. Examples (9) and (10) are provided by Hengeveld (2013: 33, 34) for illustration.

(9) Turkish (Göksel and Kerslake, 2005: 49)

a) güzel-im
beauty-1POSS
'my beauty'

b) güzel bir köpek
beauty ART dog
'a beautiful dog'

c) Güzel konuştu
beauty s/he.spoke
'S/he spoke well'

The final categorisation is that of rigid languages, PoS 5-7, those do have dedicated lexeme classes for a specific function but one or more of the four major classes is lacking. In Krongo, for instance, only a dedicated noun and verb class exist. Verbs are modified syntactically using a relative clause in order to modify a head noun.

(10) Krongo (Reh, 1985: 251)

a) Álímì bìitì.
M.IPFV.be.cold water.
'The water is cold.'

b) bìitì ŋ-álímì
water CONN-M.IPFV.be.cold
'cold water' (lit. 'water that is cold')

Hengeveld (1992a, b) has argued that the arrangement of the functions of these word classes are not coincidental and reflect a PoS hierarchy as follows:

Head of Predicate Phrase
> Head of Reference Phrase
> Modifier of Head of Reference. Phrase
> Modifier of Head of Predicate Phrase.

Figure 6. 1 Hengeveld's (1992 a, b) Implicational Word Class Hierarchy

The more to the left a function is on the hierarchy, the more likely it is the language has a specialised class of lexemes to express that function, and to the right, the less likely. The hierarchy is implicational, in that, if a language has a specialized class of

lexemes to carry out the function of modifier of the head of a referential phrase with will also have a dedicated class of lexemes for the functions of head of reference phrase and head of predicate phrase and so on.

Table 6. 4 Parts-of-speech systems including intermediate ones based on Hengeveld (2013:37)

PoS-System	Head of predicate phrase	Head of referential phrase	Modifier of head of referential phrase	Modifier of head of predicate phrase
Flexible	1	contentive		
	1/2	contentive	non-verb	
	2	verb	non-verb	
	2/3	verb	non-verb	mod
	3	verb	noun	mod
	3/4	verb	noun	mod ma
Differen- tiated	4	verb	noun	adj ma
Rigid	4/5	verb	noun	adj (ma)
	5	verb	noun	adj
	5/6	verb	noun	(adj)
	6	verb	noun	
	6/7	verb	(noun)	
	7	verb		

Intermediate PoS systems have also been developed and refined over time which allow for languages with, for instance, in flexible languages, a group of derived stems showing a lower degree of flexibility than basic stems, and in rigid languages, the existence of small, closed classes of lexemes at the fringe of the system (Hengeveld, 2013: 36, 37).

6.4.2 Rijkhoff's (2002) Approach to Parts-of-Speech

As was the case with Hengeveld (1992b), Rijkhoff (2002:18) developed a modified system which takes into account intermediate language forms. That is to say, a given language may have a minor closed class of adjectives (features of the rigid Type 3) but also have major groups of lexemes which use noun or verb-like structures to express adjectival notions (features of rigid Type 4). This would yield an intermediate Type 3 / 4 language. Table 6.5 represents Rijkhoff's adapted system including intermediate forms.

Table 6. 5 Rijkhoff's (2002:18) modified PoS systems

Type 1	V/N/A
Type 2	V – N/A
Type 3	V-N-A
Type 3 / 4	V-N- (A)
Type 4	V-N
Type 4 / 5	V (-N)
Type unknown	-

There is some be conflict in the literature as to the application of a theory of further measures when it comes to derived predicates. Babungo, a Ring language has been classified in the literature as both a Type 3 / 4 language (one without a large distinct class of adjectives) in Rijkhoff's (2002: 18; 2008) modified approach and a Type 5 language (a language with a distinct class of adjectives) in Hengeveld

(1992b) and Hengeveld et al (2013: 539), for example. In seeking the presence of a large, closed class of adjectives and its connection with the notion of Seinsart, Rikhoff (2002) implements a somewhat broader definition of further measures which appears to include derived predicates, in particular, when it comes to intermediate language types.

With regard to his adapted version of Hengeveld's parts of speech classification, Rijkhoff (2002: 17) notes that, in particular, when it comes to the adjectival class, languages of types 3 / 4 resist straightforward classification. In support of this he quotes Asher (1982: 186-7) on Tamil, a 3 / 4 language. "The question of whether it is appropriate to recognize a separate morphological category of adjective in Tamil has long been debated, on the grounds that *all but a very small handful of adjectival modifiers of nouns are derived forms.* The set of those that cannot by simple rules be derived from verb or noun roots comprises such high-frequency items as *nalla* 'good', *periya* 'big', *cinna* 'small', *putu* 'new', *pazaya* 'old', and a few basic color terms...Most other adjectives are either derived from verb roots (e.g. *kette* 'bad', which in morphological terms is the past relative participle of *ketu* 'get spoiled') or formed by the addition of one or two adjectivalising suffixes. (emphasis mine)".

Rijkhoff (2002: 122) highlights that he is largely interested in Types 1-3 of his modified classification that align with Hengeveld's definitions. However, he points out that "*straightforward classification according to Hengeveld's criteria was not quite possible* (emphasis mine)." With regard to the intermediate 3 / 4 type (with a small closed adjectival class) and type 4 languages (those lacking an adjectival class), Rijkhoff's (2002: 123-139) justification of the allocation of certain languages to such based on further measures which include the following :

- In Babungo, the majority of adjectives are derived from the progressive aspect form of the verb (Note that such derived forms can be used both predicatively and attributively, thus suggesting that Rijkhoff (2002) implements broader criteria than Hengeveld (1992b) in terms of an explicitly derives predicate).
- In Oromo, the majority of adjectival-like modifiers are verbs of state or becoming, or are nouns used as adjectives (Bliese, 1976: 145).
- Adjectival notions in Korean are expressed by verbs in 'modifier form' meaning they appear with an attribute (realis) suffix (Martin and Lee, 1969: 202-3).
- In Galela, partial reduplication occurs on the first syllable of the verb to form a participle, which may then be used as a noun modifier (van Baarda, 1908: 36)

- In Nung, adjectives do not differ in behavior from attributive or predicative verbs, with Saul and Freiberger Wilson (1980:32,33) treating them as "simple, reduplicated or complex descriptive verbs" (again here, Rijkhoff (2002) includes lexemes used in the same way both predicatively and attributively, suggesting a broader definition than Hengeveld (1992b) when it comes to derived predicates.)
- In West Greenlandic, intransitive participial forms of the verb can take attributive position (Fortescue, 1984: 302).

Thus, in applying a theory of additional morphological and syntactic measures, Rijkhoff (2002) appears to take a broader view of further measures including what appear to be derived predicates in the case of Babungo and Nung. As a result, where Hengeveld (1992b) has allocated the Ring language Babungo to a type 4 category as the derived adjectival form can be used both predicatively and attributively, Rikhoff (2002) in seeking a large closed class of adjectives has included Babungo as an intermediate type, due to the clear verbal derivational basis of adjectives. As this research is implementing Rijkhoff's (2002) modified approach to parts-of-speech systems and their relation to the notion of Seinsart and the presence of a large closed class of adjectives, it will follow Rijkhoff (2002) when it comes to the less straightforward Type 3 /4 class following his adapted approach in which 'further measures' include morphological and syntactic measures taken to derive attributes and upon predicates that have an explicit nominal or verbal basis.

Due to its ease of typological comparison, its avoidance of complex elements deemed as members of a word class as has arisen with Dixon's (2004) and Dryer's (1992) approaches, and its compatibility with Rijkhoff's work in the underlying semantic features of the integral NP, this modified version of Hengeveld's (1992a, b) PoS theory will be utilised in examining word classes in GB.

The following section will use Rikhoff's (2002) adaptation of Hengeveld's PoS theory of 'further measures' to analyse the presence of a distinct class of verb, noun, and adjective in the GB Ring languages. More attention will be given to modifiers, specifically those deemed adjectives, in Ring and examine where they fall in the PoS systems outlined above and whether they are marked or unmarked in their use in the given languages. Rijkhoff (2002: 129) points that there is no absolute way to determine what constitutes a major or minor word class of adjectives. Rijkhoff, admittedly arbitrarily, decides that a language with up to two dozen adjectives counts as an intermediate 3 / 4 class. A selection of data from neighbouring Ring

languages will be examined to assess whether they also fall in the range of language types 3/4 or 4. That is, languages that with a dedicated system of nouns and verbs, whilst what have largely been deemed adjectives in the literature are more likely morphologically or syntactically marked versions of nouns or verbs functioning as modifiers of the head of a reference phrase. Manner adverbs will be outside the scope of this chapter but require further research as there is also strong evidence of their derivation from verbs.

6.5 Part of Speech in Grassfields Bantu

This section will examine a selection of Grassfields Bantu Ring languages; Bamunka, Mmen, and Babungo, and suggest evidence for their belonging to a PoS 4 system or perhaps an intermediate PoS 3 / 4 system, as per Rijkhoff's (2002) modified version of the Parts of Speech framework, with a dedicated set of verb and noun classes, but lacking major specialised groupings of modifiers, with particular reference to modifiers of the reference phrase, commonly deemed as adjectives.

6.5.1 The Verb Class in Ring

According to Hengeveld's (1992b: 58) definition:

A *verbal* predicate is a predicate which, without further measures being taken, has a predicative use *only*.

A brief analysis of a selection of the Ring languages demonstrates that each under examination does have a distinct class of verbs. This is seen in that they each contain one class of word that can fill the verbal predicate position without overlapping with another word group and without further grammatical measures being taken on it. Some examples of constituents that can only fulfil the role of verbal predicate under these conditions are as follows:

Babungo (Schaub, 1985:397-399)
táə 'dig'
zwí 'kill'
bwéy 'sleep'
Mmen (Möller, 2012:30)
zhi *'eat'*
njì *'take*
ká' *'cut'*

Babanki (Akumbu & Chibaka, 2012:128, 129)

ghan 'visit'

jè' 'walk'

fəŋ 'fall'

Aghem (Hyman, 1979:82)

dè 'show'

tí 'escape'

tá 'sew'

6.5.2 The Noun Class in Ring

Membership of a nominal class is defined by Hengeveld as:

A *nominal* predicate is a predicate which, without further measures being taken, can be used as the head of a term (NP).

Table 6. 6 A sample of Bamunka's noun class system adapted from Ingle (2013:19)

Noun class	Affix	Example	Gloss
2	bə̀-	bə̀-kaá	monkeys
6a	-mə́	nuɔ́-ˈmə́	birds
7	-kə́	tyú-kə́	tree
8	-bə́	tyú-bə́	trees
9	-	ndʉ̀ʉ̂	cup
10	-hə́	ndʉ́ʉ́-ˈhə́	cups
13	-tə	tɛ́ŋ -tə́	palm trees
19	-hə	nuɔ́-ˈhə́	bird

This class is perhaps one of the clearest in Ring with the presence of a distinct noun class system which classifies nouns into one of a set of 12 possible classes. These nominals can function directly as the head of an NP without the addition of further

grammatical measures. Table 6.6, illustrating the Bamunka system, demonstrates the pattern of noun class systems found throughout the Ring languages.

6.5.3 The Adjectival Class in Ring

The adjectival category in Ring is less clear. What have been labelled as simple adjectives in grammatical descriptions appear to take the form of noun-like elements or verbal predicates with some morphological or syntactic adjustments taken. The following proposal by Hengeveld will now be examined in relation to a selection of data from the Ring languages. There are also small groups of what are sometimes described as 'pure nouns' without a clear nominal or verbal source.

An *adjectival* predicate is a predicate which, without further measures being taken, can be used as a modifier of a nominal head.

As outlined in Section 6.4.2 this analysis will implement Rijhkoff's (2002: 122) broader approach to further measures and derivation in which he points out that "straightforward classification according to Hengeveld's criteria was not quite possible."

6.5.3.1 Modifiers of the Nominal Head in Bamunka

In Bamunka, adjectives can have a noun or verbal basis. They are either nouns describing other nouns in a type of associative noun phrase, or they are formed from reduplicated verb stems or verbs with a verbal extension. These measures may be diagnostic of the markedness of nouns and verbs in other functions. It may therefore be the case that modifiers of the reference phrase in Bamunka are marked noun and verb forms being used in an extended function rather than a lexeme class in and of themselves. Thus, providing evidence for Bamunka as a rigid language with a PoS 4 system, or, at least, an intermediate PoS 3 / 4 system with just a minor, closed class of dedicated adjectives.

6.5.3.1.1 Modifiers based on nouns

Attributes which occur as other nouns may appear before or after the noun being characterised. Words for four colours have been identified in Bamunka. Three of these are attributive nouns from noun class 7:

(11) Bamunka (Ingle, 2013: 69)

mbuù-kə̌

'red'

(12) Bamunka (Ingle, 2013: 69)

‘fʉə́ŋ-ˈkə́’

‘black (or dark colour)’

(13) Bamunka (Ingle, 2013: 69)

‘fyú’-ˈkə́’

‘white’

When one of these attributive nouns is used to describe the colour of a noun it follows the head noun in its B-form, i.e. in its prefixed form. This is followed by an associative marker that agrees with the class of the head noun (Ingle, 2013:69). Thus, this construction appears to be in the form of an associative noun phrase showing the relevant agreement with a function of modification, rather than the use of a lexeme from an adjectival word class acting as a modifier of the reference phrase.

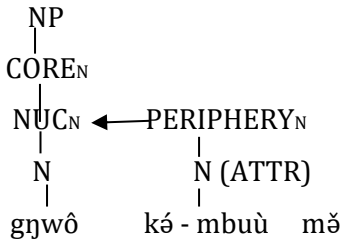


Figure 6. 2 Associative NP functioning as modifier

(14) Bamunka (Ingle, 2013: 69)

ŋgwó	kə́ -mbuù	mə̌
oil.C6a	C7-red	C6a.AM

‘red oil’

Ingle (2013:71) notes that two attributive nouns from class 9 have diminutive and augmentative functions: vaă “child” (and plural vaá “children”) and ŋkwə̂ “mother” (and plural bə̀-ŋkwə̂ “mothers”). These precede the noun they characterise. While, in a semantic sense, they are modifiers preceding the head noun, grammatically they are the head noun in an associative construction, with the noun being characterised as the associative noun.

(15) Bamunka (Ingle, 2013: 71)

vaá bə̀-lu̶ú

child.C9 C2-stream

“small streams”

6.5.3.1.2 Modifiers based on verbs

A second set of modifiers in Bamunka are those derived from verbs. The data examples that follow are sourced from Ingle (2013: 63-65). The first type are those which are a reduplicated form of the original verb stem as follows.

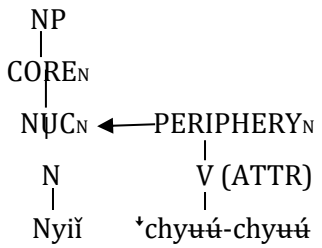


Figure 6. 3 Reduplicated Verb Stem acting as Modifier

Verb chyu̶û “be sharp” **Adjective** chyú-chyú “sharp”

(16) Bamunka (Ingle, 2013: 63)

nyiĭ ˈchyu̶ú-chyu̶ú

cutlass.C9 sharp-sharp

‘sharp cutlass’

Verb dəˀ “lengthen” **Adjective** də̋də̋“long”

(17) Bamunka (Ingle, 2013: 63)

fiá ˈdə̋ ˈdə̋ tə̌

road.C13 long-long C13.AM

‘long roads’

Here we may see evidence for further measures being taken on a verb root in order to operate in the function of modifier, rather than a distinctly specialised adjectival class. Other adjectives are also clearly reduplicated forms, but their origin is uncertain. It is possible they may have been derived from verbs that have disappeared from the language, but further research is needed.

The second type of modifier derived from verbs are stative verbs with verbal extensions (-hə, -nə) which are used to describe the characteristics of the noun in three ways;

a) in verb form, i.e. in predicate position

b) in attributive form, i.e. in the position of an attribute in a noun phrase and showing agreement with the modified noun

c) as a head noun or verb form with a copula verb (Ingle, 2013:64, 65).

Verb form:

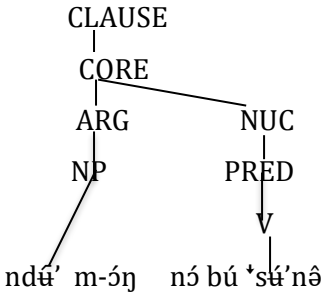


Figure 6. 4 Predicative use of modifier

(18) Bamunka (Ingle, 2013: 65)

ndʉ̄’	m-ɔ́ŋ	nɔ́	bú	ˈsʉ́’nɔ̂
wine.C6a	3SG.POSS	PRT	F	be.sweet

‘my wine will be sweet’

Attributive form:

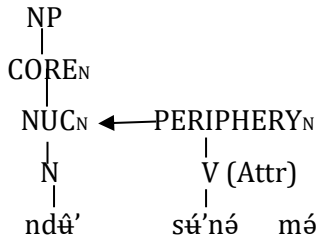


Figure 6. 5 Attributive use of modifier

(19) Bamunka (Ingle, 2013: 65)

ɔ́	ˈnɔ́	kɔ̌	ndʉ̂’	sʉ́’nɔ́	mɔ́	tɔ́	mɔ̌
3SG	PRT	give	wine.C6a	be.sweet	C6a.AM	to	1SG

‘He gave me sweet wine’

In the above form the verb root may perhaps be interpreted as being nominalised in that we again see an associative agreement marker occurring after the element deemed attribute pointing to the pattern of an associative NP. For instance, Ingle

(2013: 95) that verbs or adjectives in such a construction may serve as “associative nouns”.

With copula:

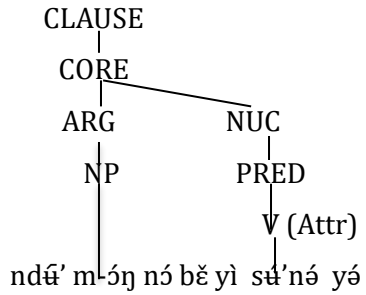


Figure 6. 6 Copular use of modifier

(20) Bamunka (Ingle, 2013: 65)

ndʉ̄’	m-ɔ́ŋ	nɔ́	bɛ̌	yì	sʉ́’nə́	yə́
wine.C6a	3SG.POSS	PRT	be	SG	sweet	SG

‘My wine is sweet’

Again, we do not see a distinct class of lexemes which carry out the function of modifier of the reference phrase only, but rather a verb root which is modified to perform various functions such as predicator, attribute, and head of a copular construction.

6.5.3.1.3 ‘Real’ adjectives in Bamunka

Ingle (2013:67) points out that there is an attribute kwɛ́tə̄ŋ “big” which is not a reduplicated form and does not appear to have a verb form. While it is possibly a noun, its derivation is uncertain thus we may be dealing with a ‘real’ adjective. It is also highlighted that other adjectives are evidently reduplicated forms, but their actual source is uncertain. They may have been derived from verbs that have been lost from the language, or they might have been derived from other forms. While not clearly members of a distinct adjectival class they at least raise questions as to their nature.

(21) Bamunka (Ingle, 2013:64)

mŭtɔ̂	fê-fè
farm.C9	new-new

‘new farm’

The evidence thus far suggests that Bamunka does indeed have a distinct specialised class of noun and verb lexemes which may be used without undergoing Hengeveld's (1992 a, b) "further measures", but when it comes to modifiers of the reference phrase, there is strong evidence for forms which are morpho-syntactically altered forms of nouns and verbs, be it through morpheme extensions, reduplication, or syntactic positioning. Evidence for a closed class of true adjectives is unclear so, with the origin of a selection of derived forms unknown. For now, Bamunka will be conservatively placed in a PoS 3 / 4 system.

6.5.3.1.4 Modifiers of the Nominal Head in Mmen

In further support of the GB languages under investigation as best considered to be rigid PoS 6 languages, (Möller, 2012:25) points out that adjectival properties in Mmen are often expressed through nouns and verbs. The following illustrates a noun acting as a modifier of another noun.

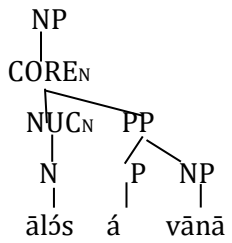


Figure 6. 7 Noun modifying a noun

(22) Mmen (Möller, 2012:25)

ālɔ́s	á	vānā
youth	of	child

'young child(ren)'

The following illustrates the use of a verb functioning as a modifier with adjectival properties. As we shall see is the case with Babungo below, the progressive form of the verb is used to indicate this.

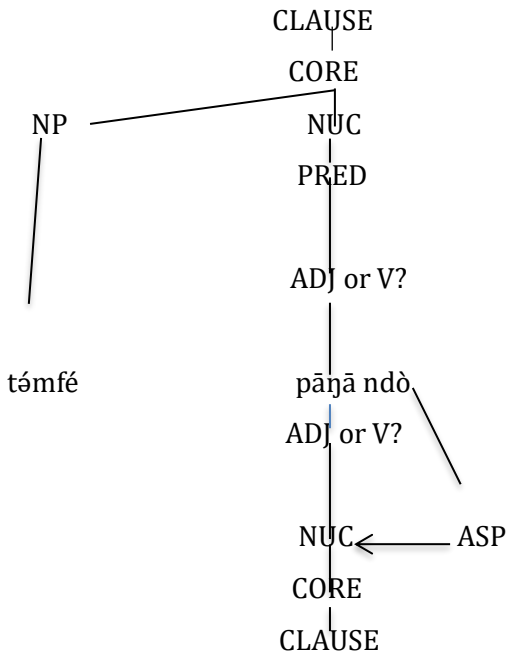


Figure 6. 8 Predicative (verb) form of modifier in Mmen.

(23) Mmen (Möller, 2012:25)

tɘ́mfé	pāŋā	ndò
Calabash	(is) red	PROG

'The Calabash (is) red.'

Here we see the predicate use of the element deemed adjective taking aspectual progressive marking pointing to a verb-like constituent rather than a distinct member of the attributive adjectival class. Thus, we see a member of the verb class having further morphosyntactic measures taken on it.

A number of words expressing adjectival properties, whether derived from nouns or verbs, take agreement when they immediately follow the head noun, but can also follow the verb *se nyí* 'to be' without agreeing with the head noun. Examples exist of the attributive form in this case using *ndò* as in (23), while others do not use the progressive marker. As the number of verbal modifiers that cannot take the further measure of the progressive *ndò* is unclear, and we have only three examples that are explicitly noted as not using *ndò* in Möller's data, Mmen will be treated as a language lacking a distinct large closed class of adjectives following Rijkhoff's (2002) modified approach. While further data is needed on modifers in Mmen, a preliminary look suggests that the language does not have a specialised set of lexemes that act in an adjectival function pointing to a rigid PoS 3 / 4 system.

6.5.3.1.5 'Real' adjectives in Mmen

Bangha (2003:46, 47) does point to a limited list of what he describes as 'pure' adjectives that express quality in Mmen which are postposed to the noun. These appear to belong to a distinct adjectival class and display number and class agreement with the head noun.

(24) Mmen (Bangha, 2003: 47)

ndúmà	ʒə́m	fɛ́
husband	my	new

My new husband'

Interestingly, this form is similar to the reduplicated form *fê-fè* 'new' in Bamunka, one of few forms without a clear origin. This may serve as a basis for future research as to the connection between the two and whether the reduplicated or single form may have come first (Ingle, 2013: 64).

Thus, as has been noted, b ased on the wide range of derived forms, and the limited nature of 'pure' adjectives, Mmen will also be placed in a PoS 3 / 4 system.

6.5.3.1.6 Modifiers of the Nominal Head in Babungo

Schaub (1985:233) notes that the vast majority of adjectives in Babungo are clearly derived from verbs, specifically from the progressive aspect form of the verb.

Table 6. 7 Verbally derived adjective in Babungo (Schaub, 1985: 245)

Verb in isolation	**Progressive aspect**	**Adjective**
léy	fú lílēy	lēy
	Outside be-clear-progr	
'be clear, clean'	'It is clear weather'	'clear, clean'

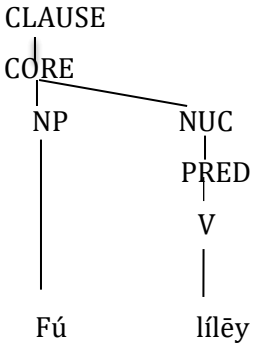


Figure 6. 9 Predicative (verb) form of modifier in Babungo

Thus, adjectives are formed using the verb with its tone in the progressive aspect minus the prefix. This is evidence for a marked verb being used in the role of modifier rather than a syntactically unmarked dependant of the expression of its semantic argument. While there is no difference between predicative and attributive adjectives in this case, which in Hengeveld's (1992b) view would point to an adjectival predicate, this study will follow Rijkhoff (2002: 130) in placing Babungo in an intermediate 3 / 4 category due to the derived nature of the majority of its adjectives with only eleven forms that cannot be related to the verbal form.

6.5.3.1.7 'Real' adjectives in Babungo

There are a very small number of adjectives which do not have a clear verb form but Schaub (1985: 233) notes that their tones may suggest that they have had but that the verbal form is now lost. Alternatively, this may be an indicator of an intermediate PoS 3 / 4 system with a small close class of lexemes on the fringe.

6.5.3.1.8 Modifiers of the Nominal Head in Aghem

Hyman (1979:32) points to two means of expressing adjectival notions in Aghem; predicatively and attributively. Both forms are explicitly derived from verbs with attributive 'adjectives' undergoing morphological operations on verbal expressions. Thus, pointing to the lack of a distinct adjectival class as further measures are clearly taken on verbal roots.

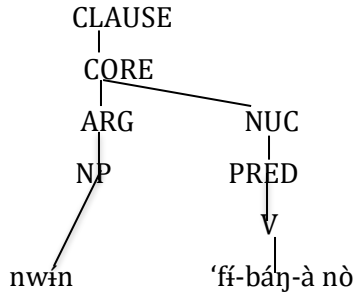


Figure 6. 10 Predicative use of modifier in Aghem

(25) Aghem (Hyman, 1979:32)

nwɨ́n	‘fɨ́-báŋ-à	nò
C11bird	be.red-INC	FOC

‘The bird is red’ (Hyman, 1979:32)

The above example shows the predicative use of the verb in its incompletive form with a focus marker. The attributive forms as follows takes the incompletive forms and adds an adjectival prefix along with an out of focus (OF) suffix. The adjectival prefix can optionally be deleted and the underlying L tone moved to the previous syllable, thus we still see further grammatical operations taking place (Hyman, 1979:32, 33).

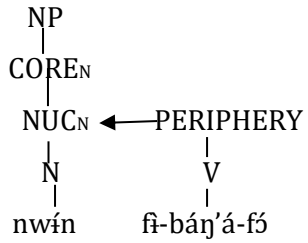


Figure 6. 11 Attributive use of modifier in Aghem

(26) Aghem (Hyman, 1979:32)

nwɨ́n	fɨ̀ - báŋ’á-fɔ́
C11bird	AdjPr-red-OF

‘a/the red bird’

Some adjectival notions can also be expressed in associative noun constructions thus providing further support for the suggestion that similar structures in Bamunka represent noun-noun rather than adjective-noun constructions (Hyman, 1979: 32, 41). This is seen in the use of the ‘adjectival noun’ fɨ̀ñàŋlɔ̀ ‘*little’* (plural: ǹñàŋlɔ̀) belonging to gender 11/12, the use of which is roughly based on the associative constructions,

(27) Aghem (Hyman, 1979:41)

ñàŋ	mɨ̀-ŋ	ghòm
N1little	C12AM	N2eggs

‘little eggs’

Again, we see evidence in the West Ring language Aghem for the use of noun and verb-like constructions having further measures taken on them for the purpose of expressing adjectival notions rather than the existence of a distinct adjectival class in itself.

6.5.3.1.9 'Real' adjectives in Aghem

We do not see explicit evidence for any 'real' adjectives in Aghem, and thus it will be placed in a PoS 4 category – a language without adjectives.

6.5.3.1.10 Modifers based on nouns in Babanki

Attributes derived from gender 7/8 nouns in Babanki occur before the noun and while semantically they are attributes, syntactically they are the head of an associative NP taking an associative marker much like vaă 'child' and ŋkwē 'mother' in Bamunka. Thus, we see a dependency reversal in play (Akumbu & Chibaka, 2012:101-103).

(28) Babanki (Akumbu & Chibaka, 2012:102)

kə̀.mfɔ̀ŋ	ká	tsɔ̀ŋ
C7.stupid	C7.AM	C1.thief

'a foolish thief'

6.5.3.1.11 Modifiers based on verbs in Babanki

A number of modifiers in Babanki are derived from verbs in Babanki and are described by Akumbu & Chibaka as a verb class with special semantics which they refer to as 'stative' or 'inchoative' verbs. They behave like verbs and exist in imperative and infinitive forms. Thus, these appear to be predicative rather than attributive in nature. They do also show agreement with the class of the noun being modified (Akumbu & Chibaka, 2012:98, 99).

(29) Babanki (Akumbu & Chibaka, 2012:99)

fə̀.nyín	fɛ̀n.fə́	ghɔ́'ə́	ə
C19.bird	this.C19	big	PROG

'This bird is big'

6.5.3.1.12 'Real' adjectives in Babanki

Akumbu & Chibaka (2012:96, 97) identify only four 'pure adjectives' in Babanki. These are, *fi* 'new', *juŋ* 'nice', *ku* 'raw', and *mu* 'old'. The unmarked positions of these

is after the noun and they take an associative marker when describing a noun. Furthermore, they take an adjectival concord suffix where one exists.

(30) Babanki (Akumbu & Chibaka, 2012:97)

à.kó	à	mú.ghə́
C5.money	C5.SM	old.C5

'old money'

It is again notable that the term *fi* 'new' is similar to that found in Bamunka and Mmen. 'Real' adjectives in Babanki are reduplicated for the purpose of intensification and thus this may give insights to the unknown roots of some reduplicated forms in Bamunka that do not have an obvious origin, or alternatively, the reduplicated form came first and was reduced over time. While they do not have a clear nominal or verbal basis, their use within the syntactic structure of an associative NP along with the need for an adjectival suffix still point to evidence of further measures. Thus, Babanki will be placed in a PoS 4 system.

6.5.3.1.13 Adjectival modifiers in Kom

'Descriptive adjectives' in Kom are largely derived from verbs and occur as the noun 2 in an associative construction leading to the following formula [N1 + AM + Descriptive Adjective (N2)] (Fonyuy Moye, 2003:52). These 'adjectives' are formed from verbs by adding the suffix -ni, -na, or –n depending on the noun class in question.

gha' – 'be big'

(31) (Fonyuye Moye, 2003: 52)

a	fo	agha'	nɨ - a
C6prefix	thing	AMbig	suffix – C6AM

'a big thing'

Interestingly, there appears to be double AM marking in this construction.

6.5.3.1.14 'Real' adjectival modifiers in Kom

Fonyuye Moye (2003: 48) does identify five 'real adjectives' "...that never function as verbs or nouns...they never occur with tense or aspect markers [and] They do not also occur with the various noun class agreement affixes when used to modify head nouns" (ibid:48) This would fall in line with a PoS 3/4 system with a

small closed class of adjectives. They are as follows, though the first appears to be nominal in nature based on the translation:

(32) Kom (Fonyuye Moye, 2003: 48)
itɔf
'intelligence'

(33) Kom (Fonyuye Moye, 2003: 48)
nyas
'quick'

(34) Kom (Fonyuye Moye, 2003: 48)
samo
'truth'

(35) Kom (Fonyuye Moye, 2003: 48)
leyn-a
'slippery'

(36) Kom (Fonyuye Moye, 2003: 48)
dɨl
'heavy'

6.5.4 Summary of Parts-of-Speech in Ring

According to Hengeveld's (1992b) more strictly held criteria which allows for the use of derived predicates, all of the languages covered required further morphological or syntactic measures in order to be used attributively with the exception of Babungo. Such measures include reduplication or inclusion in an associative noun phrase construction. However, following Rikjhoff's (2002) adapted approach Babungo will be included here as an intermediate 3 / 4 type language on the basis of its explicitly verbally derived basis. Thus, the languages studied are thus far considered as those with a distinct classes of verbs and nouns but lacking a large, closed class of adjectives, that is, PoS systems 4 and 3 / 4.

6.6 Further evidence for absence of adjectival class: Rijkhoff's [+/- Shape] theory.

Thus far we have suggested that the languages above have a dedicated set of classes for verbs and nouns, but not for those of adjectives, or at least a minor closed class of adjectives with marked verbs and nouns functioning as referential modifiers in the majority of cases. To further investigate this, we turn to Rijkhoff (2000) who asked the question, "When can a language have adjectives?". He proposed that a language can only have adjectives if the nouns of that language are

specified by the feature [+Shape]. This is also seen in languages in which the numeral is in direct construction with a noun i.e., it doesn't occur with a sortal classifier, but not vice versa. In other words, a distinct, major class of adjectives can only occur in languages in which the numeral modifies the noun directly. See example (32) provided by Rijkhoff (2002: 41) from Korean (Lee, 1989:55) which takes a numeral classifier, in comparison with the English translation in which the numeral directly modifies the noun:

(37) Korean (Lee, 1989:55)

Mal	du	mali
Horse	two	CLF

'two horses'

6.6.1 Bounded Vs. Unbounded Nouns as an Indicator of Shape Feature

However, Rijkhoff (2000) notes that it is not so much the presence or absence of numeral classifiers that determines whether a language can have adjectives, but rather a lexical feature of the noun, that of +Shape. Nouns can be used in relation to both discrete and non-discrete spatial entities in the real word, that is objects and masses, and may be defined by the two lexical features of Shape and Homogeneity. Rijkhoff (2000) refers to each of these features as a type of 'seinsart', a mode of being, the nominal counterpart of the verbal category of 'aktionsart', a mode of action. It is important to note that nouns here are a linguistic classification of properties rather than an ontological one. That is to say that there is not necessarily a direct relationship between the noun type as a mental conception and the (real world) entity type. Rijkhoff (2002:55) notes that this is why it is possible for different noun types to be used across the world's languages to refer to entities whose *Sein*-correlate in the external world is a single discrete spatial object. The immediate referent of the noun phrase is a mental rather than a physical entity. Therefore, we can refer to the same thing as 50 grapes (distinct individual objects), a pound of grapes (a mass), or a bunch of grapes (a collective entity) in the act of referring to different spatial features of the property of 'grapeness' (Rijkhoff 2004:59, Adams, 1989:3). So, in English, a [+Shape] language, the mental entity of noun includes the notion of spatial boundedness and does not need a classifier to provide boundaries of unit/shape before it can be counted. In other languages such as the Korean example in (32), the mental concept of noun is more of a concept label than a discrete entity. Therefore, it requires a numeral classifier that binds it into a

single discrete object in order that it may be counted. Thus, the morphosyntax of the language must somehow identify boundedness/discreteness of objects referred to by other means. Since only discrete entities can be counted, languages whose nouns lack the notion of spatial boundedness may use numeral (sortal) classifiers in order that they may individuated. In terms of compatibility with the RRG model, Pavey (2010) points to the validity of Rijkhoff's view, in her account of the nuclear level operator of noun classification. In line with Rijkhoff's approach, she asserts that, "The use of classifiers varies depending on how a language interprets single unmarked nouns. In English, for example, a noun like 'book' is interpreted as having shape, being 'bounded'. In Mandarin Chinese (Sino-Tibetan, China), on the other hand, such nouns are interpreted as more shapeless; in a sense, they are like mass nouns." She points to Rijkhoff's (2002:147) example of the Chinese noun *shū* as one that could be glossed as "bookness" rather than "book" and thus can only be made countable in the presence of a numeral classifier. Rijkhoff (2000) notes that sortal classifiers must be distinguished from mensural classifiers which specify size, volume, and weight and occur with mass nouns when seeking to assert if nouns beyond those used with mensural classifier are characterised by the semantic feature of [-Shape].

While this study is building on Rijkhoff's (2002) writing on the semantic features of the noun, specifically of [Shape], other schools of thought have also addressed the significance of the perceptual and conceptual property of nouns. For example, Bunt (1985) presents a formal semantic approach in dealing with mass nouns via an "ensemble theory". Allan (1980) deals with the notion of countability as it pertains to nouns through a schema of "countability preferences" rather than as a lexical feature, "the countability preferences of nouns can be computed by comparing the relative frequencies of their occurrence in countable and uncountable NP's, respectively". Of the NP environments in the test battery, three out of four are countable because these are more restrictive than uncountable environments: so uncountable environments are the more general, and presumably more basic than countable ones. Again, countableness is marked in both morphology and syntax; uncountableness is unmarked, and so presumably is the basic form (ibid:548, 558). McCawley(1975) raised questions as to the semantics behind mass and count distinctions. Jackendoff (1991), too, examined the conceptual semantics of noun phrases. These include the mass-count distinction, plurality, the partitive construction (a leg of the table), the constitutive construction

(a house of wood), the "Universal Packager" (three coffees), and boundary words suggesting an interpenetration of lexical semantics and phrasal semantics (ibid:9).

Rijkhoff (2002:230, 231) identifies three types of noun that are characterised by the feature [-Shape]; sort nouns, mass nouns and general nouns and three types characterised by the feature [+Shape]; singular object noun and set nouns. Rijkhoff (2002: 39-53) illustrates these in examples (38) to (43):

[-Shape] Noun Types

Sort nouns – Which require a sortal or numeral classifier when modified by a numeral as was demonstrated in example (37) in Korean.

Mass nouns – which require a mensural classifier to indicate size, volume, or weight and usually occur in combination with nouns denoting non-discrete spatial entities.

(38) Thai (Hundius and Kölver, 1983: 170)

Nàamtaan săam thûaj
sugar three cup
'three cups of sugar'

General nouns – Nouns which show no distinction between sort nouns and mass nouns. They require a general classifier when modified by a numeral.

(39) Yucatec Maya (Lucy, 1992: 74; 2000: 329)

a) un-tz'íit há'as
a/one-CLF banana
'one/a 1-dimensional banana (i.e. the fruit)'

b) un-kúuch há'as
a load/one-CLF banana
'one/a load banana (i.e. the bunch)'

[+Shape] Noun Types

Singular object nouns – Where the noun is in direct construction with the numeral and marked for plural.

(40) Dutch (Rijkhoff, 2002:46)
Twee boek-en
Two book-Pl
'two books'

Set nouns – Nouns not marked for number while being in direct construction with a free numeral.

(41) Basque (Saltarelli, 1988:169)
hiru neska
three girl
'three girls'

Collective nouns – Designate a property of several discrete entities that are conceived of as a unit and can be in direct construction with a numeral.

(42) English
two families
'two families'

6.6.2 Homogeneity

These subcategories may also be distinguished by the feature of +/- Homogeneity as we shall see in the table below. This refers to the "likepartedness" or "dissectiveness" of a given nominal. For instance, a referent defined by a mass noun consists of portions which can be added to or subtracted from and still remain as the same entity, whereas, a singular object noun consists of components or parts which, if added, do not give you more sort entities. Rijkhoff (2000) notes that mass and collective nouns are therefore characterised by the feature [+Homogeneity] while singular object nouns and sort nouns are characterised by the feature [-Homogeneity]. In other words, the referent of an NP headed by a noun that is coded as being homogenous (or agglomerative) consists of either portions (a mass) or members (a collective). General and set nouns are neutral with regard to this feature.

Table 6. 8 Cross-linguistic typology of major nominal subcategories (Rijkhoff, 2002:54)

	-HOMOGENEITY	+HOMOGENEITY
-SHAPE	General noun	
	Sort noun	Mass noun
+SHAPE	Set noun	
	Singular object noun	Collective noun

We are referencing this feature to highlight the fact that while the Shape feature is relevant for all noun types, Homogeneity is only relevant for four of the subcategories. Rijkhoff (2002:54) points out that this observation confirms Friedrich's (1970: 380) note that "the category of shape appears to be a typological universal in grammar, and not of inconsiderable significance for a theory of semantics in grammar". Rijkhoff notes that the fact that the feature of Shape appears to be more important than the feature of Homogeneity may be connected to the fact that spatial orientation is primary in human cognition. This will be an important point to remember when looking at the semantics potentially motivating mixed classifier systems in GB and related Bantu languages. Dimmendaal (2011:137, 138) explicitly hypothesised that the development of numeral classifier systems in place of noun class systems in related Bantu may "reflect a more deeply rooted cognitive basis (manifested in the mass/count continuum) where shape and form play a central role".

Rijkhoff's (2002: 142) theory asserts the following, "If a language has a distinct class of adjectives, then the nouns in that language are general characterised by the feature [+Shape]" He suggests that all Type 4 languages will therefore lack and adjectival class due to their lack of modifers indicated by a numeral classifier system i.e., they are all classifier languages. He argues that Type 3 / 4 languages (such as Ring) with a small adjectival class would not violate the implication as none of the employ sortal classifiers. However, based on research by Dimmendaal (2011) and Kiessling (2018) which suggests the emergence of numeral classifiers in Bantu and related languages reflect systems in which shape and form play a central role along with the very low number of 'real' adjectives (just one) in a language such as Bamunka and their complete absence in Aghem (PoS Type 4) the [Shape] feature will be examined in Ring.

6.7 Summary

This chapter addressed questions surrounding the need for cross-linguistically appropriate definitions in the field of word classes with a particular focus on the adjective. The functionally semantic and syntactically language specific approach of Dixon (2002) was contrasted with that of Hengeveld (1992a, b) and Rijkhoff (2002) which incorporates both semantic and syntactic features on a cross-linguistic basis into the formation of such definitions along with the assertion that, contra Dixon and Aikhenvald, not all languages contain the 'canonical' classes of verb, noun, adjective, and adverb. Based on critiques of Dixon's theory such as the problematic approach of using language specific grammatical distinctives for functionally semantic 'adjectives', for instance, 'adjectives' taking verbal markers, Hengeveld's (1992 a, b) PoS system and Theory of Further Measures was taken as a more accurate and helpful framework. Using Rijkhoff's (2002) modified version of the PoS system, a selection of data form the Ring languages were analysed, with the conclusion drawn that the GB Ring languages under evaluation appear to fall in to either PoS type 4 or intermediate 3 / 4 groupings. That is to say, languages without or with a small closed class of adjectives. In closing, the notion of [Shape] theory as introduced as a potential area of support for the proposal that these languages lack a large, distinct class of adjectives. This proposal will be examined in chapter 7 that follows.

Chapter 7. Classifiers and the [Shape] feature in Ring

7.1 Introduction

Building on the conclusion from chapter 6 that the Ring languages under study belong to a PoS 4 or 3 / 4 system, that is; one lacking or with a small closed class of adjectives, we will investigate further support for this proposal using Rijkhoff's (2002) theory as regards the Seinsart or nominal aspect feature of [Shape]. This will also provide insight into the validity of examining [Shape] as a typological predictor of word classes when taken in conjunction with diachronic research on the shape-based semantics of the Proto-Bantu noun class system. Firstly, an examination of classifiers in general and the role of numeral classifiers in a selection of the GB Ring languages in particular will be conducted as the presence or absence of numeral classifiers is central to Rijkhoff's [+/- Shape] theory. While Rijkhoff's proposal relating to [-Shape] nominals relate specifically to Type 4 languages, those without any adjectival class, the low numbers of 'real' adjectives in Ring, along with reference to only one possible 'real' adjective in Bamunka whose source is unclear, the nominals of these languages will be studied as to the feature of [Shape]. Possible explanations for the patterns of numeral classifiers in Ring will be provided drawing on evidence from neighbouring Bantu/Benue-Congo languages and diachronic observations with particular reference to Kissing's recent (2018) work on numeral classifiers in Niger-Congo. The nominal feature of [Shape] will then be investigated in further detail as it pertains to the Ring languages and the connection between noun classes, numeral classifiers and concepts such as shape and individuation. Rijkhoff's (2002) hypothesis that languages with the semantic feature of [+Shape] can have a distinct class of adjectives will be examined in relation to these areas. Support will be taken from the possible semantic roots of noun classes in Proto-Bantu with Denny and Creider's (1986) suggestion that shape played a significant role in the Proto-Bantu noun class system at least seeking further support for the theory that nominal roots in Ring are characterised by the feature [-Shape].

7.2 Classifiers and the [Shape] feature in Ring

In order to employ Rijkhoff's (2002) shape-based theory outlined in chapter 5, we will first need an understanding of classifiers as they pertain to the Ring languages under investigation; noun classes and numeral classifiers in particular, and their function in Ring and neighbouring Bantu and Benue-Congo languages. It has been suggested that the absence of a designated set of adjectives in a given language may be due to the property of [–Shape] in the nouns of that language. Drawing on

previous research, Contini-Morava & Kilarksi (2013) lend support to Rijkhoff's theory with regard to the presence of numeral classifiers pointing to nominals that are more like concept labels that individuated entities in a given language, "The idea is that nouns in classifier languages are like mass nouns in a non-classifier language in that they also need to be unitized in order to be counted. The function of unitizing or individuating is usually ascribed to the accompanying classifier, or to the pseudopartitive construction that includes one" (ibid: 27). Thus, as a common way of identifying this property is the presence of numeral classifiers which necessitate the classifier element to provide the notion of boundedness/discreteness to an otherwise unbounded nominal concept label. The semantic feature of shape or configuration is not limited to numeral classifiers, however. Speaking of classifiers in general, Allan (1977:297) says "Languages vary considerably in the number of their classifiers, but seven categories of classification can be identified: (i) material (including animacy, inanimacy and abstract and verbal nouns), (ii) shape, (iii) consistency, (iv) size, (v) location, (vi) arrangement, and (vii) quanta. The following sections will provide an overview of the concept of numeral classifiers and noun classes in general followed by an examination of, firstly, the presence of numeral classifiers in Ring and, secondly, whether the noun class systems of these languages may point to an understanding of noun as [–Shape] mental constructs in the minds of speakers based on the genetic roots of noun class system.

7.3 Classifiers

In our examination of the semantic features of nouns as perceived by Ring speakers, "...classifiers offer 'a unique window' into studying how humans construct representations of the world and encode them into their languages" and "are seldom semantically redundant, because *they highlight some relevant aspect of the noun referent (e.g. its shape, function, or value)* (Aikhenvald, 2003:307 – emphasis mine). Aikhenvald (2003:13) points to the definition of classifiers as morphemes which occur 'in surface structures under specifiable conditions', denote 'some salient perceived or imputed characteristics of the entity to which an associated noun refers' (Allan 1977:285), and are restricted to particular construction types known as 'classifier constructions". These are morphosyntactic units (NPs, VPs, or clauses) which require the presence of a specific kind of morpheme chosen based on the semantic characteristics of the referent of the head of an NP. This study will focus on numeral classifiers and noun class systems in particular though a range of other classifiers such as verbal, locative and noun classifiers also exist.

7.3.1 Numeral Classifier Systems

Numeral classifiers are a device that operates within the attributive NP. They can be free forms or affixes that are realised outside the noun (usually with the numeral or quantifier) using a numeral NP and/or an expression of quantity. They refer to the noun in terms of its inherent properties (Aikhenvald, 2003:17). Numeral classifiers largely encode semantic features of the noun, such as animacy, shape, and size. Numeral classifiers can play a role in the individuation and countability of nominals. While sortal classifiers are seen as those that individuate entities in terms of their kind, mensural classifiers individuate in terms of their quantity as demonstrated in Palikur, e.g. (1) and (2) respectively.

Sortal Numeral Classifier

(1) Palikur (Aikhenvald & Green, 1998:441)

paha-tra ahin
one-NUM.CLF:EXTENDED path
'one path'

Mensural Numeral Classifier

(2) Palikur (Aikhenvald & Green, 1998:441)

paha-bru upayan
one-NUM.CLFGROUP duck
'one flock of ducks'

Numeral classifiers display different levels of grammaticalisation and are therefore an open lexical class and may be used anaphorically (Aikhenvald, 2008: 98). In terms of word order, (Kiessling, 2018:57) asserts that while the numeral and classifier are usually grouped together cross-linguistically to the exclusion of the numeral, in Niger-Congo "the classifier rather forms a constituent with the enumerated noun to the exclusion of the numeral." He points to the roots of the Niger-Congo numeral classifier in the associative noun phrase as an explanation for this. (Aikhenvald, 2003: 99) notes that the presence of numeral classifiers in a language points to numerals as a special word class which will be important in our study of the Ring languages, their use of numeral and classifiers, and the connection this has to the notion of [+ / - Shape].

It is possible for both noun class and numeral classifier systems to co-exist in a given language such as we see in Ejagham (Benue-Congo), a near relative of the GB Ring languages under investigation in this study. Ejagham contains approximately

nineteen noun classes and five numeral classifiers, in which the numeral agrees in noun class with the classifier (Aikhenvald, 2003:99). Before moving on it is important for this study to note the connection between the loss of noun classes in a given language and the possibility for replacement with numeral classifiers. Ikoro (1994:23-5) has proposed that one possible explanation for the presence of numeral classifiers in Kana, a near relative of the GB Ring languages, is that Proto-Benue-Congo had a noun class system, but that the Kegboid languages lost this and acquired numeral classifiers. Kiessling (2018:64) has also suggested that this may be, at least, a partial explanation for the emergence of numeral classifiers in Niger-Congo languages alongside other semantic motivations such as countability and individuation. Of particular relevance to this study, Aikhenvald (2003:124) notes that while numeral classifiers are rare in Africa, they are found in a few Kegboid languages (Cross-River: Benue-Congo: Ikoro, 1994), Ejagham (Watters, 1981), and in a few Grassfields languages in Cameroon. Kiessling (2018:64) argues that they could occur on a wider scale in Niger-Congo but are not as well researched due to a lack of documentation in certain languages, the restriction of numeral classifiers to certain semantic domains such as plants due to their competition with coinciding noun class systems, and the imposition of the traditional noun class model on language documentation. Given the saliency of the property of 'shape' in both numeral and noun class classification systems this connection may give us insights into the presence of [+/ – Shape] properties in the nouns of a given language. And therefore, whether or not such a language can have a distinct class of adjectives as per Rijkhoff's (2002) argument.

7.3.2 Noun Class Systems

Nouns are allocated in a given noun class on either a purely semantic basis, or a semantic basis in combination with other formal (morphological and phonological) properties of the noun. Semantic bases for noun class assignment include the following; Animacy, human vs. non-human properties, and sex; physical properties such as shape, size, position and consistency; Additional properties such as location and value judgements. Here we see some parallels with the semantic aspects of numeral classifier assignment, notably with regard to animacy, shape and structure. Morphologically speaking, a connection between derivational affixes can be a basis for noun class assignment, while phonological motivations (usually restricted to inanimate referents) may be related to particular vowel and consonant segments even if the noun in question lies outside the semantic domain of these classes (Aikhenvald, 2003:25).

In terms of agreement, assignment may again be purely semantic, or a mixture of semantic and syntactic factors depending on the system in question. Agreement may occur within the NP in head-modifier construction or less commonly in possessive NPs, or outside the NP on core arguments such as subject and direct object. Aikhenvald (2003:35) also notes that the majority of languages mark noun class agreement on several targets, that is, on more than one place in the clause. One significant example provided being that of alliterative concord in Bantu languages in which the same noun class marker is repeated on modifiers and on the predicate.

(3) Swahili (Corbett, 1991:117; Welmers, 1973:171)

Ki-kapu	ki-kubwa	ki-moja	ki-li-anguka
Cl7-basket	Cl7-large	Cl7-one	Cl7-PAST-fall

'One large basket fell.'

The realisation of noun class marking may be overt or covert. Babungo being an example with contains both; fourteen noun classes, eight of which take a noun class prefix, one of which takes a noun class suffix, and five which take no overt marker at all. General morphological realisations methods include the following and never utilise free morphemes: external affixation as seen above; apophony, or vowel changes; suprasegmental processes such as tone patterns, or changes of stress; and 'repeaters' (a rare exception which includes repetition of nouns or phonological sequences) (Aikhenvald, 2003:57, 58).

7.4 Evidence for Numeral Classifiers in the Ring languages

Firstly, we will investigate whether there is evidence for the presence of numeral classifier systems in the Ring languages, sortal numeral classifiers in particular, which would, as per Rijkhoff (2002) point to a nominal feature of [–Shape] and, therefore, support the notion that certain GB Ring languages at least, are lacking a major distinct class of adjectives.

7.4.1 Numeral Classifiers in Bamunka

Bamunka does in fact have numeral classifiers that can be used with countable nouns, in line with Rijkhoff's (2002) predictions that languages without a major class of adjectives has noun with the features [-Shape] of which numeral classifiers are a diagnostic. While they are largely used in conjunction with what are viewed as 'non-count' nouns, Ingle (2013:57) notes that they are also often used with count nouns, though not obligatorily. While this is not as clear-cut as we would hope regarding Rijkhoff's prediction it does point us in the direction of Bamunka nouns

having the feature of [-Shape]. Numeral classifiers are used in associative constructions and come before the noun being counted, which occurs in its B-form (if one exists). This is followed by an associative marker agreeing with the numeral classifier (again, if one exists for the noun class in question), and then the numeral (Ingle, 2013:57).

7.4.1.1 Sortal classifiers

The most commonly used numeral classifier is the sortal classifier mbyuŭ/mbyuú-hə́. This is a noun from gender 9/10 meaning "unit/units". This is in fact both a mensural and sortal classifier. It has to be used to identify one single element of a non-count noun. Ingle (2013) notes that in Bamunka, and in Grassfields Bantu languages in general, certain categories are perceived to be uncountable and are often non-count nouns. These include insects, fruits, and vegetables. This again strengthens the assertion that at least a selection of nouns in Bamunka, and Grassfields Bantu as a language family contain nouns of the feature [-Shape] which would account for the absence of (PoS 4 system) or very limited presence of (PoS 3 / 4 system) a distinct class of adjectives.

The following are some illustrations sourced from Ingle (2013:58-60). There is some variation regarding whether the singular or plural form is used for the noun being counted.

nyuú-ˈhə́"hair" (class 10)

(4) Bamunka (Ingle, 2013: 58)

mbyuŭ	nyuù
unit.C9	hair.C9
'one hair'	

(5) Bamunka (Ingle, 2013: 58)

mbuú	nyuù	hə̌	i-buŭ
unit.C10	hair.C9	C10.AM	INANM-two
'two hairs'			

Food and plants are generally perceived as non-count nouns in that the singular form represent a whole batch. The classifier mbyuŭ/mbuú-hə́is needed to count individual fruit, vegetables, trees, etc.

(6) Bamunka (Ingle, 2013: 58)

mbyuú	yɔ̀ŋ	hə̌	ì-buŭ
unit.C10	plum.C9	C10.AM	INANM-two

'two plums'

Interestingly, the plural form without the classifier tends to refer to several whole plants, for example, the plural form bə̀-yɔ̀ŋ refers to several plum trees rather than several plums. Importantly for our theory of [-Shape] nouns, Ingle (2013) points out that the same classifier is commonly also used with count nouns. The difference in meaning when mbyuŭ/mbyuú-hə́ is used is still unclear. With singular count nouns, the classifier mbyuŭ seems to be optional but generally preferred.

One single item (with mbyuŭ):

(7) Bamunka (Ingle, 2013: 59)

mbyuŭ	kə̀-gh~~u~~ù	ì-mə̌
unit.C9	C7-calabash bowl	SG-one

'one calabash bowl'

More than one item (with mbyuú-hə́):

(8) Bamunka (Ingle, 2013: 59)

mbyuú	bə́-ˈfɔ́ŋ	ˈhə́	ì-tiâ
unit.C10	C8-chair	C10.AM	INANM-three

'three chairs'

7.4.1.2 Mensural classifiers

Bamunka also has mensural classifiers which are required to describe a certain measurement of something that is taken from the whole. For instance:

ŋg~~u~~u/ŋg~~u~~uˈhə́ "bunch/bunches" (gender 9/10):

(9) Bamunka (Ingle, 2013: 60)

ŋg~~u~~ú	ˈŋkwíˈlí	ì-mə̌
bunch.C9	banana.C9	SG-one

'one bunch of bananas'

(10) Bamunka (Ingle, 2013: 60)

ŋg~~u~~ú	ˈŋkwíˈlí	hə́	ì-buŭ
bunch.C10	banana.C9	C10.AM	INANM-two

'two bunches of bananas'

The above outline uses Rijkhoff's (2000) diagnostic of numeral classifiers as pointing to nouns with the feature [-Shape]. It suggests that the existence of sortal numeral classifiers in Bamunka in many, if not all, cases of countable nouns lends support to the notion that Bamunka does not have a major distinct class of adjectives, or if they do exist, it is in a limited, minor class.

7.4.2 Numeral classifiers in Mmen

There are two groups of numerals in Mmen, the first are numbers formed by numeric stems which agree with the noun through concord prefixes. Singular classes form agreement with the number 'one' and plural classes with the numbers 'two' to 'ten'. Secondly there are numbers which are nouns in themselves without taking agreement. Unlike Bamunka, numerals appear to be in direct construction with the noun.

(11) Mmen (Möller, 2012: 23)

ākwùl	ká-mɔ̀'
dove.C7	C7.one

'one dove' (Möller, 2012: 23)

The number that denotes 'ten' *e-ghɨ̀m* is used as a base for numbers 11 to 19, through the connecting element *jù*. The numeral stems then take the plural marker sé from class 10. The word *e-ghɨ̀m* is not obligatory and only heard in careful speech. (Möller, 2012:23). Further research is required to determine whether this connecting element *jù* is some kind of numeral classifier, but it is not currently understood as such.

7.4.3 Numeral classifiers in Babungo

As with Mmen, Babungo does not display any clear use of numeral classifiers. Numerals occur in direct construction with the noun they classify. For numbers above ten, a numeral-noun such as *njɔ̀/njɔ̀sə̄* 'digit(s)' (Gender 9/10) is added to the numbers one to ten in order to construct a higher number, but again, there is no clear evidence as yet that this is any kind of numeral classifier. Schaub (1985) in fact viewed it as a part of a complex NP with an embedded noun phrase.

(12) Babungo (Schaub, 1985: 190)

vəkáy	vətía
C8dishes	C8three

'three dishes'

(13) Babungo (Schaub, 1985: 187)

vəŋgá	njɔ̀sə̀	(sə̀)bɔ̀ɔ
C8antelopes	digitC10	(C10)two
'12 antelopes'		

7.4.4 Numeral classifiers in Aghem

Again, we do not find evidence for the existence of numeral classifiers in Aghem, the formation of numerals above ten tend to be complex constructions involving connecting elements likely meaning 'of' and 'with them'.

(14) Aghem (Hyman, 1979: 35)

ŋ́-'ghɨ́m	ǹ -tɨ́ghá
ten	AM-three
'thirty' ('tens of three')	

7.4.5 Numeral classifiers in Babanki

While the data does not suggest the use of numeral classifiers with numerals, Akumbu and Chibaka (2012:108) also point to the use of a numeral classifier in Babanki that is used to differentiate between notions such as 'a grain of' and 'several of' in what are perceived to be masses such as beans or fruit. Akumbu and Chibaka's account point that they are generally used with uncountable nouns, but this does not rule out a sortal classification use.

(15) Babanki (Akumbu and Chibaka, 2012: 108)

ə̀ .shɨ́	ə́	bə́lə̀ŋ
C5.eye	C5.AM	C1groundnut
'a grain of groundnut'		

7.4.6 Numeral classifiers in Isu

Kiessling (2018:40) asserts that a numeral classifier with its lexical source (a common feature in Niger-Congo numeral classifiers) being the word 'eye' is present in Isu that demonstrates a broad usage "for any object...constrained only by the notion of contra-expectual deficiency in number". This lends some support to the notion of nominals here carrying the feature [-Shape] though the semantic requirement of "contra-expectual deficiency" may be an overlapping motivation.

ísɨ́ (5/6) "eye"

(16) Isu (Kiessling, 2018: 40)

wɔ	fən	kə	nə	ìsɨ́	íl↓tsí	yíy	í	mɔ̀ʔ
2SG	return	only	with	C5.CLF:eye	ASS.C5:C5.fish	C5:OF	ASS.C5	one

'You have returned with only a single fish (when you should have brought more).'

(Kiessling, 2018:41,42) also points to a classifier with its source in the word "little head" which includes the notion of contra-expectual deficiency in number combined with a haptic notion which allows for application to round objects that are flat, such as leaves. The particular pragmatic usage of this classifier may muddy the waters as to whether the presence of numeral classifiers here point to [-Shape] nouns in Ring.

fətûw (19/6a) "little head"

(17) Isu (Kiessling, 2018: 42)

tûw	fíífəp	fə	mɔ̀ʔ
19.little.head	ASS.19:5.leaf	ASS.19	one

'one single leaf only'

Isu also uses numeral classifiers for clusters and bunches of objects which appear to be used in a mensural sense as illustrated in example (18).

(18) Isu (Kiessling, 2018: 41)

má	má	kɔ̀ʔ	àwɔ́	á	káfɛ̀	yí	à	bɛ̀
1SG	IMM.PAST.FOC	see	C6.hand	ASS.6	C7.plaintain	C6:OF	ASS.6	two

'I have seen only two clusters of plaintains'

7.4.7 Numeral classifiers in Kom

While numeral classifiers are not obviously present in Kom, those potentially in the process of grammaticalisation will be explored in chapter 8.

7.4.8 Possible Explanations

The existence of numerals classifiers that could point to a [-Shape] feature in the nominals of the Ring languages is not definitively clear in each language, being clearly present in only three of those sampled (optionally in Bamunka), without cardinal numbers in Babanki and with a particular pragmatic constraint in Isu. However, the diachronic connection between the development of numeral classifiers in co-existence with and in replacement of noun class systems in related

Niger-Congo language families may shed further light on the status of [Shape] as a negative feature in the languages under investigation.

Insight may be provided by looking at the historical development of numeral classifiers in Niger-Congo languages, and particularly in Grassfields Bantu. Dimmendaal (2011:137, 138), speaking on the development of numeral classifier systems in related Niger-Congo languages such as Kana, a Cross-River language, and Ejagham of the Ekoid family, notes that as noun class systems diminished or became obsolete, they were replaced by numeral classifiers which provided information on the shape of a noun in systems where the distinction between mass nouns and countables do not play a role in the grammatical system. These classifiers often evolved from nominal lexical items. In his work on Kana, Ikoro (1994) found that certain markers were obligatorily used when numerals were used in combination with nouns. These markers often had lexical roots in a synchronically related noun (Dimmendaal, 2011: 146). The following illustrates a sample of such numeral classifiers and their lexical sources in Kana as outlined by Ikoro (1994):

Table 7. 1 Sample of Numeral classifiers in Kana (adapted Ikoro, 1994: 90)

Classifier	**Probable etymology**	
kà	kà	'mother'
té	té	'tree'
ákpó	ákpó	'length'
ásúú	ásúú	'grain'
àkpò	kpò	'heap'
àbà	àbà	'part'

Dimmendaal (2011, 136) suggests that the emergence of such strategies in which classifiers provide information on the shape of nominals as nouns in such languages "*refer to the material an entity consists of*, i.e. the distinction between mass nouns and countables does not play a role in the grammatical system." (emphasis mine). This echoes strongly of Rijkhoff's (2002) suggestion that languages in which nominals have the feature [-Shape] represent concept labels rather than discrete objects, and thus often require numerals classifiers to provide shape and form, making them countable entities. Furthermore, Ikoro (1994:90) states that Kana does not have "the usual distinction between mass and count nouns

found in many African languages." This is supported by Dimmendaal (2011: 136) who points out that the replacement of noun class systems by numeral classifiers "reflect a more deeply rooted cognitive basis (manifested in the mass/count continuum) where shape and form play a central role". Such systems have also begun to develop both in place of and alongside a number of Grassfields Bantu noun class systems, at times to compensate for a loss of noun classes (Kiessling, 2018). While such studies are at very early stages, Kiessling (2018) points out that possible motivations relate to countability, specificity and individuation. The central role of the necessity of specifying shape/form by means of noun classes and numeral classifiers in such related language may support the notion that the noun roots standing alone do not include the notion of spatial boundedness, i.e., they are characterised by the feature [-Shape]. In particular, speaking on certain subgroups of Niger-Congo including Isu (Ring), Ejagham and Ngiemboon (Eastern Grassfields), Kiessling (2018:64, emphasis mine) asserts that,

> "the basic motivation underlying the development of numeral classifier systems in these cases has to do with *notions such as countability and individuation*. Since the prior noun class system in most Niger-Congo languages includes a *conflation of noun class and nominal number up to the point that a nominal number distinction outside the class distinction does not exist*...the collapse of this noun class system often entails the loss of the nominal number distinction as well."

He points to strong evidence for the presence of [-Shape] nominals in Ring is found in Bali-Mungaka, a neighbouring Eastern Grassfields, Nun language with a dramatically reduced noun class system of 6 classes grouped into six genders with the only remaining agreement target being the pronominal progressive concluding that, "against this backdrop, the innovation of numeral classifiers seems to compensate, to some extent, for the loss of number specification caused by the breakdown of the prior noun class system and restore explicit marking of individuation in counting contexts" (Kiessling, 2018:64). He does note though that this replacement is not the case in all Niger-Congo languages that have lost noun classes, such as Kwa and Western Benue-Congo, and thus, while this study will offer the [-Shape] feature of nominals as a possible explanation for the link between numeral classifiers, noun classes and an adjectival class, further study on languages outside the scope of this thesis will require future investigate around these parameters.

Speaking on numeral classifiers in Niger - Congo, Kiessling (2018:37, 38) asserts that the features of animacy and number are absent from the numeral classifiers of certain subgroups of Benue-Congo, i.e. Ekoid Bantu (Ejagham), Nyang (Denya) and *Grassfields Bantu (Bali-Mungaka, Bafanji, Ngwe, Ngiemboon, Yemba and Isu)* (emphasis mine). These systems do, however, share a semantic domain - products of plants (fruits, grains and tubers). These are predominantly organized by the semantic features of shape, size and aggregation rather than animacy and basically differentiate between globular vs. oblong objects which are small enough to hold in the hand. He points out that numeral classifiers systems like these "emerge in languages which retain, to varying degrees, a prior noun class system, allowing for a coexistence of two systems of nominal classification: the older fully grammaticalised noun class system inherited from Proto-Benue-Congo or Proto-Niger-Congo and the newly emerging numeral classifier system. Animacy and number are absent as categories in these classifier systems, since they are taken care of by the competing noun class system." The following sections will examine the connection between numeral classifiers, noun classes, and the nominal feature of [Shape] in the Ring languages.

7.5 Classifiers, Noun Classes and the Count-Mass Continuum

In further support of the link between number, noun classes and numeral classifiers, Contini-Morava (2013:276, 277) speak of individuation being a "particular semantic effect that is found on both sides of the noun class-classifier divide, and also interacts with the grammatical category of number." They point out that in terms of noun classes, markers of noun class and gender often provide information about number in addition to class while classifiers serve an individuating function allowing for countability of the nouns at hand. Citing Seiler (1986, p. 125), they elaborate on the connection between the two in that it, "reflects the intimate relationship between the generalizing principle [by which objects are partitioned into classes] (gender) and the individualizing principle (number), which is characteristic for the entire dimension [of apprehension of the object]". In line with Rijkhoff's (2002) proposal that nominals of the feature [-Shape] in languages with numeral classifiers are more like concept labels, Contini-Morava & Kilarski (2013: 277) have suggested that,

> "classifier and non-classifier languages differ with respect to the conceptual status of nouns. The idea is that nouns in classifier languages are like mass nouns in a non-classifier language in that they also need to be unitized in order to be counted. The function of unitizing or individuating is usually ascribed to the accompanying classifier, or to the pseudopartitive construction that includes one."

This compares numeral classifier languages such as Mandarin in which a classifier is *required* to enumerate a noun versus English in which pseudo-partitive constructions are only used with mass nouns. However, based on Dimmendaal's and Kiessling's theory that the replacement of noun classes with numeral classifiers in languages related to Ring reflect a shape/form based cognitive system seen in the mass/count continuum, it is worth investigating whether noun class affixes in Ring may function in a similar individuating way to languages that use numeral classifiers on a larger scale. Furthermore, it is consistent with Rijkhoff's (2002) approach that languages lacking adjectives have nominals with the feature [-Shape] and represent concept labels that must be individuated, rather than individual entities. The potential semantic and functional overlap of noun classes and numeral classifiers is summarised by Contini-Morava and Kilarski (2013:294) in the following assertions, "One shared function is the use of classification markers to expand the referential power of the lexicon by providing finer differentiation of lexical meanings, such as sex differentiation, animacy, or *physical properties such as shape or size*. A second shared function is to *express individuation or unitization*" (emphasis mine).

Thus, while certain Ring languages do not overtly have a set of numeral classifiers, this does not rule out the possibility that nouns in these languages are cognitively conceived as being [-Shape] or concept labels apart from the singular and plural noun class markers when looked at in light of the development of numeral classifier systems in place of noun classes in neighbouring languages. Evidence from neighbouring Grassfields Bantu languages such as Ngieboon, Bali-Mungaka, Bafanji, Ngwe and Isu, along with members of neighbouring Bantu family groups such as Ekoid, suggest that apart from these noun class markers, the noun roots themselves may be cognitively conceived as "concept labels" that are [-Shape] and thus the loss of noun classes and their related markers require the development of a numeral classifier system to compensate for this. Furthermore, the small number of numeral classifiers in a given Bantu/Benue-Congo language can be due to the fact that a functionally competing noun class system means that the majority

of emergent numeral classifiers in Niger-Congo languages tend to be restricted to certain semantic domains such as plants (Kiessling, 2018: 69).

Therefore, it is probable that, apart from a given noun class marker and/or numeral classifier, the noun root in Grassfields Bantu is mentally conceived of as [-Shape]. For instance, in Mmen we see the following singular and plural forms of the noun from classes 3 (singular) and, 4 and 13 (two plural options):

(19) Mmen (Möller, 2012:16)

Noun root:	**Noun root+Cl3 affix**	**Noun root+Cl4/Cl13 affix**
fghéyn	a-fghéyn	e-fghéyn/te- fghéyn
'leg '	'leg'	'legs'
(Possible concept label)	*(Singular)*	*(Plural)*
(mass/substance-like?)	(*Individuated)*	*(Individuated)*

Investigation of the conception of speakers regarding the spatial boundedness of the noun root apart from its singular or plural class marker may give more insight as to whether this alone is considered to be a discrete entity or falls more under the category of a "concept label" or mass-like substance which requires a class affix for individuation. We will see in the following section that Denny and Creider (1986) have proposed that, in Proto-Bantu, noun class affixes did not only encode number, but also features such as animacy and shape/form. Interestingly, for instance, they propose that noun classes 3 and 4 include a shape classification of solid figures that were extended in shape. While Mmen's noun class semantic motivations may have been lost over time to some degree we do see evidence of this shape classification in the 'leg(s)' example above. The loss of noun classes leading to the development of numeral classifier systems in order to place boundaries on nouns in related Grassfields languages suggest that such an understanding may be the case.

7.6 Noun Classes in Bantu

A brief review of nouns classes in Proto-Bantu and related languages will be covered here. A Proto-Bantu (PB) noun class system has been reconstructed pointing to the original stem from which it is likely that related Bantu and Grassfields languages have stemmed. As we saw in Chapter 2, no single Bantu language has all 24 noun classes from PB. A number of noun classes have been lost in varying daughters of PB. Distributional characteristics of noun classes display a high level of coherence. Particular pairings of singular and plural markers, in

addition to the typical semantics of noun classes, have a tendency to show strong aereal bias (Nurse and Phillipson, 2006). Noun class affixes (usually prefixes) are at the heart of an extensive system of concord on Bantu. Normally, each class prefix has a form that appears with words belonging to the relevant class.

While there is a mixture of semantic and syntactic motivations in the assignment of nouns to a particular noun class, we can make some deductions about partial motivations for class membership. In relation to the semantic basis of noun classification, nouns belonging to the same gender originally had some level of semantic coherence. Along with the diminutive and argumentative use of certain classes, we still see instances of semantic coherence are found in class 1 / 2 which hold human nouns, class 15 which contains infinitives and some body parts that come in pairs, and classes 16 / 18 which contain locatives. Semantic incoherence appears to be the case elsewhere (Katamba, 2006:115,116). Significantly, for this investigation, on the property of Shape in the nouns of a given language, Creider (1975) and Denny and Creider (1986) have suggested that most PB noun prefixes were associated with a specific configurational or shape meaning.

7.7 Noun Classes in GB Ring

While there has been some controversy as to GB's membership of Bantu, most linguists today accept the GB languages, along with other language clusters in the Cameroon-Nigeria region, as the nearest cousins of Guthrie's Bantu. Studies on the noun classes of the GB languages divide them into two major sub-groupings. One group consists of the Eastern Grassfields languages. The other consists of the Peripheral, Momo and Ring languages (Watters, 2003:227). Hyman (1980c:182) reconstructed a complete set of noun class formatives, specifically noun prefixes and concord affixes, for Proto-Eastern Grassfields as well as for the combination of Proto-Momo and Proto-Ring (i.e. "Western Grassfields").

Table 7. 2 Reconstructed noun class formatives for Proto-Eastern Grassfields and Proto-Momo and Ring (Hyman, 1980c:182)

	Proto-Eastern Grassfields		Proto-Momo & Ring	
Noun Class	**Noun Prefix**	**Concord**	**Noun Prefix**	**Concord**
1	ǹ-	ù-	ù(n)-	ù-
1a	<null>	(=1)	---	---
2	bə̀-	bə́-	bə́-	bə́-
3	ǹ-	ú-	ú-	ú-
3a	ì-	(=3)	---	---
4	---	---	í-	í-
5	lì-	lí-	í-	í-
6	(=6a)	(=6a)	á-	gá-
6a	mə̀-	mə́-	mə̀- *	mə̀-
7	à-	í-	kí-	kí-
8	bì-	bi̱-	bí-	bí-
9	ǹ-	ì-	ì(N)-	ì-
10	ǹ-	i̱-	í(N)-	Cí-
13	---	---	tí-	tí-
19	fə̀-	fə́-	fí-	fí-

These reconstructions make the argument that the GB noun classes correspond to the Proto-Bantu noun classes 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, and 19. Certain GB languages distinguish noun class 6 from 6a - a pre-Proto-Bantu distinction. Class 6a (used for liquids) is phonologically similar to Proto-Bantu noun class 6 while class 4 is present in only a few Peripheral-Momo-Ring languages. No GB language attests to Proto-Bantu classes 11, 12, 14 or 15, though Schaub (1985:172) points to 15 in Babungo as distinct from 7. When it comes to locative classes 16, 17 and 18, foreshadowing forms of these Proto-Bantu classes appear to be present in various languages (Watters, 2003:240).

As we will see in the following section, we see remnants of these semantic characteristics of PB in the GB noun class system. Thus, shedding further light on

the conception of Shape in GB as it relates to the presence of an adjectival class as per Rijkhoff (2002).

7.8 Overview of shape notion

A number of studies have pointed to the centrality of the notion of shape in human cognition, categorisation and language processing (Kuo & Sera, 2009, Seifart, 2005, Perniss et al, 2012). Perniss et al (2012:224) have noted that across classifier languages, which are prominent in East and Southeast Asia, Meso- and South America, and Austronesia, shape is a primary semantic feature by which entities are classified. Seifart (2005:182) provides the following definition of shape properties as they pertain to language. Shape may be defined as the "extension of concrete objects in space". With the shape of single, concrete objects being characterised by the following, basic properties:

(i) dimensionality (saliently one- vs. two- vs. three-dimensional)
(ii) axial geometry (long vs. thick vs. wide)
(iii) curved vs. straight edges (e.g. round vs. square)
(iv) negative spaces (hollow vs. solid)
(v) orientated axis (e.g. pointedness)

Seifart (2005:181, 193) has demonstrated that noun class markers in Mirana have a recognisable and consistent semantic content. While general class markers classify the traditional categories of animacy and number, shape was found to be a central property of specific noun class markers. This was shown in a 'Shape Classifier Task' experiment in which speakers identified inanimate objects of varying shapes. Seifart (2005:193) found that, apart from deictic markers, class markers provided the most important cues to establish reference or attribute shape to objects both in primary identification and anaphorically *apart from noun roots.* This points to a strong shape component contained in the class marker itself.

As has been argued by Rijkhoff (2000), a language can only have adjectives if characterised by the property [+Shape]. A common way to identify a [-Shape] language is with the need for numeral classifiers to provide shape boundaries to otherwise unbounded "concept labels' in order that they may be counted as discrete objects. Seifart's (2005) proposal that the shape notion may be contained in noun class markers apart from noun roots in Mirana provides evidence for the possibility that, in certain languages, noun roots apart from their class markers may be perceived of a being concept labels or having the property [-Shape]. This may also

strengthen the idea that such a language cannot have adjectives and may explain discrepancies as to the predictions of Rijkhoff's (2002) iconicity principle regarding the simple noun phrase. Miscategorisations of elements as adjectives could skew the findings of such predictions as noted by Rijkhoff himself. While the notion of shape semantics in Niger-Congo languages has not been a prominent area of research, research from Denny and Creider (1986) suggests that shape may have been a central property of the Proto-Bantu noun class system. Furthermore, Contini-Morava and Kilarski (2013:271) point to the frequently found tree:fruit distinction in gender markers as also potentially reflecting a shape distinction in that trees and plants can be associated with long and thin things, while fruits may reflect round or three-dimensional objects. Swahili, a Bantu language, is pointed to as one with a tree:fruit distinction in that the names of plants found in classes 3-4 while the names of their associated fruits are found in classes 5-6. The shape related motivation for such membership appears at first glance to line up with Denny and Creider's (1986) semantically shape based proposal seen in Figure 7.1.

The following section will examine the possibility of GB noun class markers containing the property of shape apart from noun roots which may point to a [-Shape] language without a distinct class of adjectives.

7.9 Semantics of PB noun classes

While many of today's Bantu noun class systems are semantically opaque or have grammaticalised without specific semantic elements for a given class, it may be helpful to look at the proposed Proto-Bantu source and related semantic divisions when investigating the noun properties of Shape in a modern Bantu or Grassfields Bantu language. A number of attempts have been made to reconstruct the semantics of the Proto-Bantu noun class system such as that found in table 7.3.

Table 7. 3 Proto-Bantu noun class meanings (DeMuth, 2000:275)

Noun Class	Meanings
1 / 2	**Human / other animates**
1a /	Kinship terms, proper names
2a	Trees, plants, non-paired body parts, other inanimates
3 / 4	Fruits, paired body parts, natural phenomena
5 / 6	Liquid masses
6	Manner
7 / 8	**Animates, inanimates**
9 /	Long thin objects, abstract nouns
10	Diminutives
11	Abstract nouns, mass nouns
12 /	Infinitive
13	Locatives (near, remote, inside)
14	Diminutive
15	Augmentive (diminutive)
16,	Augmentive (pejorative)
17, 18	
19	
20 /	
22	
21	

While there have been conflicting opinions among Bantuists on this theme, Denny and Creider (1986) have argued in favour of the notion that PB prefixes realised a semantic system in which each prefix was connected with a particular characteristic. Relevant for this study is their proposal that the majority of these prefixes were associated with configurational or shape meanings, categories which are commonly seen in noun classification systems worldwide. Diagram 7.1 illustrates the semantic proposals made by Denny and Creider as to the semantic motivations of PB noun class systems which distinguishes between count and mass nouns. Denny & Creider did not include abstract/concept nouns in their semantic class breakdown, but sufficient evidence is present to warrant investigation into shape principles partially motivating the noun class system.

Count nouns:

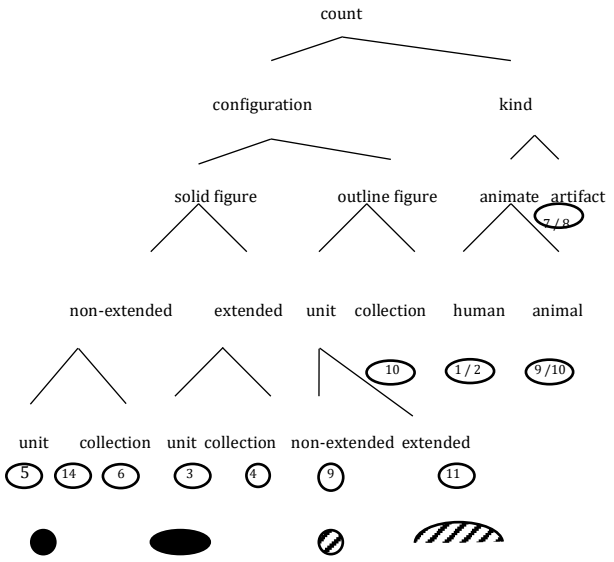


Figure 7. 1 The semantic basis of count nouns in the Proto-Bantu noun class system (Denny and Creider, 1986:219).

Mass nouns:

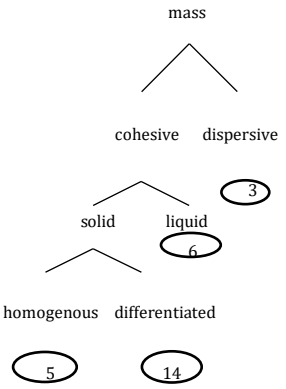


Figure 7. 2 The semantic basis of mass nouns in the Proto-Bantu noun class system (Denny and Creider, 1986:219).

For the purpose of this study we will largely concern ourselves with a breakdown of the configurational semantic subcategory as it relates to the notion of shape. Observations are as per Denny and Creider's (1986) account of PB noun class semantics. The number of distinctions in Figures 7.1 and 7.2 refer to noun class memberships of the given subcategory.

7.9.1 Count nouns

Two major classes are proposed to have existed for count nouns – configurational and kind (animate versus inanimate). While we have seen animacy distinctions in the grammatical realisation of Grassfields Bantu, for the purpose of this study we will focus on the proposed configurational distinctions and how they may relate to the notion of Shape in GB nouns. The configurational subcategory is divided into solid figures (those without a significant difference between their boundary profile and inside) and outline figures (those with a difference between their boundary/profile and inside area).

The term 'extended' refers to relative length in one dimension at the expense of the other two, or, by relative length in two dimensions at the expense of the third. The 'non-extended' categorisation denotes not only the notion of not extended, but is positively characterised as rounded, protruded, humped, bunched, etc. (Denny & Creider, 1986:223).

7.9.2 Solid figures

As has been noted, these may be categorised as extended or non-extended. Furthermore, each subdivision may be categorised as a unit or collection.

7.9.2.1 Extended

The extended solid figure class, 3/4, contains lengthy items which are clear examples of this configuration such as Denny and Creider (1986) noted some problematic cases including two body parts, head and forehead. A possible explanation is that length may have been culturally valued. They point to cases where nouns are reclassified in accordance with cultural values and beliefs, contrary to their actual configurations, as was the case with the Australian languages studied by Dixon (1968).

7.9.2.2 Non-extended

The non-extended solid figure class, 5/6, contains both independent objects, such as egg, stone, and ember, and protrusions such as cheek, heap, and base of tree. Small circular objects which are relatively flat such as freckles, body hair, and fish hooks are also included. Problematic cases such bone and wing may simply be additional examples of protruding body parts.

7.9.3 Outline figures

Two outline figure types may be distinguished as regards noun class groupings.

7.9.3.1 Extended

The extended outline shape of items in class must be curved so that the outline can be distinguished from an interior of some kind. Salient examples include crust,

fingernail, and the palm of hand. Hill and spider's web also involve curved outlines in which the area inside reveals a distinct contrast with the outside curve.

7.9.3.2 Non-extended

A variety of options were found to fulfil the category of non-extended figure with a distinctive interior. All types of rigid and flexible containers are included such as pots, drums, house, and gall bladder. Denny and Creider (1986:223) pointed to a special case connected with this is *–tunda*, referring to heaps created by dumping material from containers. This is also found in some languages in 5/6 with other nouns referring to heaps, and in 7/8 with other artifacts. The outline and interior configuration of 9/10 is also satisfied by anything with space in its interior such as rings, holes and hollows, as well as many different open geographical spaces.

7.9.4 Mass Nouns and Kinds

A brief note on the other semantic categories mentioned follows.

7.9.4.1 Mass Nouns

Denny and Creider (1986) categorised mass nouns as a semi-independent sub-system with some similar morphemes to those of count nouns. The first distinction, cohesive/dispersive, is related to the non-extended/extended factor for count nouns. The dispersive class of mass substances, class 3, includes dry particles which are readily spread-out, i.e., that can be extended in space such as sand, grain, salt and smoke, and rain from the PB list, as well as soot, grain, chaff, salt, rice, and ashes from the starred forms. The cohesive classes, 6, 5, and 14 are associated with substances that stick together such as liquids and cohesive solids.

7.9.4.2 Kinds

The kind distinction is outside the scope of this research study but the basic distinction is between animate and artefact with a subset of human and animal animacy categorization. Class 1/2 holds the meaning of human, and the large majority of animals are located in Class 9/10. The only animals which are not found in 9/10 are those with pronounced shape characteristics (leech in 3/4 (extended) and spider in 5/6 (non-extended)) and those which are particularly despised such as frog which are placed in 7/8 (Denny and Creider, 1986:223). Class 7/8 was found to be more difficult to analyse, and reference must be made to an enlarged data set of starred forms where items such as comb, stool, and basket pointing to a primary meaning of instrumental artefact.

7.10 Remnants of PB configurational semantics in Ring

As has been noted, much of the modern Bantu and GB noun class system is semantically opaque, but it is possible to identify remnants of a more largely

semantically motivated system. We will look at evidence for a configurationally based membership of various lexemes in a selection of the Ring languages. Plural forms may differ from PB gender pairs, in particular the replacement of gender 3 / 4 with 3 / 6 and 3 / 13. However, we can still see evidence of the configurational principle semantic influence of noun class placement. This list is taken from the following selection of published works and university dissertations on the languages in question; Babungo (Schaub, 1985: 81, 176-177), Mmen (Möller, 2012: 12-16), Babanki (Akumbu and Chibaka, 2012: 50-55), Aghem (Hyman, 1979: 211-215), Kom, (Yuh, P.N.K, 1986: 26-57 and Fonyuye-Moye, 2003: 68,-69). These examples are not exhaustive and represent a semantic rather than lexical comparison. *Starred items represent lexemes whose semantics are identical or very close to those in Denny and Creider's (1988) PB semantic noun class lexeme lists, in terms of their English translation ('similar' in this case being a lexeme meaning 'rock' rather than 'stone' for instance). (See Appendix 2 for language specific translations).

Table 7. 3 Shape-based configurational semantics in Ring genders 3/4

	Babungo	**Bamunka**	**Mmen**	**Babanki**	**Aghem**	**Kom**
Class 3 / 4 **Extended (long)**	body* mouth* knife* hammer loaf gun	Insufficient Data as class 3 and 4 have been lost.	bamboo forearm leg gun (3/6a) body* (3 / 6a) bed (3 / 6a) ford (3 / 13) bridge (3 / 13)	leg* (3 / 6) bamboo (3 / 13) bed (3 / 13) bed (3 / 13) grave (3 / 13) mouth* ('lip' in PB)	*body bamboo *elephant grass (3) ladder	*body(ies) (3/4) bamboo(s) (3/4 – though 9/10 in PB) *mouth(s) (3/6) gums (3) bridge (3) arm(s) (3/6)

Table 7. 4 Shape-based configurational semantics in Ring genders 5 / 6

	Babungo	**Bamunka**	**Mmen**	**Babanki**	**Aghem**	**Kom**
Class 5 / 6 **Non-extended (rounded, protruded, bunched)**	eye cheek* breast* hailstone egg*	Insufficient data as class 5 has been lost.	liver tooth* breast* yam bean	eye* egg* breast* buttock* nostril compound	*breast *eye *egg *knee *navel *nose stone	*rock (5) *bundle (5) *naval(s) (5/6) *eye(s)(5/6) *eggs (5/6) *throats (5/6) face (s) (5/6) (Class14/6 in PB) chins (5/6)

Table 7. 5 Shape-based configurational semantics in Ring genders 9 / 10

	Babungo	**Bamunka**	**Mmen**	**Babanki**	**Aghem**	**Kom**
Class 9 / 10 **Non-extended (outline figure)**	kidney* skin* ground* mountain* stomach world	stone house *cloth ('skin garment in PB)	cloud mountain* termite hill sweet potato	*cloth (singular class only) bee(s) toilet(s)	*axe *wine calabash hoe house juju house road *burial cloth	*nail (s) 9/10 *axe(s) 9/10 *drum(s) 9/10 *calabash(es) 9/10 *drum (s) 9/10 *basket(s) 9/1

Despite the loss of noun classes and replacement of certain plural elements of gender pairs over time, the data in Tables 7.3, 7.4 and 7.5 taken as a whole provides evidence for at least an earlier configurational assignment of lexemes to noun classes and a number of semantic similarities with the shape-based semantics of Denny and Creider's (1986) reconstructed PB noun class system. This may provide insights into the notion of 'shape' as it is perceived in GB, particularly compared with observations on the replacement of noun classes with numeral classifiers in certain cases which provide a boundary on otherwise [-Shape] concept labels.

7.11 Typological support

As was mentioned in chapter 2, Güldemann (2003:184), highlights the usefulness of comparing the Bantu languages with close neighbours in Bantoid such as Tikar when examining patterns of grammaticalisation. Furthermore, Kiessling (2018) and Dimmendaal (2018) have utilised comparative studies from members of the Grassfields Bantu and closely related Bantu families such as Ekoid when examining the relationship between classifiers and noun classes in these languages. Denny & Creider (1986) have provided cross-linguistic evidence which has also lent support to the semantic distinctives proposed by as regard Proto-Bantu noun classes and, by possible implication, the GB Ring classes above. They point to the examples of Toba, Burmese and Ojibway all of which utilise one of the two configurational distinctions found in PB – extended and non-extended. Each of these languages to similar categorisations to a greater or lesser extent, for instance, the Burmese and Ojibway systems develop extendedness by further distinguishing things extended in one-dimension like poles and ropes from things extended in two-dimensions like plates and cloth (ibid:229). Further comparisons are made in the field of kind, the purpose of which was to show that the major semantic features of the Bantu classes, configuration/class, solid/outline, extended/non-extended, artifact/animate, are found in noun class systems in a variety of language families to one degree or another. Denny and Creider (1986:230) go as far as to suggest that these four languages may possibly show four stages in the development of classifier systems — configurational classes only as in Toba, configurational and artifact classes as in Ojibway, configurational, artifact and animate classes in Bantu, and the addition of special classes for humans of differing social status in Burmese.

From a broader typological perspective, Aikhenvald (2003:268) notes that languages with classifiers whose semantics include "...references to shape, dimensionality, and other nature based properties of entities, tend to have fewer lexical items – adjectives, or functionally related categories – which describe shapes

or dimensions". This may be relevant to the Ring languages which appear to have few 'real' adjectives i.e., a large distinctive closed class. She notes that Palikur, for instance, has a very small number of stative verbs that correspond to adjectives in other languages for semantic groups such as dimension. While Tariana has no adjective meaning 'round' as this is conveyed using a classifier for round objects. Thus, Aikhenvald (2003:268) points that the lexicon of language can be reduced as such concepts are expressed are expressed through the grammar. This connection between early shape-based semantics of PB may provide further light on the small-closed or potentially absent adjectival class in the Ring languages. Furthermore, in support of Denny and Creider's (1986) PB noun class reconstruction which involve both number and shape and their potential replacement by numeral classifiers based on these concepts, Contini-Morava& Kilarksi (2013: 294) point out that "it is worth noting...that nominal classification systems typically provide information about both quality and quantity: for example, markers of noun class/gender are often portmanteaus that simultaneously indicate number; numeral classifiers involve both physical properties and arrangement as parameters." Furthermore, Allan (1977: 301) points to a possible connection between certain types of shape-based classified and quantification which provide further evidence for the relationship between the replacement of noun classes with numeral classifiers, "In addition to the dimensional categories, there are three subcategories of non-dimensional shape. Perhaps the most widespread is that subcategory of 'prominent curved exterior', pertaining to entities like hills, humps, heaps, horns, rising smoke, fingernails, ribs, bowlike objects, floats etc. in such varied languages as Yucatec, Louisiade, Navajo, Enindiljuagwa, Proto-Bantu, and Thai." He provides the word ***heap*** is used as an instance of a classifier in English in example (20):

(20) We made four heaps of compost from the rotting vegetables (ibid).

Allan (1977) highlights that while shape is a factor in its usage, the word 'heap' is a quanta classifier here. That is to say, it has a classificatory function and is used more so to quantify than to identify shape.

7.12 Summary

This chapter sought to further investigate the connection between the presence of a distinct class of adjectives in a given language, the presence of numeral classifiers, and what this tells us about the [Shape] features of a nominal subclass with particular reference to the Ring languages under investigation. Following a background overview of the notion of classifiers, a selection of the Ring languages;

Babungo, Bamunka, and Mmen were investigated as to their presence. In line with Rijkhoff's (2002) suggestion that languages with numeral classifiers do not tend to have a distinct class of adjectives, Bamunka demonstrated this to be the case. Babungo and Mmen, however, did not display clear evidence for the use of numeral classifiers. On the surface the latter finding appears to contradict this theory. However, evidence from neighbouring languages and diachronic observations of Bantu suggest that in many of these languages, such as Ejagham, numeral classifiers developed in order to replace noun class systems in which shape played a central role. Thus, while numeral classifiers may not have developed specifically in Babungo and Mmen, evidence points us to the possibility that the noun class allocation and affixes may serve the same purpose of providing 'boundedness' or 'discreteness' to an otherwise [-Shape] noun root. Evidence for this was examined in Denney and Creider's (1986) proposal that shape played a central role in the semantics of Proto-Bantu and evidence from the Ring languages show remnants of these patterns even in their noun class systems today. Based on the presence of numeral classes in Bamunka, typological support for the notion that noun class affixes play a similar role of designating shape both in and outside the Bantu and related languages provide further evidence for the role of shape-based semantics in noun class and numeral classifiers in the case of Ring. Evidence that the Ring languages do in fact have a noun class system in which shape/configuration appears to have played a role, at least historically, when compared with the semantics of Denny and Creider's PB word lists, provides further corroboration for the notion that nominal stems in Ring are characterised by the feature [-Shape] thus supporting their allocation in PoS system 4 or 3 / 4, languages without a large, distinct class of adjectives. The connection between noun classes, numeral classifiers and the notion of shape will be further examined in chapter 8 through the lens of possible grammaticalisation paths.

Chapter 8. Noun Classes, Numeral Classifiers and Grammaticalisation in Ring

8.1 Introduction

We have seen evidence for the presence of numeral classifiers in certain Ring languages with Bamunka in particular pointing to what Rijkhoff (2002) asserts as [-Shape] nominals. We have also seen evidence for the semantic feature of shape as playing a role, at least historically, in the Ring noun class system when compared with Denny & Creider's (1986) proposal of the semantic features of the Proto-Bantu noun class system. One argument provided by Kiessling (2018) and Dimmendaal (2011) for the emergence of numeral classifiers in Isu (Ring) and related Bantoid and Niger-Congo languages is found in the loss of noun classes; a system in which notions around shape and the count-mass continuum play a central role. This is a logical step to take in light of Denny & Creider's (1986) proposal that shape/configuration played a central semantic role in the Proto-Bantu noun class system and in light of findings in the previous chapter that we still see remnants of this shape based system in the noun classes of a selection of Ring languages. The notion that shape/configuration is encoded in either the noun class affixes in an NP or in the emerging numeral classifiers lends support to Rijkhoff's (2002) suggestion that languages without a large closed class of adjectives will have noun characterised by the feature [-Shape]. That is to say that the noun root is more of a concept label apart from the numeral classifier (or perhaps noun class affix) which functions to provide the root with boundedness and thus countability. The rationale here that is that it is not possible to modify with numerals or indeed adjectives an unbounded concept label. This chapter will examine whether the grammaticalisation patterns of numeral classifiers in Bamunka and a selection of other Ring languages, appears to follow the pattern suggested by Dimmendaal (2011) and Kiessling (2018) in relation to Isu (Ring) and related languages such as Ejagham, Denya etc. Thus, further bolstering the theory and assertion that the emergence of numeral classifier systems may indeed be compensating for a loss of noun classes in which shape and configuration play a central role. This will further add validity to the notion that [Shape] can act as a typological predictor of the presence of a discrete adjectival class in a given language.

8.2 Evidence for Grammaticalisation of numeral classifiers in Bamunka

Grammaticalisation processes are central to the emergence of any numeral classifier or noun class system and Kiessling (2018) argues that the emergent numeral classifier system in Isu (Ring) reflects that seen in related languages. Such

emergent systems are often not usually fully grammaticalised and can be seen in intermediary forms which retain some of the syntactic agreement of source constructions or retain both the original semantics and the new lexical usage of the numeral classifier. The syntactic and semantics properties of these classifiers constructions appear to stem from possessive associative constructions which demonstrate dependency reversal. This means that the classifier/possessor take the syntactic position of head noun while the thing possessed or classified is syntactically the dependent noun showing agreement with the head. Semantically, however, the "dependent" noun is seen as the head (Kiessling, 2018: 68). Speaking on the grammaticalisation of numeral classifiers in the Ring language Isu, and related languages such as Ejagham and Denya which still retain a functional noun class system, Kiessling (2018:56) asserts that "concordial agreement confirms that the classifier noun originates in the head of an associative construction." As such, languages appear to be in the process of compensating for the loss of noun classes through the use of numeral classifiers the grammaticalisation process of semantic bleaching of the original noun meaning to that of classifier may not be fully accomplished and still visible in the language.

8.3 The Associative Construction in Ring

As mentioned, Kiessling (2018) points to the possessive associative construction as providing the basis for the development of numeral classifiers in Isu and related languages. In Ring, the associative construction consists of two nouns, N1 and N2 and an associative marker which agrees with the head noun. In the classes of certain languages there is no explicit agreement marker, though tonal agreement may be involved (Ingle, 2013:79 (Bamunka), Schaub, 1985:75, 76 (Babungo). This construction can denote relationships such as part-whole, possessor-possessed, diminutives, quantification, generic-specific (Ingle, 2013:92, Akumbu & Chibaka, 2012: 116-123, Hyman, 1979: 35) In Babungo, Babanki, Mmen, Aghem and Kom the following form is found (Schaub, 1985: 76, 186, Akumbu & Chibaka, 2012: 116, Möller, 2012:21, Hyman, 1979: 35, Hyman, 2005: 320, 321) .

N1 AM N2

Interestingly, in Bamunka, the AM occurs after N1 and N2 and the N2 takes it B-form (prefixed rather than suffixed – its 'out of focus' form) if it has one (Ingle, 2013: 79).

N1 N2 AM

Possession is a common usage in Ring, with descriptions of both Babanki and Aghem associative NPs being explained in the genitive sense of 'N1 of N2' (Akumbu & Chibaka, 2012:116, Hyman, 1979: 35) with the possessed noun as N1 and the possessor noun as N2. The following outlines a sample of associative constructions from a range of Ring languages. Note that the N2 in Bamunka occurs in its B-form (out of focus)

N1:	bɔ̀'-kə̌	**N2:**	ŋgwɔ́-mə́
	container-C7		oil-C6a

(1) Bamunka (Ingle, 2013:80)

bɔ̀'	mə́-ˈŋgwó	ká
container.C7	C6a-oil	C7.AM

'container of oil'

The following illustrates an associative NP in which the head noun comes from a class without a suffix. Thus, there is no explicit associative marker and the N1 prefix is retained. Ingle (2013:89) suggests that there may be a high tone agreement marker, but that this requires further research.

N1:	bə̀-kwə̌	**N2:**	ngwó-mə́
	C2-bag		oil-C6a

(2) Bamunka (Ingle, 2013: 89)

bə̀-kwò	mə́-ˈŋgwó
C2-bag	C6a-oil

'bags of oil'

(3) Babanki (Akumbu & Chibaka, 2012:119)

tə̀.chɨ́	tə́	ŋ̀gə̀ŋ
C13.door	C13.AM	09.house

'doors of a house'

(4) Isu (Kiessling, 2018: 52)

tə́-ɣâw	tə́- fə́ -ŋwún
C13-wings	C13-C19-bird

'wings of a bird'

(5) Babungo (Schaub, 1985: 186)

mə̀.nsɨ́	mə́	shɨ́'
Cl6a.tears	1C6aAM	nobleman

'the tears of the nobleman'

Familiarity with the above constructions will provide a basis for the understanding of the grammaticalisation of numeral classifiers in Ring in which the feature of shape may play a central semantic role.

8.4 Grammaticalisation of classifiers in Niger-Congo

Speaking on grammaticalisation in nominal morphology as it relates to Bantu, Güldemann (2003:187) points to Haspelmath's (1992) observation that nominal affixes often derive from nouns that were the syntactic head of a compound or associative construction. Güldemann further points out that the head-initial organization of the noun phrase has likely not changed since the pre-Bantu or Benue-Congo phase and we can therefore expect the creation of nominal prefixes in grammaticalisation. Güldemann (2003:187, 188) points to NPs and compounds in which the initial noun has grammaticalised into a noun class prefix such as class 19 Bantu diminutive prefix *pi̯- as developing from a stem 'small'∼'child' found in Niger Congo and terms for 'mother' and 'father' providing the basis for prefixes of derived human nouns. He highlights that it is important to also be aware that noun suffixes could have evolved from calquing from head-final non-Bantu languages. This maybe insightful in relation to Bamunka, a Ring language under examination that takes suffixes. Interestingly, both Dimmendaal (2011) and Kiessling (2018) point to associative constructions as also being the basis for the emergent numeral classifier systems in Grassfields and related languages.

8.5 Grammaticalisation of Numeral Classifiers in Ring

Further evidence of the recent and ongoing development of numeral classifiers in at least certain Ring languages, may be seen in their patterns of grammaticalisation which appear to be consistent with the development of numeral classifiers in other Bantoid and neighbouring languages. It has been noted by Dimmendaal (2011: 138) that the replacement of noun class systems by numeral classifiers in a language such as Ejagham "reflect a more deeply rooted cognitive basis (manifested in the mass/count continuum) where *shape and form play a central role*" (emphasis mine). He further emphasises this in saying that rather than assume that noun class systems emerged from numeral classifier systems, that it's more likely that "this strategy emerged as a result of deeply-rooted cognitive

strategies involving the conceptualisation of shape whenever other strategies, such as the use of noun-class markers, disappeared." Referring the numeral classifier system in Kana, a related Benue-Congo language, Dimmendaal (2011:136) points out that "In such a system, the noun primarily refers to the material a particular entity consists of, i.e. the distinction between mass nouns and countables does not play a role in the grammatical system. The numeral classifier provides information on the shape in such a system...". Kiessling (2018:37) too, speaking on numeral classifier systems with restricted lexical coverage in subgroups of Benue-Congo including a selection on Grassfields Bantu languages reveal that the criteria of shape, size, and aggregation are central to their organisation. He asserts that "animacy and number are absent as categories as they are taken care of by the competing noun class system". Such cross-linguistic observations lend strength to the hypothesis that the presence of an emergent numeral classifier system in the Ring languages may reflect a situation in which its nouns are characterised by the semantic feature [-Shape], acting more like concept labels and thus, do not have a distinctly large closed class of adjectives in line with Rijkhoff's (2002) theory. Originally it appears that the shape feature was imparted by the noun class system, while more recently it appears, with certain nouns, to be provided in part by the use of numeral classifiers.

Thus, if we see a similar pattern in the grammaticalisation of numeral classifiers in other Ring languages such as those already exemplified by Kiessling (2018) in Isu (Ring), Kana and Ejagham, this may further strengthen the assertion of the [-Shape] feature in the nominals of Ring. By patterning in line with related language groups this may demonstrate a common motivation in their development. This may suggest that apart from their noun class markers and, more recently, numeral classification markers their noun roots are more concept-like in nature, and, as per Dimmendaal (2011), do not have clear distinctions on the count-mass continuum. While Rijkhoff's (2002) theory relates to sortal rather than mensural classifiers in indicating [-Shape], due to the lack of documentation of such specifics in Ring, examples of mensural numeral classifiers will also be referred to examine similarities in the semantic and syntactic sources of grammaticalisation of such constructions. Furthermore, in relation to Dimmendaal's (2011) assertion that the count-mass continuum may be less clear in Bantu and related languages, the use of mensural classifiers with concepts related to individual insects and fruits point to a concept-like nominal that in other languages would be deemed countable and may also give insight into speakers' conceptions in relation to mass and countability and

thus their use of shape/individuation marking.

8.5.1 Semantic sources of numeral classifiers

Dimmendaal (2011:118) points out that, while the historical study of semantic restructuring, particularly in African languages, is at an early stage, it is evident that metaphorical processes play a salient role in the grammaticalisation and regrammaticalisation of morphemes. He further points to Wilkins (1996) study in which 'parts of a person' as sources for semantic change were studied in four language families including Bantu, as evidence for the tendency for semantic change to occur in core vocabulary. While a proportion of the changes found were culturally specific, the majority represented cross linguistic natural tendencies (Wilkins, 1996:272). Wilkins (1996:265,266) highlights the necessity of examining regular tendencies of semantic association from a cross-linguistic perspective for the purposes of gaining insights into fields such as cognates as opposed to merely classifying a taxonomy of semantic changes that could be culturally rather than cognitively influenced, for instance. Wilkin's (1996:273,274) points to five natural tendencies found in changes involving a variety of person-parts. These are summarised below, thus providing a more specific illustration of some of the concepts to be examined below in relation to the Ring languages. Only the first of the following changes is wholly unidirectional:

i. There is a natural tendency for term for a visible person-part to shift in meaning to denote the visible whole of which it is a part (e.g. 'navel' -› 'belly' -› 'trunk' -› 'body' -› 'person')
ii. There is a natural tendency for a person-part term to shift in meaning to a spatially contiguous person part within the same whole (e.g. 'skull' ⇔ 'brain')
iii. With the waist as the midline, there is a natural tendency for terms denoting parts of the upper body to shift in meaning to refer to parts of the lower body and vice-versa (e.g. 'elbow' ⇔ 'knee')
iv. There is a natural tendency for terms denoting an animal part to shift in meaning to refer to a person part (e.g. 'snout' -> 'nose')
v. There is a natural tendency for a verbal action which uses a specific person part to shift in meaning to refer to that part (e.g. 'walk' -> 'leg')

The above semantic changes can occur in the same semantic field while others occur between different semantic fields (intrafield and interfield changes, respectively) and these can each be either metonymic or metaphoric (Wilkins, 1996: 274). Having

examined evidence for the existence of universal tendencies in particular realm of semantic change, we will now look at possible lexical sources for numeral classifiers in the Ring languages. As regards Niger-Congo languages, Kiessling (2018: 38) points out that due its early stage in development, the lexical sources for numeral classifiers is relatively transparent. He provides the following overview of cognitive models based on body parts and generic or basic level concepts, the majority of which stem from the botanical domain.

Table 8. 1 Cognitive models of numeral classifiers in Niger-Congo (Kiessling, 2018: 38)

Lexical sources of classifiers	
Basic level terms:	'person', 'people', 'child', 'mother', 'thing'
Botanical terms:	'tree (trunk)', 'fruit', 'grain', 'stock', 'pod', 'leaf', 'stick', 'palm kernel'
Body part nouns:	'body', 'eye', 'hand', 'breast', 'finger', 'skin', 'head'
Terms of aggregation and partition:	'bunch', 'bundle', 'heap', 'lump (of clay)', 'bottom', 'part', 'piece', 'half'

The following will include a range of sources for classifiers in Isu Bamunka, and Babanki and possible classifiers in Aghem Mmen and Kom. This list is not exhaustive as further research remains to be done in these and the other Ring languages.

Basic level terms:

Bamunka

While not a numeral classifier, Bamunka does make use of the terms for *child(ren)*: vaă -singular, vaá (plural) and *mother(s*): ŋkwə̂ - singular, bə̀-ŋkwə̂ - plural from gender 9/2. There is no explicit AM marking due to the noun classes involved, but it has been noted that tonal agreement marking may be present (Ingle, 2013: 71, 72). Though it is described as attributive nouns, they do take the

characteristics of an associative noun phrase type upon which other classifiers are based showing dependency reversal and using lexical sources upon which classifiers and nominal affixes in related languages are based. Aikhenvald (2003: 403) noted that while it can be unusual for generic classifiers to be derived from kinship terms, the 'default' numeral classifier in Kana gets its source in the word *kà* 'mother' (Ikoro, 1996a: 90, 91). She also notes that in Kana, a classifier for young being, human or non-human is derived from the word *ŋwíí* 'child' or offspring'. For this reason, they will be included as potential candidates for a classifier in the process of undergoing grammaticalisation through semantic bleaching. An example is as follows:

(6) Bamunka (Ingle, 2013: 72)

ŋkwé	kə̀-tyʉ̆
mother.C9	C7-tree
'big tree'	

Alternatively, due to its obligatory nature with certain nouns perceived to be small such as rats and birds, e.g. vaă fyuú *"rat"* (Ingle, 2013:71), the question arises as to whether we may be seeing the grammaticalisation of a new nominal affix or class marker. This would be in line with Güldemann's (2003:187) citation of Haspelmath's (1992) observation that nominal affixes often derive from nouns that were the syntactic head of a compound or associative construction. Aikhenvald (2003:403) points out that in noun class systems the term for 'child' can be grammaticalised as a diminutive gender marker with Bantu being an example. Ingle (2013:71) suggests that another of this construction may be that of a compound noun. And, as we saw in section 8.4 Güldemann (2003:187, 188) points to 'child' and 'mother' heads of compounds and associative noun phrases in Bantu that have developed into nominal affixes. Indeed, he highlights Swahili as an instance in which *mwana* 'child' as being in "the incipient stage of such a process" and may be observed today. It is possible we may be seeing these words in Bamunka in their incipient stages towards either numeral classifier or noun class affix. This may also support the notion of [-Shape] nominals in that they impart boundedness at least in terms of size to the root.

Mmen

While not an explicit classifier, since heads of compounds are common sources

of classifiers, child being in instance in Bantu, example (7) is included as a potential source of classifier or nominal affix in Mmen.

(7) Mmen (Bangha, 2003:40)

vâin	yúi
child	female
'girl'	

Botanical terms:

There are presently no available examples of botanical sources for numeral classifiers in Ring.

Body-part nouns:

Isu

Kiessling (2018: 39-42) outlined a number of body part terms as sources for classifiers in Isu. These are ísɨ́ (5/6) *"eye"* (the most frequent body-part source across Niger-Congo (Kiessling, 2018:10), kə́wɔ́ (7/8) *"hand"* for clusters of long objects such as bananas, íʁé (5/6) "breast, udder' for a bunch of objects such as plantains or bananas, fətûw (19/6a) *"little head"* to denote contra-expectual deficiency in number conflated with the haptic notion of round objects which are flat such as leaves.

Bamunka

A mensural classifier, denoting a portion of something taken from a whole finds its source in the terms kôŋ-kə̌/ kôŋ-bə̌ *"hand/hands"* (gender 7/8) (Ingle, 2013:59, 60).

(8) Bamunka (Ingle, 2013: 60)

kôŋ	ŋkwíˈlí	bə́	ì-buŭ
hand.C8	banana.C9	C8.AM	INANM-two
'two hands of bananas'			

Babanki

As in the case of Isu, we see the use of the salient Niger-Congo classifier source *eye* ashɨ́ (Akumbu and Chibaka, 2012: 108, 109) in Babanki. While it does have the

characteristic features of having roots in an associative construction with dependency reversal, it is not recorded as occurring with cardinal numbers and gives the sense of notions such as "a single grain" or "several grains" or "fruit" and "fruits", for instance. They appear to be used in the "portion of a whole" sense as with the Bamunka classifier in example (8). It is again used with items that Babanki speakers perceive to be uncountable.

(9) Akumbu and Chibaka (2012: 108)

ə̀.shɨ́	ə́	ə̀.kwɛ́n
C5.eye	C5.AM	C5.bean

'a single bean'

(10) Akumbu and Chibaka (2012: 109)

ȁ.shɨ́	ə́	ȁ.kwɛ́n
C5.eye	C5.AM	C6.bean

'several grains of bean'

Kom

There is also possible evidence for "eye" being used as a classifier in Kom, though much further data collection would be required. Fonyuy Moye (2003: 83) in illustrating mechanisms of inflection and reduplication in noun provide the meanings of both "eyes" and "a grain" for the lexeme *asɨ̀*.

(11) Kom (Fonyuy Moye, 2003: 83)

asɨ̀

'eyes' (a grain)

(12) Kom (Fonyuy Moye, 2003: 83)

kɨ̀	ɨsɨ́	ɨsɨ́
Inflec.Morph	eye	eye

"only one eye" or "one grain after another'

Aghem

Though not used as a numeral classifier, the word *ésí* is used in the sense of 'first' as in 'the first bird'. Hyman (1979, 40) regards it as a type of modifier, but it is worth including in this section on the grammaticalisation of Ring classifiers as it finds its

root in the noun *ésɨ́*' 'front' which derives its meaning from common Niger-Congo source of classifier, *ésɨ́* 'eye'. Differences arise in that it occurs as the N2 in an associative noun phrase in its B-form or 'out of focus' form (we also see this phenomenon in the N2s of certain noun classes of Bamunka in both associative and numeral classifier constructions) The AM undergoes disyllabification in classes 2-6 and vowel coalescence in the remaining classes (Hyman, 1979:40, 41). Thus, while discrepancies are present, the use of this extremely common semantic source of classifiers in Niger-Congo and its occurrence in an associative NP warrants being mentioned as we propose possibilities for lexemes undergoing semantic bleaching and the intermediary phase of grammaticalisation. Tracking this lexeme in future may provide insights into grammaticalisation paths for items sourced from the term 'eye' in numeral classification and other functions.

(13) Aghem (Hyman, 1979: 41)

nwɨ́n	'f-é'sɨ́-fɔ́
C11bird	AM-first-C11
'the first bird'	

Mmen

A similar usage of the noun *"eye"* is seen in Mmen. And while much further data collection is needed, it may give an insight into grammaticalisation paths in Ring and indeed Niger-Congo.

(14) Mmen (Bangha, 2003: 61)

ɑ̄sí

'first'

(15) Mmen (Bangha, 2003: 62)

ńdúm	ɑ̄sí
husband	first
'the first husband'	

It also appears to have the positional meaning of *"front"* similar to that of Aghem (Bangha, 2003:61, 62)

(16) Mmen (Bangha, 2003: 62)

āsí	ā	váín
front/eyes	PRT	child

'The child's front/eyes'

The particle is unglossed here but has been described in other parts of Bangha (2003: 50, 53, 84) as a marker of agreement in what is described as a possessive adjective noun phrase, an agreement marker in "qualifying adjective noun phrases", and a preposition in a complex noun phrase which appears to have the same form as an associative NP thus pointing to a possessive associative construction with āsí as the N1.

Possessive adjective construction

(17) Mmen (Bangha, 2003: 50)

ə́vâin	āvéín
child	Agr.his

'his child'

Qualifying adjective construction

(18) Mmen (Bangha, 2003: 53)

áʒə́s	ā múá
broom	Agr.old

'An old broom'

Complex noun phrase structure

(19) Mmen (Bangha, 2003: 84)

ā kún	ā	kɣāŋ
beans	for	whites

'rice'

Bangha describes the latter two constructions as agreeing with their head nouns in class and number. For this reason, it is very possible that "āsí ā váín" is a type of possessive associative noun phrase like those found in the other Ring languages under study and thus may serve as a basis for further grammaticalisation of "āsí" into a classifier or nominal affix. Swahili as in Isu and related languages. While not provided in the data source, Bangha (2003: 50, 29, 31) suggest that "āsí"

is likely a noun from a class 5 or 7 based on its agreement marker that appears to show tonal change. While (Agha Ha, 1993:66) glosses the class 5 associative marker as ə́- which may make 7 a better candidate, his later placement of íʃí *"eye(s)* in gender 5 (pg. 77), suggests the discrepancy may be due to differences in orthographical choices which is often the case in the Grassfields languages. Moller (2012) provides further support glossing the class 5 AM as *-ə́.*

Terms of aggregation and partition:

Bamunka

While not specifically listed as a source by Kiessling (2018), the term "unit" appears to fall in the category of units of aggregation and partition in its semantic similarity to sources relating to the notion of partition. This can be used as both a sortal and mensural classifier.

(20) Bamunka (Ingle, 2013: 58)

mbuú	nyuù	hə̌	i-buŭ
unit.C10	hair.C9	C10.AM	INANM-two

'two hairs'

ŋgu̱ŭ̱/ŋgu̱ú˖hə́ *"bunch/bunches"* (gender 9/10) is used as a mensural classifier referring to a measurement taken from a whole (Ingle, 2013: 57-60)

(21) Bamunka (Ingle, 2013: 60)

ŋgu̱ú	˖ŋkwí˖lí	hə́	ì-buŭ
bunch.C10	banana.C9	C10.AM	INANM-two

'two bunches of bananas'

Thus, the lexical sources for actual and potential numeral classifiers in the Ring languages examined appear to fall in line with predictions made by both Dimmendaal (2011) and Kiessling (2018) in Grassfields and related languages.

8.5.2 Syntactic sources of numeral classifiers in Ring

In relation to word order of numeral classifier constructions in Niger-Congo, Kiessling (2018:49) points to two types;

Type I - in which the classifier *follows* the enumerated noun and

Type II - in which the classifier *precedes* the enumerated noun.

Type II may be divided into to further subcategories:

Type IIa – in which the numeral follows the classifier and the enumerated noun

Type IIb – in which the numeral precedes the entire classifier construction.

Word order types of numeral classifier constructions as asserted by Kiessling (2018:49)

I enumerated noun + classifier:

a. enumerated noun + classifier + numeral

*b. numeral + enumerated noun + classifier

*c. enumerated noun + numeral + classifier

II classifier + enumerated noun:

a. classifier + enumerated noun + numeral

b. numeral + classifier + enumerated noun

*c. classifier + numeral + enumerated noun

This word order tends to approximately correlate with the word order in possessive associative constructions in a given language. The classifier position corresponds to the position of the modified head noun which encodes the possessed item, while the position of the enumerated noun corresponds to the position of the dependent modifier which encodes the possessor. These differences are seen most clearly in the typologically differing typologically different Mande and Gur vs. Benue-Congo on the other side which differ with regard to word order in possessive constructions (Kiessling, 2018:50). Interestingly, Kiessling points out that, from a typological perspective, the Type IIa subset in which the noun being classified intervenes between the classifier and the numeral, contradicts the universal claim of Allan (1977:288) which state that "a universal principle that a classifier concatenates with a quantifier, locative, demonstrative, or predicate to form a nexus that cannot be interrupted by the noun it classifies. Both Greenberg (1972) and Aikhenvald (2000) assert the same. Kiessling (2018: 59, 69) suggests that while Allan's

universal is the preferred pattern cross-linguistically due to a cognitive preference for the juxtaposition of classifier and numeral rooted in the tightness of their relationship, the apparent anomaly found in Niger-Congo as opposed to more widely studied Asian classifier constructions is rooted in difference in constituency relations in which the classifier rather than the noun being enumerated forms the syntactic head of the classifier construction.

Speaking on the grammaticalisation of numeral classifiers in the Ring language Isu, and related languages such as Ejagham and Denya which still retain a functional noun class system, Kiessling (2018:56) asserts that "concordial agreement confirms that the classifier noun originates in the head of an associative construction." As such languages appear to be in the process of compensating for the loss of noun classes through the use of numeral classifiers the grammaticalisation process of semantic bleaching of the original noun meaning to that of classifier may not be fully accomplished and still visible in the language. Isu, a Ring language, belongs to the Type IIa subset along with other Benue-Congo languages such as Ejagham and Denya in which all modifiers including possessors follow the noun.

Type IIa: correlation with NP-internal order (Benue-Congo)

Classifier construction: classifier + enumerated noun + numeral

General order in NP: possessed head + possessor + modifiers (Kiessling 2018: 51)

Kiessling (2018: 69) points out that, in their syntactic and semantic properties, numeral classifier constructions in Niger-Congo are similar to associative constructions found in Bantu and Bantoid which demonstrate dependency reversal. That is, that syntactic and semantic dependency are mismatched with N1, a type of qualifier, being the syntactic head while N2 denotes a more specific concept, is the semantic head. Bamunka and Babanki will be examined alongside Kiessling's illustration from Isu.

Isu

Reverse dependency construction

fəŋàŋə́ (19/6a) "small thing"

(22) Isu (Kiessling, 2018: 69)

ŋàŋə́	fə	ˈndáw
C19.small.thing	C19	C9.house
'tiny house'		

Associative construction

(23) Isu (Kiessling, 2018: 69)

tə́-ɣâw	tə́- fə́ -ŋwún
C13-wings	C13-C19-bird

'wings of a bird'

Numeral classifier construction

(24) Isu (Kiessling, 2018: 52)

tŭw	fíífə̀p	fə̀	mɔ̀ʔ
C19.little.head	ASSC19.C5.leaf	ASS.C19	one

'one single leaf only'

Bamunka

Bamunka (South Ring) appears to follow a similar grammaticalisation pattern in its emergent numeral classifier construction. While the order in Bamunka for the associative noun phrase is N1 N2 AM rather than N1 AM N2, it still conforms to the Typa IIa pattern of Isu. We also see a parallel in terms of numeral classifier constructions and reverse dependency construction.

Reverse dependency construction

Diminutive: vaă "child"

(25) Bamunka (Ingle, 2013:71)

vaă	bî
child.C9	goat.C9

'small goat'

While there is no explicit associative marker in the above example as it comes from gender 9/2 (i.e., with a noun class marker), Ingle (2013, 71) points out that 'small' is indeed the head noun in an associative construction. It appears that the class 9 noun 'child' is undergoing semantic bleaching while retaining an associative NP word order of dependency reversal. Furthermore, while tonal analysis still needs to be explored in such constructions, she suggests that the final mid tone might indeed point to a class 2 high tone associative marker. As we saw in section 8.4 both 'child' and 'mother' have been used as lexical sources for both numeral classifiers and nominal affixes in Niger-Congo. While they are currently used in an attributive sense we do see the semantic bleaching common in the

grammaticalisation from noun to classifier so it is possible we may be seeing an intermediary form of numeral classifier amidst its evolutionary process here

Associative construction

N1: baá-ˈkə́ **N2:** nuɔ́- ˈmə́

fufu-C7 bird-C6a

(26) Bamunka (Ingle, 2013: 83)

baá ˈmə́-nuɔ̀ kə̌

fufu.C7 C6a-bird C7.AM

'fufu of the birds'

While also used with what are often perceived as non-count nouns in Bamunka, such as fruits, vegetables and trees wherein the singular form is representative of the whole batch (Ingle, 2013: 58) as in example (27) this particular numeral classifier in Bamunka can be used optionally with what are more clearly countable nouns as seen in example (28).

Numeral classifier construction

(27) Bamunka (Ingle, 2013: 58)

mbyuú	yɔ́ŋ	hə̌	ì-buŭ
unit.C10	plum.C9	C10.AM	INANM-two

'two plums'

(28) Bamunka (Ingle, 2013: 59)

mbyuú	bə̀-ˈfɔ́ŋ	ˈhə́	ì-tiâ
unit.C10	C8.chair	C10.AM	inanm.three

'three chairs'

Here in Bamunka we see the same reverse dependency seen in Isu in which the agreement marker agrees with the syntactic head (the classifier) while the semantic head (the chairs) take the position of N2. Notice too, that bə̀-ˈfɔ́ŋ the semantic head, occurs in its B-form (that is its prefixed 'out of focus' form in other settings. As is the case with other Bantoid languages with emergent numeral classifier systems we do not see a full grammaticalisation of the numeral classifier and associative agreement marking is retained.

Babanki

As appears to be the case in Isu, there are no explicitly sortal numeral classifiers in Babanki. Babanki classifiers constructions are not used in conjunction with a number according to Akumbu & Chibaka's (2012: 108, 109) outline, but the noun ashɨ́ "eye" (in both singular and plural form) is used with certain nouns (such as fruits or nuts) to denote a single one, a grain of one, or several grains etc. Kiessling (2018: 39) points out that the noun "eye" is the most frequent lexical source for numeral classifiers based on body parts throughout various branches of Niger-Congo including Grassfields Bantu. So, again, we may be witnessing the evolution of a numeral classifier in the midst of the grammaticalisation process with notable evidences such as semantic bleaching, agreement marking pointing to its source in an associative type construction and a demonstration of dependency reversal in that the classifier is the syntactic head while the thing being classified is the semantic head.

Reverse dependency construction

(29) Babanki (Akumbu & Chibaka, 2012: 102)

kə̀mfɔ̀ŋ	ká	tsɔ̀ŋ
C7.stupid	C7.AM	C1.thief

'a foolish thief"

Akumbu and Chibaka (2012: 101-103) point to what the call 'adjectival nouns' (that is nouns acting in the function of modification) from classes 7 and 8 as those used in associative construction which exhibit dependency reversal in which the modifier takes the position of syntactic head while the thing referred to is the semantic head. These include words such as kəmfòŋ "stupid", kəmfi "big", and kəmfen "black".

Associative construction

Again, here we do not see dependency reversal displayed in a regular associative construction.

(30) Babanki (Akumbu & Chibaka, 2012: 119)

ə̀.fwín	ə́	m̀bvʉ́
C3.leg	C3.AM	C9.fowl

'leg of a fowl'

Numeral classifier construction

(31) Babanki (Akumbu & Chibaka, 2012: 108)

ə̀.shɨ́	ə́	bə́lə̀ŋ
C5.eye	C5.AM	C1.groundnut

'a grain of groundnut'

This use of a classifier without a number distinguishing between "a grain" and "several grains" for instance is reminiscent of Dimmendaal's (2011:138) description of classifiers in the Niger-Congo Twi language of the Kwa family. Classifiers distinguish between 'bananas' and 'bunches of bananas' which Dimmendaal postulates this, along with the development of other numeral classifiers in Niger-Congo were not the original root of noun class systems. Rather "this strategy emerged as a result of deeply-rooted cognitive strategies involving the *conceptualization of shape* whenever other strategies, such as the use of noun class markers disappeared."

This also makes an RRG representation of the numeral classifier construction challenging as it still takes the form of an associative noun phrase as we shall see in the following chapter. While Kiessling (2018) has identified this pattern in Isu, we see possible further evidence of Kiessling's theory of the grammaticalisation of numeral classifiers in the Ring languages Bamunka and Babanki. There are examples of numeral classifiers that can be optionally used with countable nouns in Bamunka. These show evidence of having roots in the associative noun phrase while having the features of dependency reversal. Babanki, while not demonstrated to have classifiers used with numerals such as "two", "three" etc., do express notions such as "a single grain" or "several grains" perhaps allowing for individuation in what would otherwise be perceived part of a greater mass. They too take the form of associative NPs with dependency reversal. These also conforms to the Type IIa subset, lending to further weight to developing Kiessling's (2018) emergent typology of numeral classifier constructions Niger-Congo, specifically Bantoid, and to his assertion that Allan's (1977) prohibited type in which the classifier and numeral cannot be interrupted by the noun classified, does in fact exist amongst certain Niger-Congo languages.

8.6 Summary

This chapter has explored the possible semantic and syntactic roots of numeral classifiers in a selection of the Ring languages. Research from Dimmendaal, Kiessling, Güldemann and others has been drawn upon to provide a framework for

this analysis. In terms of lexical roots, the languages under investigation demonstrate classifier, and potentially intermediary classifier roots in basic level terms, body-part nouns and terms of aggregation. Data supported both Dimmendaal's and Kiessling's assertion that "eye" stands out as a salient source of classifier construction in Isu, Babanki and Kom. While in Aghem and Mmen it is used in both the senses of *"first"* and *"front"*. Its occurrence as *"first"* in the associative construction in Aghem is not that of head noun, however it may be a valuable observation in tracking incipient forms of classifiers in Ring in the future. Furthermore, if the unglossed particle in example (16) is an associative marker, for which there is good evidence, then we are seeing an associative NP with *"eye"* as the head noun, potentially laying the groundwork for further grammaticalisation into a classifier. The terms for *"child"* and *"mother"* in Bamunka were also shown to demonstrate dependency reversal and semantic bleaching. Due to evidence for their being roots of both classifier constructions and nominal affixes, it is probable that these are lexemes currently undergoing the grammaticalisation process. Time will demonstrate if they are to develop into noun class affixes or classifiers. Regarding the syntactic sources of sortal and mensural numeral classifiers in Ring, particularly Bamunka, we see strong evidence of roots in an associative construction displaying dependency reversal as predicted by Kiessling (2018).

Further in support of Kiessling's predictions, Bamunka classifiers are Type IIa in which, despite Allan's (1977:288) proposed universal in which "a classifier...cannot be interrupted by the noun it classifies", the order found is CLF N Num. Data on the Babanki classifier construction does not include numerals, however dependency reversal in the N1 and N2 is displayed. The close patterning of these Ring languages, in particular, Bamunka, Babanki and Kiessling's previous findings on Isu, demonstrate further support for a consistent theme in which the emergence of numeral classifiers in related Niger-Congo languages which Dimmendaal asserts is motivated by a system in which the count-mass continuum plays a significant role, which in turn reflect a cognitive system wherein shape and form are central. Taking this into consideration along with the shape based noun class remnants of Denny & Creider's (1986) proposals relating to PB, and the absence of a large closed class of adjectives in Ring, there is strong case to be made for the existence of nominals characterised by the feature [-Shape] in these languages. Additionally, Rijkhoff's (2002) theory as to the connection between the [Shape] feature in nouns and the presence or absence of a distinct adjectival class, typologically speaking, was further validated.

The proposed nature of the "mass-count continuum" in Benue-Congo and related questions also has implications for Rijkhoff's (2002) that sortal rather than mensural classifiers provide information on the [Shape] feature of nominals in a given languages. It appears that in Ring, elements deemed countable in other languages such as beans, nuts or plums are perceived as masses that require individuation in Ring, and thus take mensural classifiers. Taking the count-mass continuum of a given language or linguistic group may provide insight into the [Shape] features of its nominals though it is lacking a significant group of numeral classifiers. Taking the individuating or shape-providing functions of a languages noun class system will also be useful. Kiessling (2018: 64) raises the point that certain branches and sub-branches of Niger-Congo such as Kwa, Dogon and Kru have not developed numeral classifier systems in the face of noun class obsolescence.

Furthermore, these findings on the role of the semantic feature of [Shape] also has implications for Rijkhoff's proposed universal which states,

If a language has a distinct class of adjectives, then the nouns in that language are generally characterised by the feature [+Shape] (Rijkhoff, 2002:142).

Rijkhoff (2002: 142) has stated that Type 3 / 4 languages would not violate this implication as they do not have sortal classifiers. However, Bamunka, a type 3 /4 language and the clearest example of a Ring language with sortal classifiers suggests at least one exception to this universal. This indicates at least one exception to this universal. Furthermore, evidence from the shape-based semantics of Ring noun class systems and the emergent numeral classifier system in a language such as Babanki, suggest that not only sortal classifiers, but noun class markers may also play a significant role in identifying a [-Shape] language which may have implications for those in a PoS 3 / 4 system.

Thus, further research needs to be done looking at areas such as language contact influence and the perceptions of speakers in relation to shape semantics to further solidify the motivations proposed here in Ring. An area of future research arises as to whether it is possible that the count-mass continuum can evolve to a more clear-cut state in certain languages for instance. Thus, perhaps, no longer requiring individuation devices such as nominal affixes or numeral classifiers.

Chapter 9. Modifiers of the Layered Structure of the Noun Phrase in Ring

9.1 Introduction

In addition to addressing functional definitions as to the typological notion of word classes, Rijkhoff (2002) has also explored the underlying structure of the noun phrase and its modifiers suggesting an iconically motivated semantic basis for its ordering. This 'Principle of Scope' looks at the three layers of quality, quantity, and locality in the simple NP and has been acknowledged by both Rijkhoff, and Van Valin and La Polla (1997) as an approach that can work in conjunction with the RRG framework utilised in this thesis.

This chapter will provide a detailed overview of the layered structure of the noun phrase (LSNP), the noun and its modifiers, in a selection of the GB Ring languages through the lens of RRG. It will also examine how well these findings adhere to Rijkhoff's (2002) typologically based Principle of Scope and predictions as to the iconic patterning of the LSNP. While the Scope theory is primarily addressed, two competing principles of word ordering that can come into play; the Principle of Domain Integrity and the Principle of Head Proximity will be briefly referenced to. The relevance of the notion of word classes, particularly the questionable status of the adjective in Ring will be explored in relation to these findings. Apparent discrepancies to Rijkhoff's (2002) iconicity predictions will be examined in terms of the possible misattribution of certain NP elements as adjective, and the categorisation of elements as simple constituents of the integral NP when in fact they may be complex constituents. Thus, the importance of the use of typologically comparable categories will once again be explored, taking the Ring languages as a case in point.

9.2 The Layered Structure of the Noun Phrase (LSNP)

The Role and Reference Grammar (RRG) framework approaches the Noun Phrase (NP) from a functional perspective examining the nominal and its modifiers and how they are related iconically. The head noun must be present while other elements such as adjective, demonstrative or possessive may occur or co-occur optionally. The current study will look at prototypical features of the LSNP in a selection of the GB Ring languages along with the occurrence and workings of operator such as those mentioned above looking at areas such as adjectival classes, scope, and iconicity. The following provides a diagrammatic outline for the LSNP.

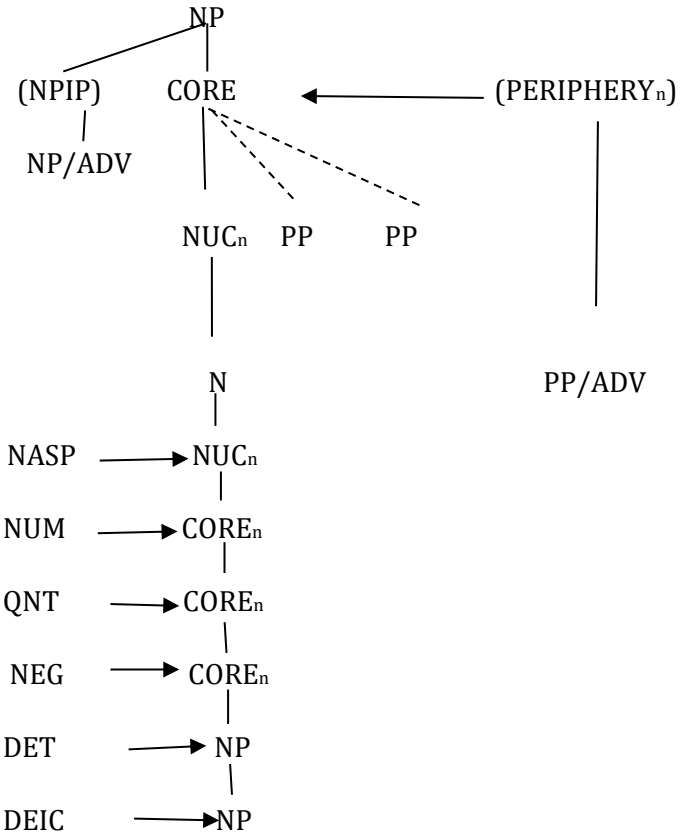


Figure 9. 1 Outline for the layered structure of the noun phrase (LSNP)

9.3 Competing Principles in the LSNP

As discussed in section 3.5.3, competing principles can often be at play in the realisation of constituent order in the noun phrase. Where iconicity takes precedence in one area, economy of use may be the dominating influence in another. Thus, discrepancies found as to one iconically based prediction may be explained by the dominance of a competing principle. For instance, Rijkhoff (2002) has proposed that the Principle of Domain Integrity (PDI) takes precedence over his Principle of Scope in the ordering of NP constituents of the NP to the effect that PDI's avoidance of the use of complex constituents in between elements of the matrix NP is a more dominant principle. While this chapter will largely consider iconic motivations behind LSNP ordering, alternative explanations found in competing principles will also be examined. Some relevant constituent ordering principles are outlined below.

9.3.1 Rijkhoff's Principle of Scope

Further insights into the LSNP may be seen in the iconic motivations that underlie its realisation. Rijkhoff (2002) has proposed that Noun Phrase (NP) internal ordering patterns iconically reflect the underlying (semantic) structure of

the NP. He has hypothesised that the few non-iconic basic NP-internal ordering patterns that have been attested do not involve simple, whole (integral) NPs. This refers to descriptive rather than referential modifiers. While working from a Functional Grammar (FG) perspective on the LSNP, Rijkhoff (1992) has pointed to its compatibility with the RRG functional approach.

Table 9. 1 Operators in the LSNP RRG versus FG in Van Valin and La Polla (1997:56)

Semantic unit	Syntactic Layer	FG Layer	FG Operator
Referring expression [REF]	Nucleus$_N$	Quality	Adj/Nom modifiers
REF (+Argument (s) +Non-arg(s))	Core$_N$ (Periphery$_{NJ}$	Quantity	Number Quantification Negation
REF (+Arg (s), Non-arg(s), NPIP)	NP	Locality	Deictics Definiteness

Van Valin and La Polla (1997:59) point favourably to Rijkhoff's (1990, 1992) work on scope principles with respect to operators of the LSNP and how they reflect Greenberg (1966) and Hawkins (1983) work on operator patterns within the NP. A key point made is that apparent exceptions to these typological predictions may be explained in that they involve elements that are not an integral part of the NP. That is to say, what appears to be a simple lexeme for a given element such as 'number' may in fact be complex elements such as a compound or an apposition. This is a crucial point in the following analysis of the GB languages adherence to Rijkhoff's iconic model, particularly with regard to the elements of number and adjective. Following the RRG analysis, this study will utilise Rijkhoff's (2002) more recently refined breakdown of the layered structure of the noun phrase is seen in Figure 9.2.

In a layered model of the NP descriptive modifiers can be distributed over three nested layers:

– *The quality layer* contains the head noun and accommodates modifier categories that only relate to the property that is designated by the noun (qualifying modifiers): nominal aspect markers and (typically) adjectives;

- The quantity layer contains the quality layer and accommodates modifier categories (quantifying modifiers) having to do with number distinctions (singular, plural) and cardinality (one, two, etc.);

- The location layer contains both the quality and the quantity layer and accommodates modifier categories specifying properties concerning the location of the referent (localising modifiers), such as demonstratives and relative clauses (Rijkhoff, 2002:1).

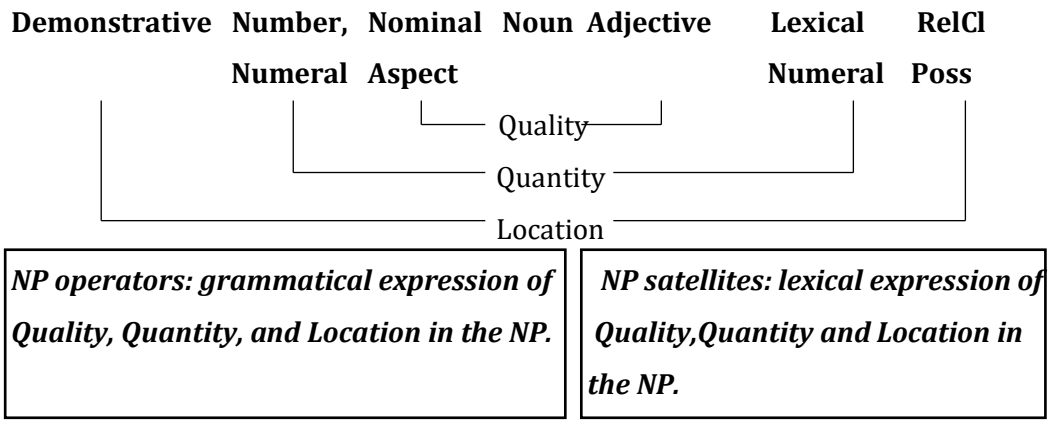


Figure 9. 2 Descriptive modifiers in the layered structure of the NP (adapted from Rijkhoff, 2002:224)

Rijkhoff's (2002) hypothesis follows that demonstrative, numeral and adjective are ordered according to the scope of semantic relations as seen in the layered organization of the underlying structure seen above, only eight of the 24 logically possible are predicted to occur.

a) dem num A N	b) dem A N num	c) num A N dem	d) A N num d
e) dem num N A	f) dem N A num	g) num N A dem	h) N A num dem

Figure 9. 3 Rijkhoff's (2002) logically possible NP word orders

The remaining combinations are viewed as "non-iconic". Hawkins put forth a modified version of Greenberg's Universal 20 when he came across two other Bantu languages with a non-iconic basic pattern in the NP: Aghem [N A dem num] and Noni (which has [N dem num A] as well as [N dem A num]), both spoken in Cameroon.

Universal 20'. *When any or all of the items (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).

As was noted previously, explanations for such discrepancies in these and other languages include theories that adjectives have been miscategorised and are actually a subclass of verbs or complex NPs, i.e. adnominal relative clauses or numerals expressed as phrasal modifiers. Rijkhoff (2002) notes that scopal relations, such as those addressed here, between modifiers in a domain can be captured in meaning-based, layered representations of linguistic expressions as employed in Van Valin and La Polla's (1997) Role and Reference Grammar. The connection is important as Van Valin and La Polla (1997:69) assert that the morphosyntactic structure of the NP is very much semantically based. We will now look at a selection of Grassfields Bantu Ring Languages regarding the above iconicity theory through the lens of Role and Reference Grammar with reference to the LSNP and the adjective in particular. In addition, we will examine NP operators such as demonstratives, possessives, and number.

The languages in question do not appear to fully fulfil the predicted "mirror-image" iconicity pattern addressed above, however, this may be explained by a number of competing motivating principles such as the Principle of Domain Integrity along with wrong categorisations of the notion of "adjective" rather than with Rijkhoff's (2002) theory itself.

9.3.2 The Principle of Domain Integrity

This principle states that, "Constituents prefer to remain within the boundaries of their domain; constituents of a domain prefer not to be interrupted by embedded domains." (Rijkhoff, 1990a). This accounts for the fact that the noun and its modifiers; demonstrative (Dem). Number (Num), and adjective (A) normally occur in an uninterrupted linear sequence. Exceptions to this rule may be explained by pragmatically motivated ordering principles which take into account the notions of emphasis, topic and focus. The influence of this principle can be seen in three areas i) domains (the head and its dependents, e.g. clauses and NPs) ii) boundaries of domains (e.g. clause-initial, clause-second, clause-final position), and iii) constituents in domains (particularly head constituents such as verbs and nouns).

An example of the influence of these principles on the three areas mentioned is as follows:

Type i) placement relative to a domain

Here the general principle is that the subject position precedes the object position. This is a specific version of the *Principle of Increasing Complexity* which states that "there is a preference for ordering constituents in an order of increasing complexity (Dik, 1997).

Type ii) placement relative to the boundary of a domain

An instance of this is noted by Rijkhoff (1990a) in that "constituents prefer to remain within the boundaries of their domain; constituents of a domain prefer not to be interrupted by embedded domains." As was noted, exceptions to this may be explained by pragmatic ordering principles such as the Principle of Pragmatic Highlighting (Dik, 1997) for the purpose of Topic, Contrastive Focus etc.

Type iii) placement relative to a constituent of a domain

Dik (1997:402) summarises this as "constituent ordering rules conspire to keep the heads of different domains as close as possible together."

Rijkhoff notes that his selection of principles highlights that which was captured by Behagel's (1932:4) law that there is a strong tendency to preserve semantic aspects as they are reflected in the underlying structure in syntactic realisation. Thus, the ordering principles above can be explained with regard to how we conceptualise the relations between entities, it assumes that semantically related elements are perceived in terms of spatial distances. This preference for constituents to remain within their domain has also been explained in terms of language production and the speed of language processing (Rijkhoff, 2002: 253, 254). The Principle of Domain Integrity points to 24 logically possible NP-internal word order patterns in two ways. Firstly, the constituents of the NP are usually expressed in one continuous string. Secondly, the preferred position for embedded (complex) constituents is in the periphery of the matrix domain.

9.3.3 The Principle of Head Proximity

This principle, which also plays a role in the ordering of NP constituents based on their underlying semantic structure, was proposed as an interpretation of the word order facts suggested by Greenberg's (1966a) work on linguistic universals

and Hawkin's (1983) later development and refinement of these findings. This principle points to a tendency across languages to avoid having adjectives (A) and possessor NPs (G) between the head of the NP (N) and the head of the clause (V). Rijkhoff (2002) notes that this is stronger for the possessor NP (G, an embedded modifier) than for the adjective (A, a non-embedded modifier). In characterizing language types, Rijkhoff (2002) uses Dryer's (1992) distinction between V-initial and V-final languages, grouping SVO languages together with V-initial due to a significant number of patterning similarities. Based on Hawkin's extended sample along with the distinction between embedded and non-embedded modifiers, and taking into account other head constituents such as adjectives and adverbs, Rijkhoff (2002: 263,264) developed his 'strong' version of the Principle of Head Proximity (PHP) which is as follows:

The Principle of Head Proximity II: In a subordinate domain, the preferred position of the head constituent is as close as possible to the head of the superordinate domain. This assumes that domains (clause, noun phrases, adjective phrases, adverb phrases) are in the following hierarchical relationship:

Table 9. 2 Principle of Head Proximity II Hierarchical Domains (Rijkhoff, 2002:264)

SUPERORDINATE DOMAIN	**SUBORDINATE DOMAIN (S)**
Clause (head:V)	noun phrase (head:N), embedded clause (head:V)
Noun Phrase (head:N)	adjective phrase (head:A), embedded adnominal modifier e.g. possessor NP (head: N) or relative clause (head:V)
Adjective Phrase (head:A)	degree adverb (head:adv)

The strong version of PHP predicts that the preferred position of the head of any lexical modifier is immediately before or after the noun but that short modifiers, such as adjectives, are preferred closer to the noun than long embedded modifiers if they both occur on the same side of the head as this yields better Head Proximity. Thus, a combination of the Principle of Domain Integrity and the Principle of Head

Proximity only permits the head of the non-embedded modifier, the adjective, to be adjacent to the noun. Secondly, the strong version of PHP indicates that the preferred position of any adnominal modifier is not between the head noun N and the head of the clause V. There is a stronger tendency here for embedded rather than non-embedded modifiers (Rijkhoff, 2002:265).

As was mentioned, the Principe of Scope will be primarily addressed in this chapter, but the relevance of the competing principles of PDI and PHP will be referenced as necessary.

9.4 An Analysis of the LSNP in Ring

The following will work through an analysis of the elements of the LSNP in the Ring languages through the framework of RRG. It will begin with an overview of how the adjectival notion is approached in RRG and how this relates to the status of the adjective in Ring as discussed in chapters 5 and 6. Some illustrations of constituents functioning in an adjectival sense will be reviewed from chapter 5 for convenience. We will then go on to look at the realisation of NP, core, and nuclear operators in Ring and compare findings to Rijkhoff's (2002) Principle of Scope.

9.5 The Adjective in Ring

The adjective has two broad usages; as an attribute functioning as a modifier, or as a predicate functioning in a predicative sense. In chapters 5 and 6 it was posited that there are certain languages without a distinct class of adjectives or with a small, closed set of adjectives. Matasović (2017) in a study of adjectival phrases in RRG, supports this notion pointing out that adjectival notions can be expressed as subsets of nouns or verbs. The questionable nature of the adjective in the Ring language is significant with regard to an RRG analysis. Van Valin (2005:28) points out that in a study of the LSNP referring phrases, like clauses, are not necessarily of one particular lexical or syntactic category. The nucleus of referring expressions do not have to be filled by a nominal element, they can be filled by verbs or adjectives for instance. Thus, he suggests the label of 'RP' (referential phrase) may be more helpful. This allows a monostratal theory like RRG to account for unusual phenomena cross-linguistically while neither sacrificing syntactic definitions such as the purely semantic approach of word classes proposed by Dryer (1992) nor the functional purpose of syntactically altered nouns and verbs in modification functions. Adjectives in RRG were formerly placed in the operator projection as a grammatical category, but have since been recognised as members of the nuclear periphery along with nominal modifiers analogous to that of PPs and adverbials in a complex event (Van Valin, 2002:26).

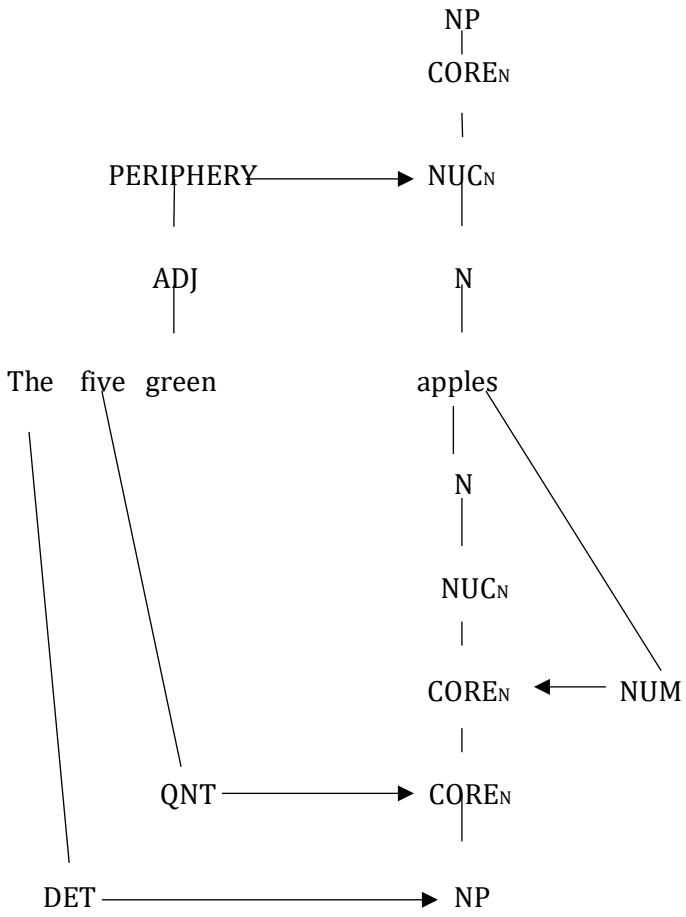


Figure 9. 4 Adjective representation in RRG

The language of 'referring expressions' and 'head of reference phrase' rather than a syntactic category regarding the nucleus in RRG is similar to that we saw used by Hengeveld (1992a, b) in chapter 5 and ties in nicely with the ambiguity surrounding the nature of adjectives in GB. This may be a helpful approach in analysing noun or verb-like elements that function as adjectival-like modifiers in languages without a distinct set, or with a small closed class of adjectives as has been suggested of Ring in chapters 5 and 6, in that elements of varying syntactic categories (noun, verb, or adjective) functioning as modifier of a head noun can still be placed in the RRG peripheral position of adjectives under the heading of 'attribute' as semantic function without tying or removing it syntactically to or from a particular word class. On the other hand, the strong grammatical indications of the presence of an 'associative noun phrase' may suggest that these constructions in Ring languages be better represented in an associative sense.

9.5.1 Associative NPs and RRG

Pavey (2010:182-183) points out that noun phrases may contain more than one noun and that such constructions may express association, relation, or a part-whole relationship between two nouns. Rather than putting the second noun in the periphery of the nucleus as a modifier we treat the dependent noun as an argument of the head noun, just as predicates may take an argument in the clause structure. An English example would be through the use of an adpositional phrase as follows.

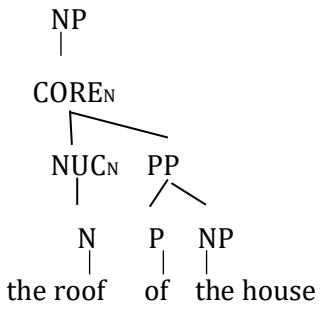


Figure 9. 5 Associative NP in RRG framework

Pavey (2010) notes that other devices such as case marking may also point to an associative or genitive construction.

9.5.2 Associative NPs in the Ring languages

Before deciding on how best to represent adjectival-like modifiers in Ring, a brief review of the associative NP construction and its semantics will be outlined. The associative NP in the Ring languages has a general pattern of a head noun (N1) and the dependent noun (N2) along with an associative marker agreeing with the head noun. The marker usually occurs between the two nouns, while in Bamunka it occurs after.

N1: ŋgɔ̀ŋ -kə̌ leaf-C7 **N2:** yʉ́’-ʰkə́ plantain-C7

(1) Bamunka (Ingle, 2013:81)

ŋgɔ̀ŋ	kə́- ʰyʉ́’	ʰkə́
leaf.C7	C7-plantain	C7.AM

‘plantain leaf’

In line with Pavey’s (2010) definition of such constructions, both Hyman (1979:35) and Schaub (1985: 298) point to NP constructions with an associative marker as expressing possession or other genitive functions in Aghem and Babungo, respectively. Ingle (2013:92) further elaborates on functions of the

associative NP in Bamunka including 'part-whole' (wall of house), 'product-material' (bamboo fence), and 'object-purpose' (cooking pots). Hyman (1979:34) points out that certain adjectival notions may also be expressed by the associative phrase in Aghem. Many of what are deemed 'adjectives', in such cases, Bamunka in particular, take these associative structures and therefore may best be realised as such in the RRG representation while others may best be placed in the periphery of the nucleus while still being noun or verb-like syntactically.

9.5.3 Adjectival modifiers in Bamunka

As we saw in chapter 5, adjectives in Bamunka can be derived from both verbs and nouns. They largely occur after the noun, but certain noun like attributes can occur before the nouns. Due to agreement patterns largely in line with those of an associative noun phrase and the ability of certain adjectival like elements to occur as head nouns, the question arises as to whether they are best described as the Noun 2 of an associative construction rather than attributive adjectives, while other adjectival modifiers displays verbal characteristics.

9.5.3.1 Agreement Patterns

In certain situations, agreement of adjectives with the class of the noun being modified may occur. If the head noun is from class 6a, 7, 8, 10, 13 or 19 the noun class suffix is deleted and a marker agreeing with the class of the head noun follows the adjective. The agreement marker seems to be the same as the associative marker (AM) for nouns, showing similarities in both form and H tone, and has been noted and labelled as such by Ingle (2013). Classes 2 and 9 are exceptions, showing no agreement and no associative marker with class 2 noun retaining their prefix, interestingly, this also reflects the pattern in the associative noun phrase. As Class 9 does not have an affix, further investigation may reveal tonal agreement. The lack of agreement in Class 2 requires further investigation and may be connected to the semantic underpinnings of this class which largely contains humans and animates traditionally.

9.5.3.2 Noun-like modifiers

As we saw in chapter 5, modifiers based on nouns may occur before or after the noun in certain cases.

9.5.3.2.1 Noun-like modifiers following the noun

Noun-like elements that follow the noun in modification function are found in three colours and in compound nouns (verb-noun combinations). In fact, these three colours in Bamunka come directly from class 7 and when they modify a head noun they occur in their B-form (prefixed or out of focus form) demonstrating

strong characteristics of functioning as the second noun in an associative construction rather than as an attributive adjective. Verb-noun compounds also behave as the second noun in an associative construction. Based on this we will use Pavey's (2010) associative RRG realisation rather than a nuclear peripheral one.

Bamunka

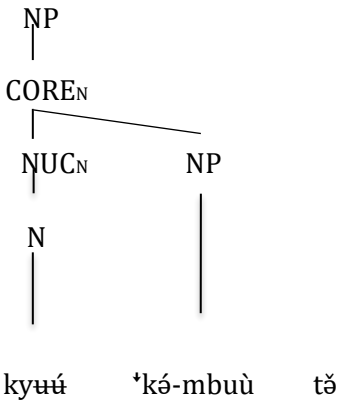


Figure 9. 6 Class 7 Noun-like modifier in Bamunka

(2) Bamunka (Ingle, 2013: 70)

kyu̶ú̶	ꜜkə́-mbuù	tə̌
pot.C13	C7-red	C13.AM

'red pots'

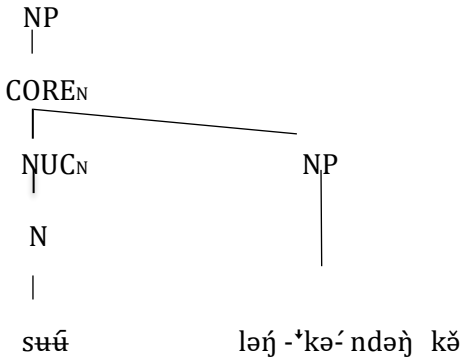


Figure 9. 7 Verb-noun compound modifier in Bamunka

(3) Bamunka (Ingle, 2013: 70)

su̶ū̶	ləŋ -ꜜkə́-ndə́ŋ	kə̌
hoe.C7	work-C7-farm	C7.AM

'hoe for farming' (Ingle, 2013:70)

Kom

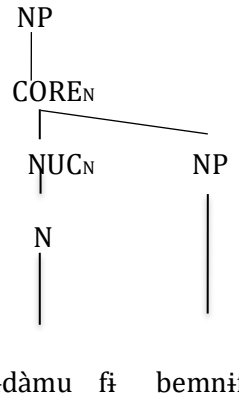


Figure 9. 8 Modifier with associative construction in Kom

(4) Kom (Fonyuye Moye, 2003: 52)

ɨdàmu ɨ bemnɨɨ

cat AM dangerous N.cl

'A dangerous cat'

An unusual feature here is that in addition to the associative marker, the N2 appears to have a noun class prefix following the modifier. This could potentially be a form of double class marking as per Aikhenvald (2003: 63-66) or a type of 'b-form' as we see in Bamunka and Aghem.

9.5.3.2.2 Noun-like modifiers preceding the noun

Difficulty comes in regarding noun-like modifiers that precede the noun. There are two instances of this, vaă "child" with a diminutive function and ŋkwə̄ "mother" with an augmentative function. Ingle (2013:71) suggests that while semantically they are modifiers, grammatically they are the head noun of an associative construction with the noun being characterised as the noun 2, though because they are of classes 9 and 2 we don't see agreement marking. This would pose a problem for the selection of the modifier as a peripheral element in the RRG analysis as the N1 would be head noun and modifier simultaneously. However, an associative realisation accounts for both without imposing inaccurate semantics.

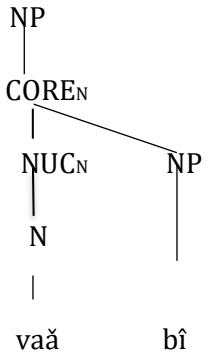


Figure 9. 9 Noun-like modifier preceding noun in Bamunka

(5) Bamunka (Ingle, 2013: 71)

vaă bî

child.C9 goat.C9

'small goat'

We do not see an explicit AM in this case as we are dealing with a class 9 noun. AS we saw in section 8.5.1 example (6), there are two potential interpretations of such modifiers. As nouns in an associative NP or as modifers undergoing semantic bleaching and potentially being grammaticalised into a classifier form; perhaps numeral or noun class marker. This will be further dealt with in 9.6.3 on nuclear level operators.

9.5.3.3 Verbal modifiers

As has been mentioned, two verb-like modifiers with an adjectival function are found in the NP, these are reduplicated verb stems and stative verbs with a verbal extension. Using the reasoning above, whether or not these are a distinct class of adjectives or a subset of verbs they can be captured in the RRG framework in the node peripheral to the nucleus or they could be realised as part of an associative NP.

9.5.3.3.1 Reduplicated verb stem

A number of adjectival like modifiers are formed from the reduplication of verb roots. Constructions containing head nouns with an affix show agreement in a pattern similar to an associative NP. However, since it is not a nominal element we may treat the affix as an agreement or out of focus marker as has been described in other Ring languages by Akumbu & Chibaka (2012:98, 99) in Babanki and Hyman (1979:32) in Aghem. Thus, we will place the verb-like element in nuclear peripheral position with a modifying function.

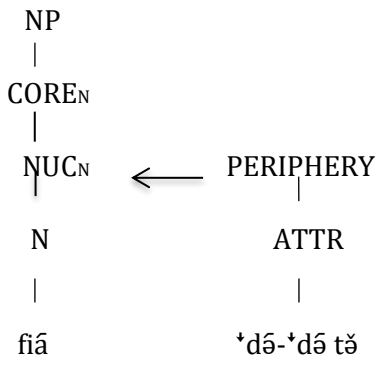


Figure 9. 10 Reduplicated verb stem in Bamunka

Verb: dəˀ "lengthen" Adjective dəˀ dô "long"

(6) Bamunka (Ingle, 2013: 63)

fiā ˈdə̄-ˈdə̄ tə̌

road.C13 long-long C13.AM

'long roads'

9.5.3.3.2 Verbs with verbal extension

Stative verbs with verbal extensions (-hə, -nə) can occur in predicative form, attributive form, or as a head noun or verb in copular form. For the scope of this study we will examine the attributive form which again, due to its verb-like rather than nominal structure, may be placed in the periphery of the nucleus.

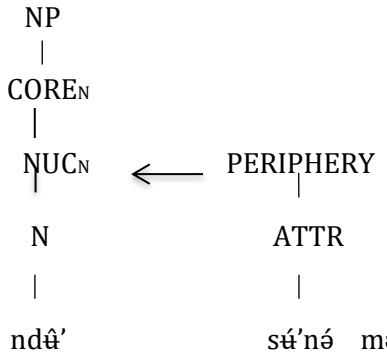


Figure 9. 11 Verbal extension modifier in Bamunka

Verb: sʉˀ nə̂ "be sweet"

(7) Bamunka (Ingle, 2013: 65)

ndʉ̂' sʉ́'nə́ mə́

wine.C6a be.sweet C6a.AM

'sweet wine'

9.5.4 Adjectival Modifiers in Mmen

Modifiers in Mmen may be derived from nouns or verbs.

9.5.4.1 Modifiers derived from Nouns

In line with Pavey's (2010) approach to the realisation of genitive constructions, nouns modifying nouns in Mmen utilise associative like particles meaning 'of' between the N1 and N2.

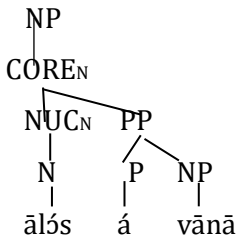


Figure 9. 12 Noun-like modifier in Mmen

(8) Mmen (Möller, 2012:25)

ālɔ́s	á	vānā
youth	of	child

'young child(ren)'

9.5.4.2 Verb-like modifiers in Mmen

A number of words expressing adjectival properties in Mmen are derived from verbs which can occur in predicative form following the verb *se nyí* 'to be' or directly after the noun which at first glance may appear to be an attributive adjective. However, certain verb-like modifiers occurring directly after the noun takes the progressive marker 'ndò' and thus also appears to be predicative in nature or alternatively are attributes requiring the further measure of the progressive marker. The former lies outside the scope of the Rijkhoff's (2002) simplex NP while the latter excludes it as a distinct adjectival class. There are also attributive-like modifiers that do not take the progressive marker 'ndò', however, Möller (2012: 25) points out that these are derived from nouns or verbs and coinciding with the fact that we have only three examples of such in the data, Mmen will be placed in a Type 3/4 following Rijkhoff's (2002) modified approach.

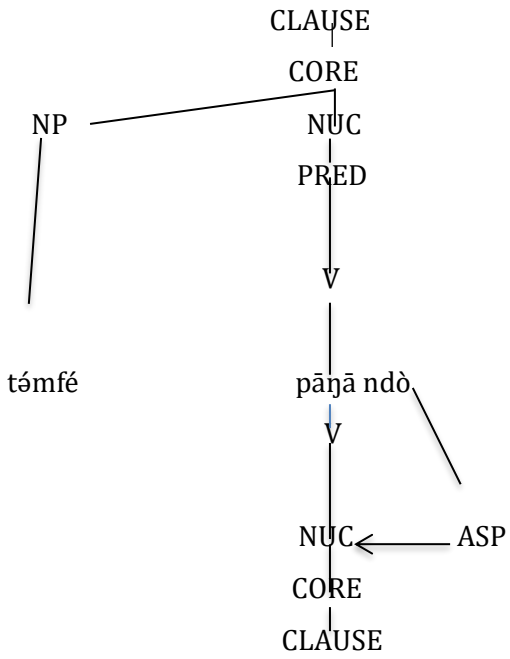


Figure 9. 13 Verb-like modifier in Mmen as Predicate

(9) Mmen (Möller, 2012:25)

tə́mfé	pāŋā	ndò
Calabash	(is) red	PROG

'The Calabash (is) red.'

9.5.5 Adjectival Modifiers in Babungo

Schaub (1985) points out that the majority of adjectival-like modifiers in Babungo are derived from the progressive form of the verb with its tone minus the prefix. There is no difference between predicative and attributive adjectives apart from the word order of the attributive form directly after the noun. Thus, we use the peripheral slot for the adjectival-like form

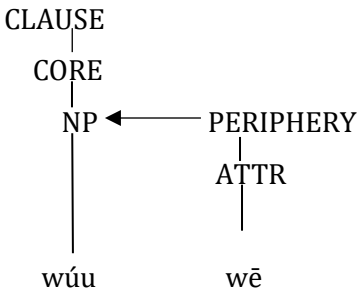


Figure 9. 14 Verb-like modifier in Babungo

(10) Babungo (Schaub, 1985: 234)

wúu	wē
person	strong

'strong man'

9.5.6 Adjectival Modifiers in Aghem

As we saw in chapter 6, attributive adjectives are largely derived from the adjectival predicate by the addition of an adjective prefix and out of focus (OF) suffix, apart from some that form an associative construction similar to that of Bamunka.

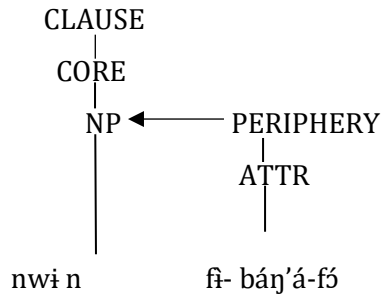


Figure 9. 15 Verb-like modifier in Aghem

(11) Aghem (Hyman, 1979: 32)

nwɨ n	fɨ - báŋ'á-fɔ́
C11bird	AdjPr-red-OF

'a/the red bird.'

Thus, we have seen two general types of adjectival like modifier found in the Ring languages in question with two types of RRG realisation. Some derived from nouns and verbs are best realised as arguments in an associative or genitive constructions, while a certain number of verb-like modifiers are best placed in the periphery of the nucleus. Along with a small number of 'real' adjectives in the Ring languages studied, these illustrations support the theory proposed in Chapters 5 and 6 that the Ring languages appear not to have (or a at best have a very small closed class) of distinct adjectives. This can be captured in the RRG framework in the context of associative NPs and peripheral elements, which while having a modifying function do not necessarily have to be tied to a particular word class such as adjectives and may be otherwise classified as nouns or verbs in the language at hand.

The presence of the associative NP in particular may help explain discrepancies regarding Rijkhoff's (2002) predictions of iconicity in the NP which refer only to the simplex or integral NP. A number of languages from his study had to be dropped as elements had been deemed 'adjectives' were in fact more complex constructions which certainly seems to be the case with the associative NP which point structures including that of genitive, part-whole and object-purpose constructions.

9.5.7 Adjectival Modifiers in Kom

We have seen that 'descriptive adjectives' in Kom are mostly derived from verbs and occur as the noun 2 in an associative construction leading to the following formula [N1 + AM + Descriptive Adjective (N2)] (Fonyuy Moye, 2003:52) and thus would take an associative form comparable to that of noun-like modifiers in Bamunka as in example (12). These 'adjectives' are formed from verbs by adding the suffix -ni, -na, or –n depending on the noun class in question.

gha' – 'be big'

(12) Kom (Fonyuy Moye, 2003:52)

a	fo	agha'	nɨ - a
C6prefix	thing	AMbig	suffix – Cl6AM
'a big thing'			

9.6 Operators in the LSNP

As is the case with the clause, the Noun Phrase in RRG representations have a number of nuclear, core and NP operators which are grammatical elements modifying different layers of the NP.

9.6.1 NP Operators in the Ring languages – Definiteness and Deixis

In examining operators in the LSNP of the Ring languages we will first look at the categories of definiteness and deixis.

9.6.1.1 Definiteness

Explicit markers of definiteness are not always found throughout Ring. As we shall see below, referential demonstrative forms can often be used to serve this function.

Bamunka

The Bamunka language utilises the determiner 'mbʉ' with noun in their B-form (out of focus, prefixed form). Other types of quantifiers on the other hand occur with nouns in their A-form (in focus, suffixed form) with the exception of classes 2, 9 and 10 who don't appear to demonstrate an a-/b-form distinction. It is anaphoric in the

sense that it is used to refer back to an object or person that has recently been introduced (Ingle, 2013: 16, 44).

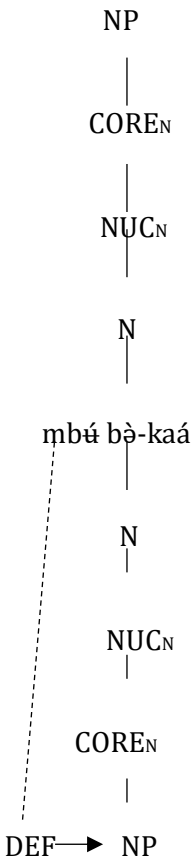


Figure 9. 16 Definiteness in Bamunka – Nuclear operator

(13) Bamunka (Ingle, 2013: 16)

mbʉ́	bə̀-kaá
DEF	C2-monkey

'the monkeys'

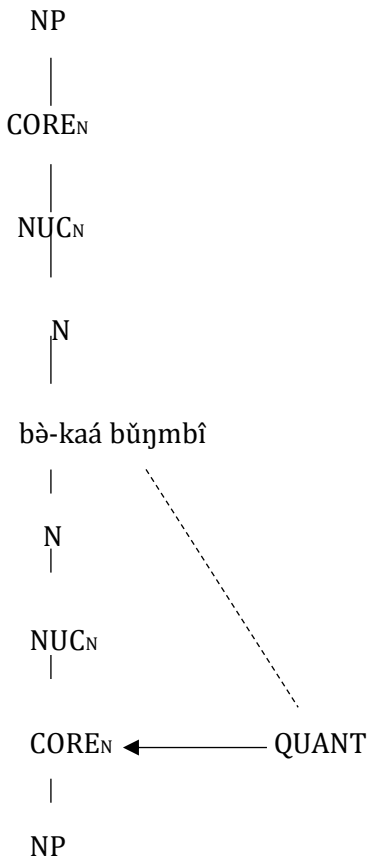


Figure 9. 17 Definiteness in Bamunka – Core operator

(14) Bamunka (Ingle, 2013: 16)

bə̀-kaá bŭŋmbî

C2-monkey many

many monkeys'

In the first case, we are dealing with a nuclear operator and in the second with a core operator. Data suggests that they are mutually exclusive (Ingle, 2013:16).
The indefinite determiner bɛ' introduces something thus far unknown to the hearer. It occurs after the noun in the same position as possessives and demonstratives being mutually exclusive with them. When bɛ' is used to modify a noun from class 6a, 7, 8, 10, 13 or 19, the noun suffix is deleted and an agreement suffix attaches to bɛ' as in example (13).

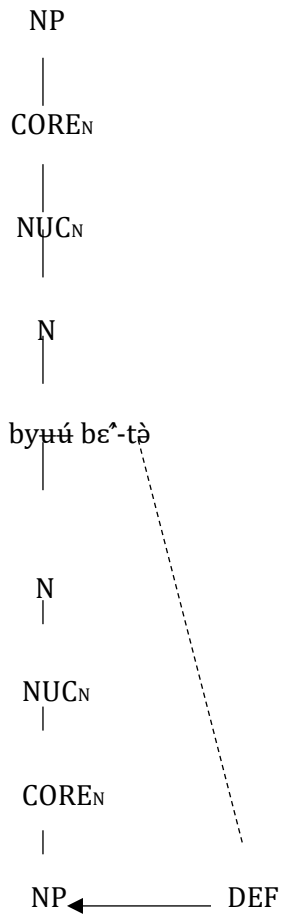


Figure 9. 18 Indefinite in Bamunka

(15) Bamunka (Ingle, 2013: 45)

byuú	bɛˆ-tə̀
hole.C13	Indef-C13

'some holes'

Mmen

The closest elements we have to a determiner in Mmen is a referential demonstrative referring to something mentioned earlier that both speaker and listener know of. This demonstrative attaches to the noun through the AM (Möller, 2012:28). Thus, we see a dual role of definiteness and deixis.

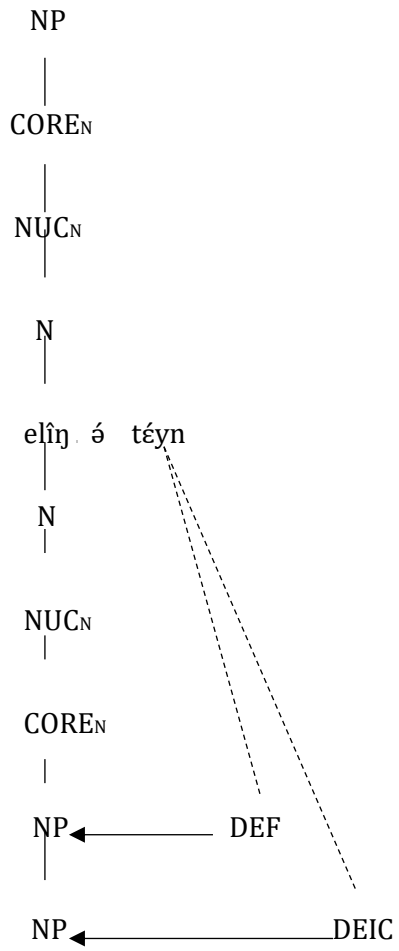


Figure 9. 19 Definiteness/Deixis in Mmen

(16) Mmen (Möller, 2012:27)

elîŋ ə́ tɛ́yn

bambooC4 AM demC4

'the bamboos (mentioned before)'

Babungo

The closest to a known form of determiner in Babungo is the anaphoric demonstrative adjective 'ghɔ̃' which follows the noun and refers to 'the/that' noun already mentioned. This also exists in Bamunka with a similar function. Due to both its identifying and demonstrative nature it is represented in two layers of the operator projection of the LSNP.

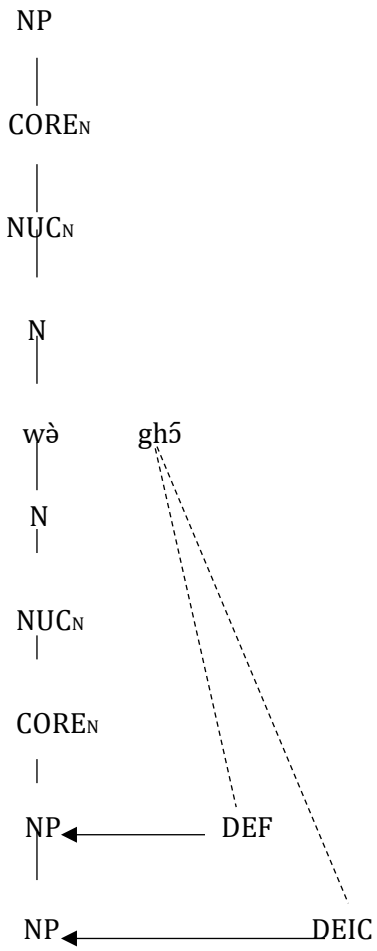


Figure 9. 20 Definiteness/Deixis in Babungo

(17) Babungo Schaub (1985: 97,98)

wə ghɔ

person that-anaph

'that person (already mentioned)

Definiteness in Aghem

Again, we do not see evidence for a dedicated definite or indefinite lexeme in Aghem. Evidence from texts used in Hyman's (1979: 204, 205) suggests that the near hearer demonstrative pronoun may fulfil a similar function, in that it refers to a person already mentioned. Otherwise, context appears to indicate definiteness/indefiniteness.

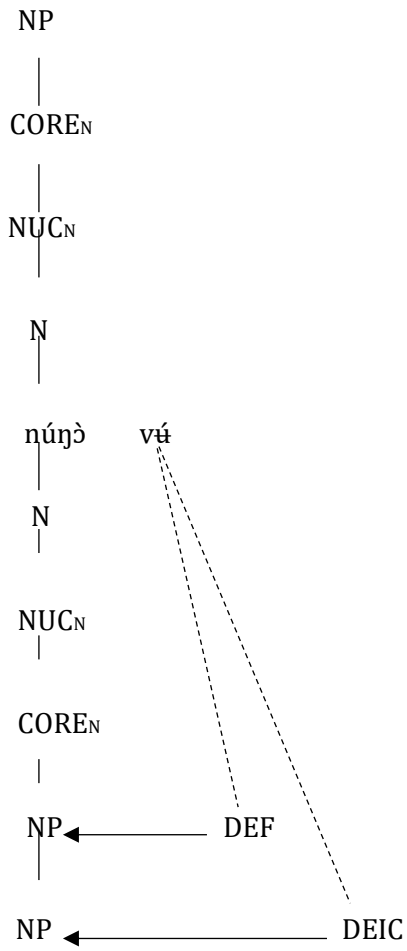


Figure 9. 21 Definiteness/Deixis in Aghem

(18) Aghem (Hyman, 1979:205)

núŋɔ	vʉ́
woman	that

'the/that woman'

9.6.1.2 Deixis

Deictic constituents are pointing words or expressions that locate referent in relation to the speakers. Also deemed 'demonstratives', we will deal with demonstrative operators which modify the head noun rather than demonstrative pronouns which are referring expressions in and of themselves. As we saw, some demonstratives may have the dual function of expressing definiteness or identification.

Bamunka

In addition to the anaphoric demonstrative mentioned above the two main distinctions in Bamunka are proximal and distal demonstratives which occur after the noun. With the exception of class 9 nouns which do not have an affix, the head noun suffix is deleted and a concord prefix is placed on the demonstrative.

Proximal

(19) Bamunka (Ingle, 2013:31)

fɔ́	ˈk-ɔɔ́ŋ
thing.C7	C7-PROX
‘this thing’	

Distal

(20) Bamunka (Ingle, 2013:31)

fɔ́	ˈk-iíŋ
thing.C7	C7-DST
‘that thing’	

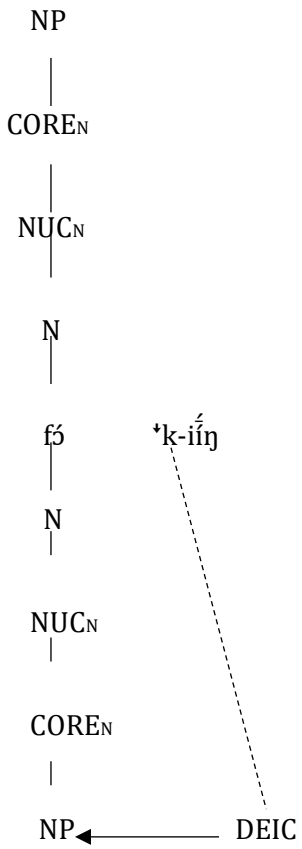


Figure 9. 22 Deixis in Bamunka

The anaphoric demonstrative is very similar in form and function to that found in Babungo with the dual function of identification, however, unlike Babungo, it takes a noun class concord suffix.

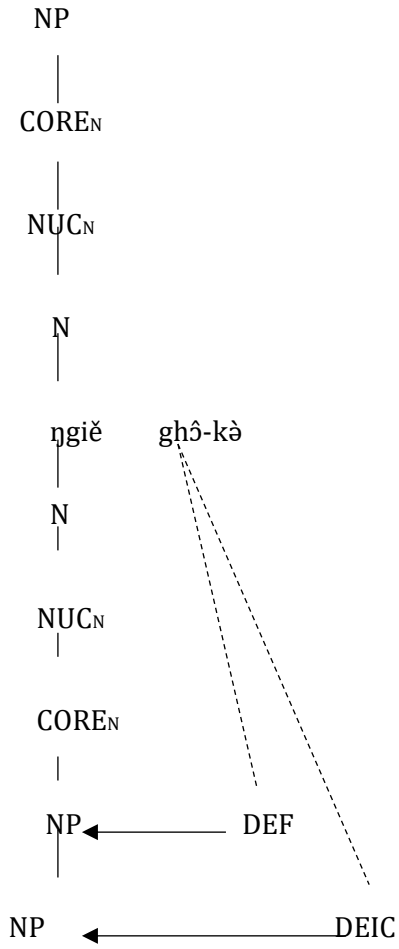


Figure 9. 23 Anaphoric demonstrative in Babungo

(21) Bamunka (Ingle, 2013: 32)

ŋgiě ghô-kə̀

language.C7 ANAPH-C7

'that language" i.e. "those words (referred to already)"

Mmen

The Mmen language has a number of demonstratives; two are near speaker (the distinction being that in one case the object/thing is pointed at), one is near listener, one referring to things far from both speaker and listener, one referring to a 'certain' or particular thing and finally an anaphoric demonstrative referring to something already mentioned. Demonstratives agree with the head noun through prefix concords and tone i.e. low tone when the head noun belongs to class 1, 9 and 6a

(Möller, 2012:28). In cases where the demonstrative is pointing to a place rather than an object the word fə̀yn 'here' and fɛ̄ īngīn 'over there' are used. See illustrations of each from class in tables 9.3 and 9.4.

Table 9. 3 Demonstratives in Mmen (Möller, 2012:26)

Class	**Example**	**Gloss**	**Near Speaker (Pointing)**	**Near Speaker**	**Near Listener**	**Far From Both**	**Certain**
			H L	HL	H	H	H L
4	lîŋ	bamboos	zɨnə	ziŋ/zɨyn	zɛ	zhi(a)	zhia

Table 9. 4 Anaphoric Demonstrative in Mmen (Möller, 2012:27)

Class	**Noun**	**AM**	**Referential**	**Gloss**
		H	H (H)	
4	elîŋ	ə́	tɛ́yn	'the bamboos (mentioned before)'

(22) Mmen (Möller, 2012:26)

kwî vɨnə

bed Prox-Cl1

'this bed (pointing)

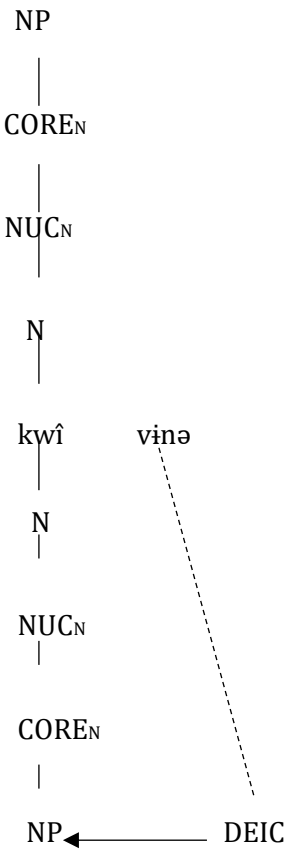


Figure 9. 24 Deixis in Mmen

As is the case with Bamunka and Babungo, there is a referential demonstrative that can serve an identificational function.

(23) Mmen (Möller, 2012:27)

ndzɨś ə́ tɛ́yn

kneeC5 AM RefDem

'the knee (mentioned before)'

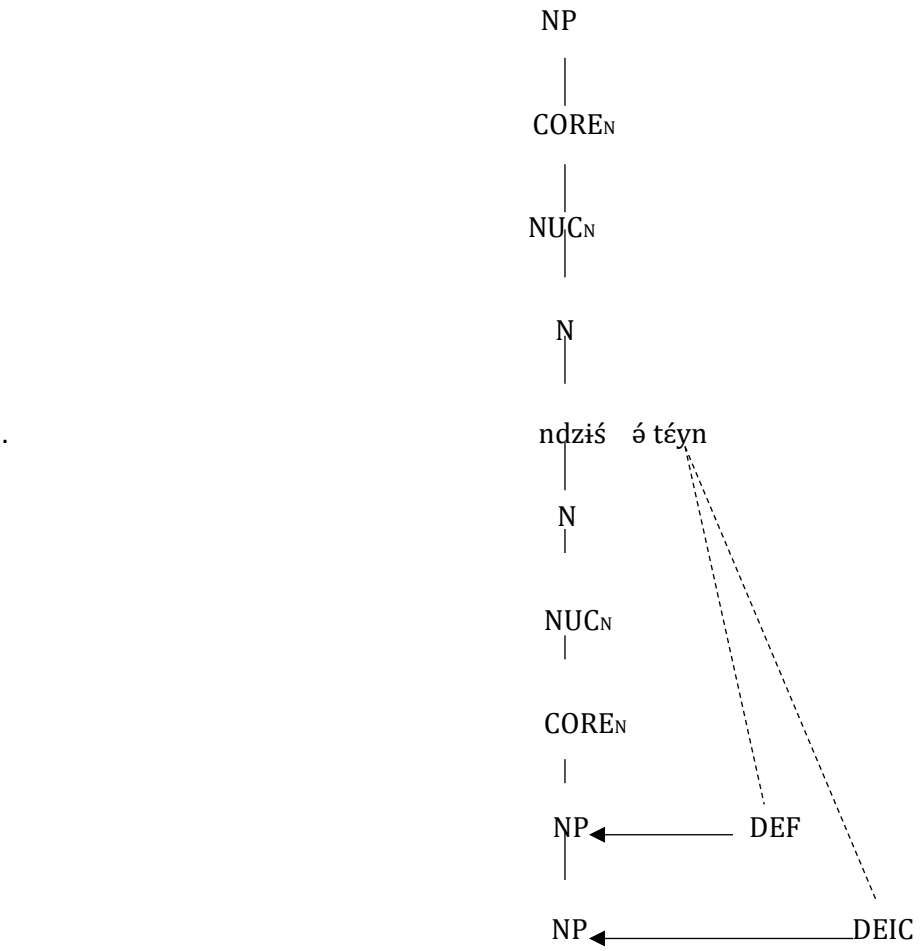


Figure 9. 25 Definiteness/Deixis in Mmen

Aghem

Aghem utilises three forms of demonstrative pronoun to demonstrate near speaker: -ɨ'n 'this/these', near hearer: -ì 'that/those', far from speaker and hearer: AM –ì (Hyman, 1979:31). Concord agreement is found depending on the noun class of the nominal referred to.

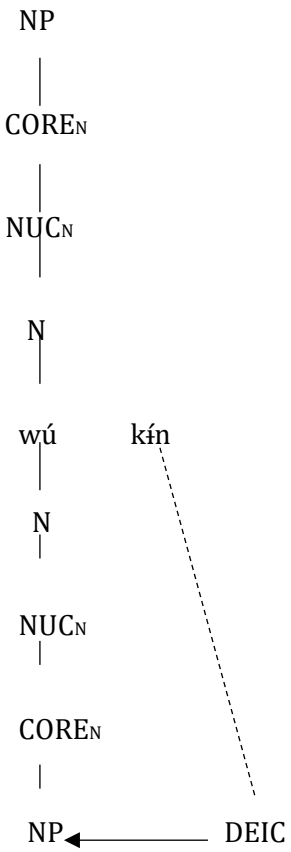


Figure 9. 26 Deixis in Aghem

(24) Aghem (Hyman, 1979:31).

wú kɨ́n

foot.C7 C7this (near speaker)

'this foot'

9.6.2 Core Level Operators – Quantity and Negation

Operators which answer the questions 'how much?', 'how many?', and 'any or none?' have scope over the core of the NP. We will examine these operators in Ring under the headings of number, quantity, and negation.

9.6.2.1 Number in Ring

This category refers to distinctions regarding number, quantity, or in some cases dual (Pavey, 2010: 191). The Ring languages in question divide nouns into singular and plural on the basis of noun class membership and are marked with the appropriate affix and concord elements. Those classes lacking an affix may be identified by concord elements alone or by tone (Schaub, 1985:172). As we have seen, corresponding singular and plural noun classes are grouped together in pairs called 'genders'.

Bamunka

The following is an example of gender pairing by number in Bamunka (Ingle, 2013:21), with 19 and 6a being a notably smaller group.

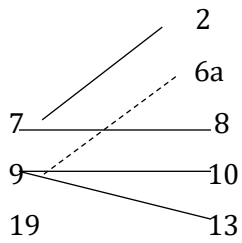


Figure 9. 27 Gender pairing in Bamunka (Ingle, 2013:21)

In table 9.5 we see the affixation and concord elements of gender pairing 7/8 (Ingle, 2013:19).

Table 9. 5 Concord elements of gender pairing in Bamunka

Bantu#	Affix	Concord Consonant	Concord Tone	Example	Gloss
7	-kə́	k	H	tyʉ́-kə́	tree
8	-bə́	b	H	tyʉ́-bə́	trees

As both Babungo, Isu, Kom and Mmen function in the same fashion as regards number, one illustration from Bamunka within the RRG framework should suffice.

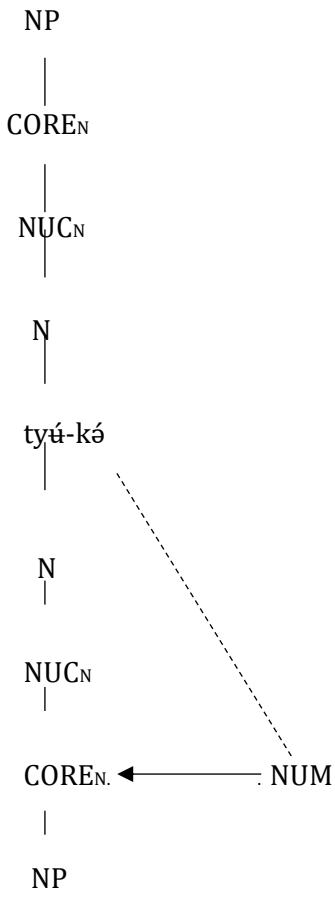


Figure 9. 28 Number in Bamunka – Singular

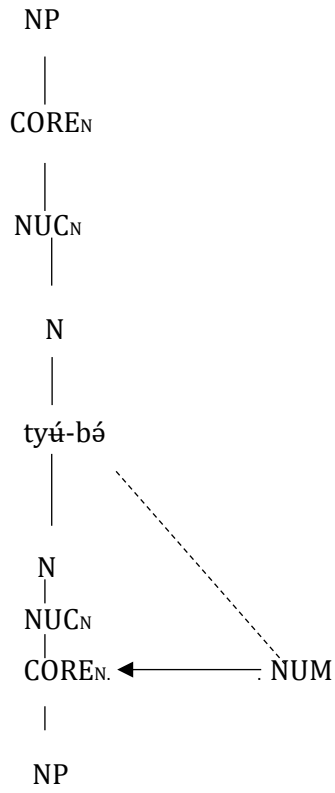


Figure 9. 29 Number in Bamunka – Plural

9.6.2.2 Quantification in Ring – Numerals and Quantifiers

Both numerals (one, two, three etc.) and quantifiers (many, some, all etc.) fall under the core operators heading of quantification.

9.6.2.2.1 Numerals in Ring

Bamunka

Numerals from one to ten in Bamunka follow the noun and show no agreement with the class of the head noun. Three, however (numbers 'two', 'three', and 'five'), do take a prefix depending on the animacy/inanimacy of the head noun, the prefixes ì- or bə̀- respectively (Ingle, 2013:50, 51).

Inanimate noun: njaahə ibuu

(25) Bamunka (Ingle, 2013: 50)

njaá-ʰhə́	ì-buŭ
house-C10	INANM-two
'two houses'	

Animate noun: bəke bəbuu

(26) Bamunka (Ingle, 2013:51)

bə́- ʰké	bə̀-buŭ
C2-female	ANM-two
'two women'	

The question of whether the Bamunka numeral can be regarded as a simple constituent of the NP, or in Rijkhoff's (2002) terms a complex or 'embedded' constituent which belongs on the periphery rather than as an element of the integral NP, arises in numerals above ten. Numbers above ten are formed using the word *njuɔ̀* "digit", likely a gender 9/10 noun. *Njuɔ̀* is followed by a number between one and nine (with no agreement marking) and then by the conjunction *nə̀* "and" followed by word *wûŋ* "ten" (Ingle, 2013:52). This has all the marking of a complex NP.

(27) Bamunka (Ingle, 2013:52)

njuɔ̀	buŭ	nə̀	wûŋ
digit	two	and	ten
'twelve'			

While the elements ‘nə wûŋ’ are not always used in actual speech as seen in example (28), the structure itself appears complex in nature. Decades are formed using the word wûŋ “ten” plus a numeral from one to nine as in example (29).

(28) Bamunka (Ingle, 2013:53)

njuɔ	buŭ
digit	two
‘twelve’	

(29) Bamunka (Ingle, 2013:52)

wûŋ	buŭ
ten	two
‘twenty’	

Numbers above each decade are formed in the same complex manner mentioned above with the conjunction nə “and” plus the decade wûŋ +numeral. However, in these cases wûŋ plus the numeral are obligatory. Numbers above a hundred are formed with either ghy~~uu~~ (for “one hundred”) or gh~~uu~~ˊ ˈtə́ + numeral (for multiples of hundreds followed by the conjunction nə “and” followed by any numeral. The word for a thousand is the gender 9/10 noun ŋkɔ̀ŋ (plural ŋkɔ̀ŋ -hə́ʃ . A numeral classifier *mbyuu* is needed to express “one thousand” (Ingle, 2013:53-55). For further details on numbers above one thousand see Ingle (2013: 55-57).

Van Valin and La Polla (1997:492) have pointed out that nexus-juncture relations found in the clause may also be identified in a similar fashion in the LSNP. They posit that the simplest example of NP level linkage is found in conjoined NPs such as ‘the woman and the man’. Those sharing a determiner but independent of other operators are deemed nuclear cosubordination and those that take the full range of independent operators are deemed nuclear coordination. While a numeral will not take all NP operators, evidence from older speakers suggest that in the recent past complex numerals took independent agreement marking. In place of an inanimate agreement prefix, in example (23) the numeral has a prefix agreeing with the noun class of the preceding noun ghy~~uu~~ˊ ˈtə́ “hundreds” in its B-form with numerals “one”, “two”, “three” and “five”. With other numerals, all speakers use the A-form of ghy~~uu~~ˊ ˈtə́ “hundreds”, with no agreement on the numeral (Ingle, 2013:56).

(30) Bamunka (Ingle, 2013:56)

mbyuŭ	ŋkɔ́ŋ	nə̀	tə̀-ghy~~uú~~	tə̀-taâ
unit.C9	thousand.C9	and	C13-hundred	C13-five

'one thousand five hundred' (Ingle, 2013:56)

In the following section, we will argue to the potential of noun class affixes to be categorised as nuclear operators and thus we provisionally see complex numerals in Bamunka, at least in the recent historical sense among older speakers, as an example of a complex NP showing nuclear coordination with an independent operator.

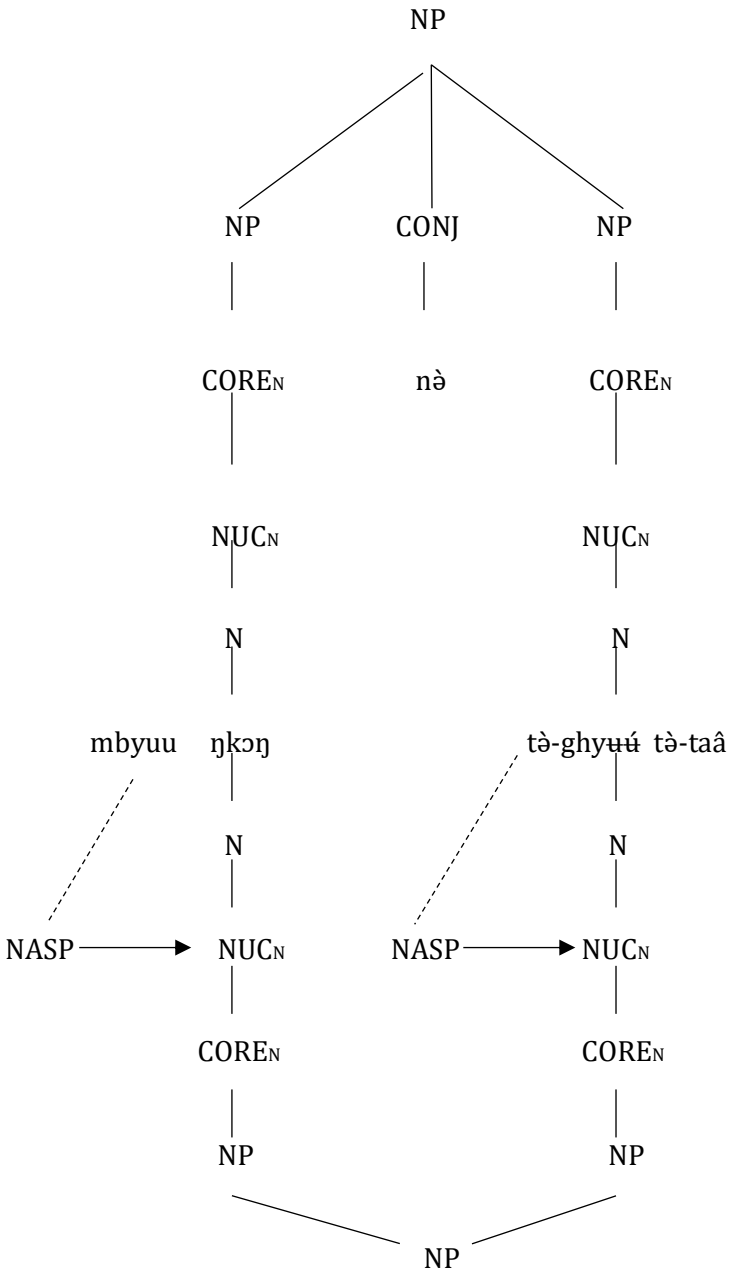


Figure 9. 30 Complex numeral in Bamunka

Among younger speakers this has become simplified with the majority using the A-form of ghy~~uu~~ˊ ʰtə́ "hundred" and an inanimate prefix, a more general nominal classifier, on the numeral.

(31) Bamunka (Ingle, 2013:56)

mbyuŭ	ŋkɔ́ŋ	nə	tə̀-ghy~~uu~~ú- ʰtə́	tə̀-taâ
unit.C9	thousand.C9	and	hundred-C13	INANM-five

'one thousand five hundred'

Numerals classifiers in Bamunka

Then there is also the question on numeral classifiers and how they should be accounted for in the LSNP. Speaking on a related Grassfields language, Bafanji, Hamm (2013:6,7) defines a numeral classifier as "...a kind of noun which follows a numeral and is found on an associative NP". While not obligatory with countable nouns in Bamunka, Ingle (2013:58) does note that they are commonly used with count nouns. Based on their syntax they should be treated as an associative NP in the RRG constituent representation. This is further evidence for the nominal as an embedded complex constituent as per Rijkhoff (2002). However, based on their function as a numeral classifier, the N1 acts as a nominal aspect marker, that is a nuclear operator. Based on Kiessling (2018) and Dimmendaal's (2011) theories of numeral classifiers emerging in Ring and related languages, this may have its roots in semantic notions such as shape and individuation. Speaking on nominal aspect as a nuclear operator in RRG, Van Valin (2005:24) asserts that, "nominal aspect concerns whether the referent is an individual, parts of an individual, a set of individuals, or a kind". Thus, the classifier here appears to be carrying out a unitising function. This poses a problem for the RRG representation as we appear to be dealing with an intermediary construction undergoing grammaticalisation as we saw in chapter 8. That is, a construction that retains the syntax and agreement of an associative NP with N1 as the syntactic head, while simultaneously the N1 functions in the role of classification. Two alternatives are possible. In its current stage of grammaticalisation Figure 9.31 appears to be the accurate interpretation in which the head noun syntactically also functions as a nuclear operator. However, in view of its intermediary process, Figure 9.32 illustrates the destination towards which this construction seems to be headed. Furthermore, since an RRG analysis is concerned with functions over word class the latter representation is a plausible option.

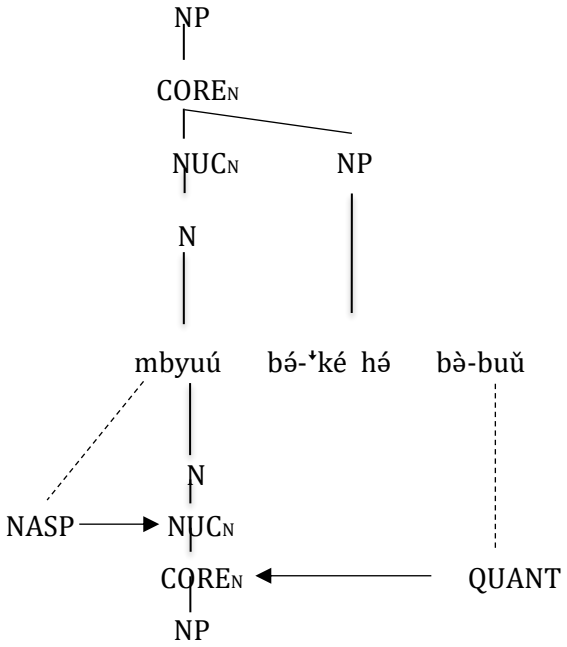


Figure 9. 31 Numeral classifier constructions as Associative NP

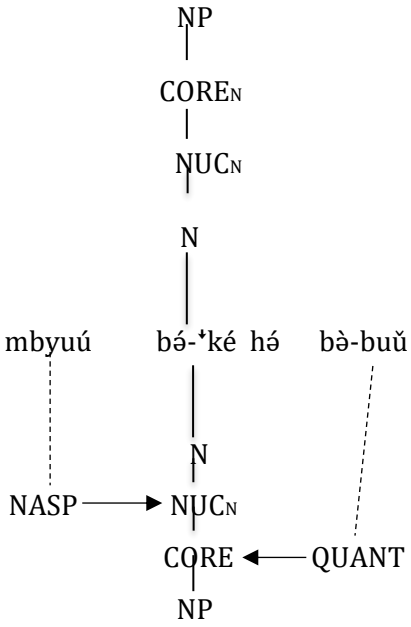


Figure 9. 32 Fully grammaticalised numeral classifier construction

(32) Bamunka (Ingle, 2013:59)

mbyuú	bə́-ʰké	hə́	bə̀-buŭ
unit.C10	C2-female	C10.AM	ANM-two

'two women' (Ingle, 2013: 59)

Kom

Fonyuy Moye (2003:49) also points to an associative type construction for numericals in Babanki, "a noun phrase with a numerical adjective has the structure

noun 1 of noun 2 composition with a number occupying the place of noun 2." She points to the following resulting structure: [Noun + Associative Marker + Number].

(33) Kom (Fonyuy Moye (2003: 50)

ɨ saŋɨ ɨ mò

C8 N AM num

'one corn'

Babungo

As has been noted by Rijkhoff (2002:171, 325) and Schaub (1985:187), numerals in Babungo, specifically above ten, are also a form of embedded (complex) NP rather than a fully integrated constituent of the simple NP. Words like 'digit(s)' *njɔ̀(sā)* and 'thousand(s)' *nkáŋ(sā)* may be categorised as nouns due to membership of a particular noun class (gender), in these cases (9/10) and (3/4) respectively. Here, numerals agree with the 'noun number' and not the head noun.

(34) Babungo (Schaub, 1985: 187)

vəŋgá njsɔ̀ə (sə) bɔ̀ɔ

antelopes digits C10.two

'twelve antelopes'

As is the case with Bamunka, words like 'njɔ̀(sə̀)' (digit(s)) are often dropped in speech but evidence from older speakers points to this as a complex construction rather than a direct modifier of the simple NP. This has implications for Rijkhoff's word order predictions in the NP which will be discussed in the conclusion.

Mmen

We also see evidence of numerals as embedded NPs rather than simple constituents of the integral NP in Mmen in numbers above ten. Again, the numerals are noun like in nature and take a connecting element. The number 'ten' e-ghɨm̀ is used as a base for numbers 11 to 19 with the connecting element jù. The numeral stems then take the plural marker *sé* from class 10. Like Bamunka, the word is not always used in conversation but is an essential element of careful speech.

(35) Mmen (Möller, 2012:24)

(ēghɨ́m)	jù	sé	tə̂yn
ten	CONJ	PL	five

'fifteen'

Aghem

Numerals one to five in Aghem demonstrate noun class agreement, while numerals six to ten take a numeral concord marker.

(36) Aghem (Hyman, 1979:34)

kɨ́wú	kɨ̀-mə̀ʔ
C7foot	C7one

'one foot'

We see evidence for numerals as complex rather than simplex elements in the formation of decades. Here, the form ŋ́-'ghɨ́m ('ten') is added to the numbers 3 to 9 forming what is directly translated as 'tens of three, four etc.' (Hyman, 1979:35). This points to a structure similar to that of the associative construction pointing to a complex, genitive type structure.

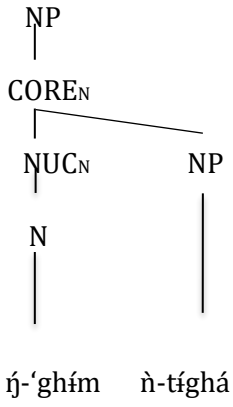


Figure 9. 33 Numeral as associative construction in Aghem

(37) Aghem (Hyman, 1979:35)

ŋ́-'ghɨ́m	ǹ-tɨ́ghá
ten	AM-three

'thirty' ('tens of three')

The form of the numeral *wó'ó wû* 'twenty' is irregular and also points to a complex form of numeral in that it is itself a noun with the literal meaning of 'body of a

person' (10 fingers + 10 toes) (Hyman, 1979:35). Numbers between the decades are created using the form *àghè* which Hyman (1979:35) suggests may originate from the terms '*à*' 'with' and '*ghè*' 'them'. Thus, when used in conjunction with a noun we would again be looking at a type of compound or complex nominal construction.

(38) Aghem (Hyman, 1979: 35)

é-ghɨ́m	àghè	zě	mə̀ʔ
ten	with them	C5/10Concord	one
'eleven'			

Babanki

Numerals in Babanki appear to be related to nouns with most having singular and plural forms marked by prefixes and concord markers pointing to a nominal basis. Numerals 'one' to 'five' agree with the noun they modify while 'six' to 'nine' take invariant prefixes (Akumbu & Chibaka, 2012:104). As with languages such as Bamunka and Aghem we see evidence of embedded numerals in Babanki as per Rijkhoff (2002) in numerals above 'ten'. 'Eleven' to 'nineteen' are formed using the noun 'ndjù' with the numeral 'one' and ''ndjùsə' with numerals 'two' to 'nine'. 'A wum' *of ten* can be added after the numbers 'one' to 'nine' in forming numerals 'eleven' to 'nineteen' but is obligatory for numerals 'twenty' to 'ninety' (Akumbu & Chibaka, 2012:104, 105) While Akumbu and Chibaka assert that the meaning of 'ndjù' is unknown, it is strongly reminiscent of Babungo's *njə̀(sə̄)* 'digit(s)' also from gender 9/10 and used with numerals one to eleven. And in Bamunka, where numbers above ten are formed using the word *njuə̀* "digit", most likely a gender 9/10 noun. Furthermore, the use of 'a wum' in Babanki is reminiscent of the structure *nə̀* "and" followed by word *wûŋ* "ten" that is optionally used in Bamunka, as we saw in example 27, though in Babanki it appears to be used in a genitive sense. (Ingle, 2010:52).

(39) Babanki (Akumbu and Chibaka, 2012:105)

ǹdjùsə̀	bò	(a wum)
digit	two	(of ten)
'twelve'		

Akumbu and Chibaka (2012: 106, 107) point out that numbers 'twenty' to 'ninety-nine' take class 6a agreement suggesting that these are construed by speakers as

plural while ‘eleven’ to ‘nineteen’ are seen as singular. Above ‘ninety-nine’ the noun (tə) *aghɨ* ‘rope(s)’ (class 5/13) is used with the use of a conjunction in intermediary numbers further strengthening the notion of a complex numeral.

9.6.2.2.2 Quantifiers in Ring

Quantifiers in the Ring languages in question follow the head noun. Some reference was made to the structure of quantifiers in chapter 6.

Bamunka

Three quantifiers have been identified in Bamunka that precede the noun. Quantifiers that precede the noun require that the noun occur in its b-form.

vaădyŭ’ “small quantity” “

njŏŋ -njɔ̂ŋ “most” (derived from the verb yôŋ “be much”)

nchĕŋ -nchêŋ “all” (derived from the root of the verb chèŋ -tə̀ “gather”) (Ingle, 2013:49).

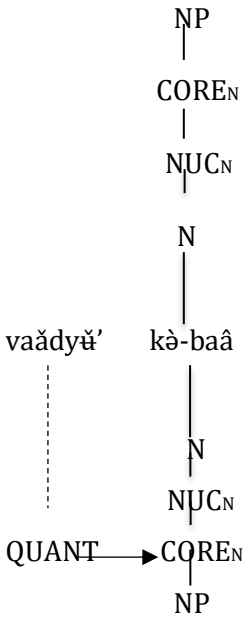


Figure 9. 34 The quantifier in Bamunka

(40) Bamunka (Ingle, 2013: 49)

vaădyŭ’	kə̀-baâ
small.quantity	C7-fufu
‘a little fufu’	

Alternatively, ì-nchàŋ or bà- nchâŋ occur after the noun without a clear difference in meaning. Quantifiers that precede the noun require that the noun occur in its b-form (Ingle, 2013:49).

(41) Bamunka (Ingle, 2013: 49)

bʉ̀ə̂	bà-nchàŋ	nɔ́	bɛ̌	ntô’
C2.person	ANM-all	PRT	be	palace

‘All the people were at the palace’

Babungo

In Babungo, quantifiers such as ‘some’ and ‘many’ follow the head noun and agree with it in noun class (Schaub, 1985:241).

(42) Babungo (Schaub, 1985: 241)

mə̀	yə̀	vəŋgá	vəmɔ́
I	see-pf	antelopes	some

‘I have seen some antelopes’

Mmen

The stem *–ḱím* ‘all’ in Mmen agrees with the head noun through concord prefixes. Quantifiers such as ‘few’ and ‘many’ are expressed through verbs *se tsɨ̀* and *se tátè* also immediately after the head noun but take different agreements as they are part of the verb phrase (Möller, 2012: 24, 25).

Aghem

Quantifiers in Aghem take the same numeral concord markers as numerals and also follow the head noun (Hyman, 1979:35).

8.6.2.3 Negation in Ring

In marking the absence or lack of a referent, nominal negation is really a type of quantifier marking a quantity of zero (Pavey, 2010:194). The findings in Ring are largely in line with that of Watters (2003:250, 252) work on Grassfields Bantu which points to the negation of a verbal word or verbal phrase via the use of negative morphemes. Consituent negation may be achieved in GB through cleft-like contructions or the use of regular negation methods in combination with focus morphemes or constructions. Have made reference to negation in Aghem, Miestamo (2014:79) asserts that, “a connection between focus and negation is found in many

languages of Africa, resulting in different structural symmertires between affirmation and negation".

Bamunka

There is no current evidence of nominal negation in Bamunka. However, in line with Watters (2003) comments on clausal negation in broader GB, Ingle (2013:43) does provide an illustration of negation at the clausal level by means of the negative morpheme 'fe'.

Babungo

The negation of individual constituents is not possible in Babungo. The whole sentence or clause must be negated. Rather than 'I saw nobody', one must say, 'I didn't see a person' (Schaub, 1985:92). The clause final particle 'mē' and negative particle 'kèe' in the verb phrase. It is possible to put negative focus on one constituent using the focus particle 'tǔu' meaning 'even'.

(43) Babungo (Schaub, 1985:92)

Tǔu	wə̀	kèe	yìjwí	mē
Even	person	neg	come-pf	neg

'Even a person did not come. (Nobody came)'

Mmen

Negation also occurs at the clausal level in Mmen by means of a number of negative morphemes which are used depending on tense, aspect and mood. Examples include the use of 'và' following the verb in the imperfect aspect and 'tà'á' for optative setences using 'kà'á' meaning *can* which becomes *cannot* with the negative morpheme (Möller, 2012: 43,44).

Aghem

Negation occurs at clausal rather than noun phrase level in Aghem by means of negative morphemes which are used based on perfective or imperfective nature of the clause (Anderson, 1979:118).

Babanki

The closest example found to Pavey's (2010) reference to nominal negation as a quantifier marking a value of zero is found in Babanki. In this case, 'no' placed before a head noun can evoke meanings of "none/no one/nobody/anyone" (Akumbu &

Chibaka, 2012:110). As with the other languages mentioned, negation occurs as the clausal level apart from this (Akumbu & Chibaka, 2012:158,159).

9.6.3 Nuclear$_N$-level operators: quality in Ring

Operators modifying at the nuclear level relate to the quality of the referent often referred to as nominal aspect. We saw that there has been some debate around the nature of the adjective in this sense and it has been allocated to a peripheral location in the constituent projection. A significant modifier in the operator projection is that of noun classification. This can include classifiers pointing to the nature and shape of the referent such as 'stick-like' and 'round' (Pavey, 2010:194). These notions of nominal classification and shape bring to mind Rijkhoff's (2002) idea of seinsart (nominal aspect) as it relates to + or – shape languages. In further support of the connections between shape, individuation and nominal classification as have been explored in chapters 6-8, Van Valin (2005:24) points out that the RRG operator of nominal aspect "nominal aspect concerns whether the referent is an individual, parts of an individual, a set of individuals, or a kind". It was argued in chapter 7 that, historically at least, the noun class affixes in the Bantu languages functioned in certain classes as denoting a type of shape or boundedness which could not be determined from the root alone. Based on these observations we can provisionally place the noun class affix in the Ring languages in the operator slot of nominal aspect in that the root alone appears to be 'unbounded' with regard to shape/quality and, as pointed out by Dimmendaal's (2011:137, 138) research on nominal and numeral classifiers appear to reflect a deeply rooted cognitive basis (manifested in the mass/count continuum) in which shape and form play a central role.

(44) Bamunka (Ingle, 2013: 50)

njaá-ˈhə́	ì-buŭ
house-C10	INANM-two
'two houses'	

Bamunka

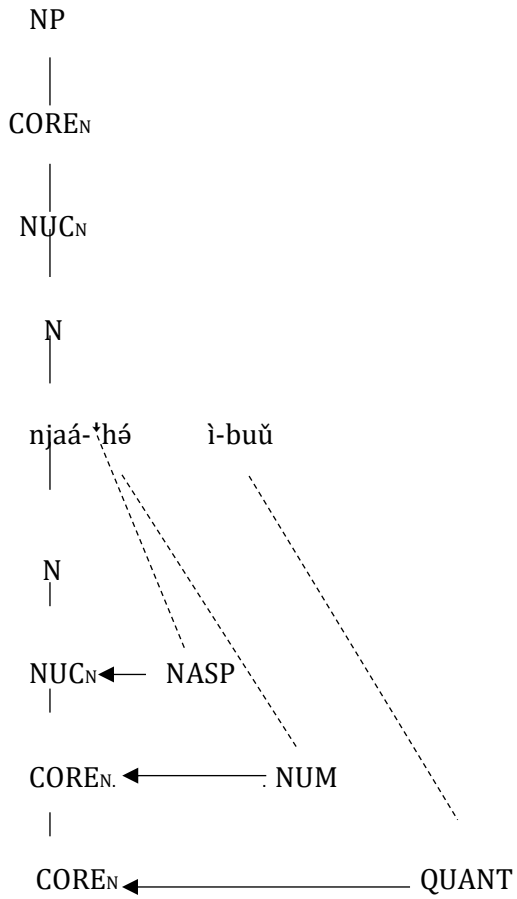


Figure 9. 35 Noun class marker as NASP operator in Bamunka

Furthermore, based on data from Dimmendaal (2011) and Kiessling (2018) along with supporting data from languages such as Bamunka and Babanki in chapter 8, numeral classifiers in Ring and related languages appear to be taking on individuating function providing countability and boundedness where noun classes has been lost or are in decline. Languages such as those in Ring are at an intermediary stage and thus have not been fully grammaticalised. That is, they retain some of the features of their sources such as associative marking or in the case of potential augmentative and diminutive classifiers, *child(ren)*: vaă -singular, vaá (plural) and *mother(s*): ŋkwé - singular, in Bamunka, both the original and newly acquired semantics are clear, i.e., they have not fully undergone semantic bleaching.

For the purpose of accuracy at the intermediary stage an RRG analysis will be used here that points to both the syntactic and nominal classification aspects of a given numeral classifier as was suggested in Figure 9.30.

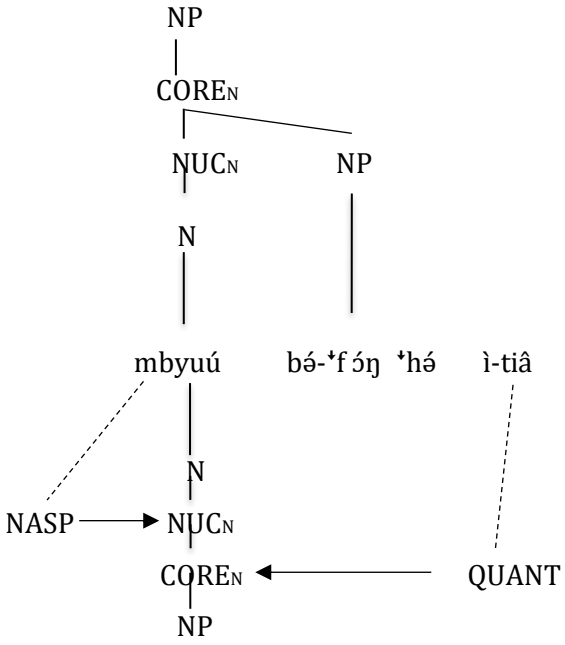


Figure 9. 36 Nominal aspect marking in Bamunka

(45) Bamunka (Ingle, 2013: 59)

mbyuú	bə́-ˈfɔ́ŋ	ˈhə́	ì-tiâ
unit.C10	C8-chair	C10.AM	INANM-three

'three chairs' (Ingle, 2013: 59)

Babanki

A similar construction can be demonstrated in Babanki though the data does not provide a numeral classifier used with a cardinal number.

(46) Babanki (Akumbu and Chibaka, 2012: 108, 109)

ə̀.shɨ́	ə́	ə̀.kwɛ́n
C5.eye	C5.AM	C5.bean

'a single bean'

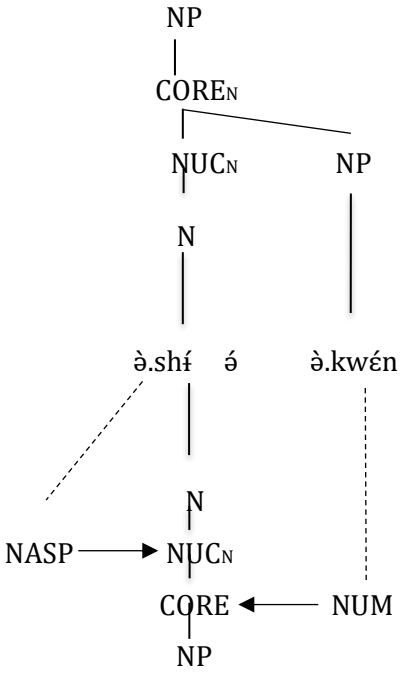


Figure 9. 37 Nominal aspect marking in Bamunka

9.7 The LSNP in Ring and Rijkhoff's Principle of Scope

Based on the analyses above, a full RRG representation of the LSNP in the Ring languages is exemplified using Bamunka below. With regards to the numeral, it was concluded that at least in numbers above 10 we are dealing with complex noun-numerals. To recap, Ingle (2013:52) points out that numerals above ten are formed using the word *njuɔ̀* "digit", likely a gender 9/10 noun. The word *njuɔ̀* is then followed by a number between one and nine (with no agreement marking), then by the conjunction *nə̀* "and" and then by the word *wûŋ* "ten". The elements *nə̀ wûŋ* are optional for the numerals "11" to "19" and thus, while not included in the source data example, will be placed in brackets for illustrative purposes. Due to a lack of data based on the understudied nature of the Ring languages, a number of additional examples will highlight elements of interest in Ring such as the place of noun class markers and numeral classifiers in the operator projection.

Bamunka

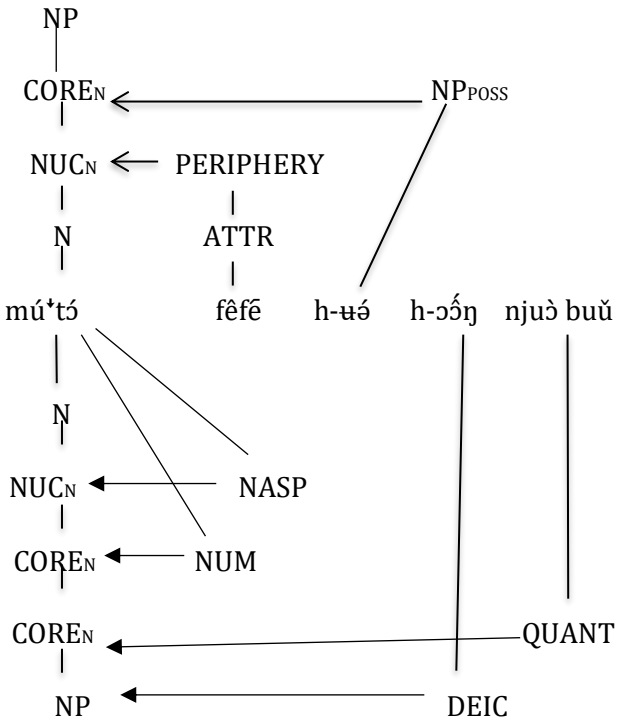


Figure 9. 38 The LSNP in Bamunka

(47) Bamunka (Ingle, 2013: 53)

NOUN	ATTR	POSS	DEM	QUANT
mú'tó	fêfē	h-ʉ́	h-ɔ́ŋ	njuɔ̀ buŭ
farm.C10	new	C10-3PL.POSStheir	C10-PROX	digit two

'these their twelve new farms'

As the Figure 9.38 does not have an explicit noun class marker indication number and possible NASP, at least diachronically speaking, Figure 9.39 is shown again for convenience.

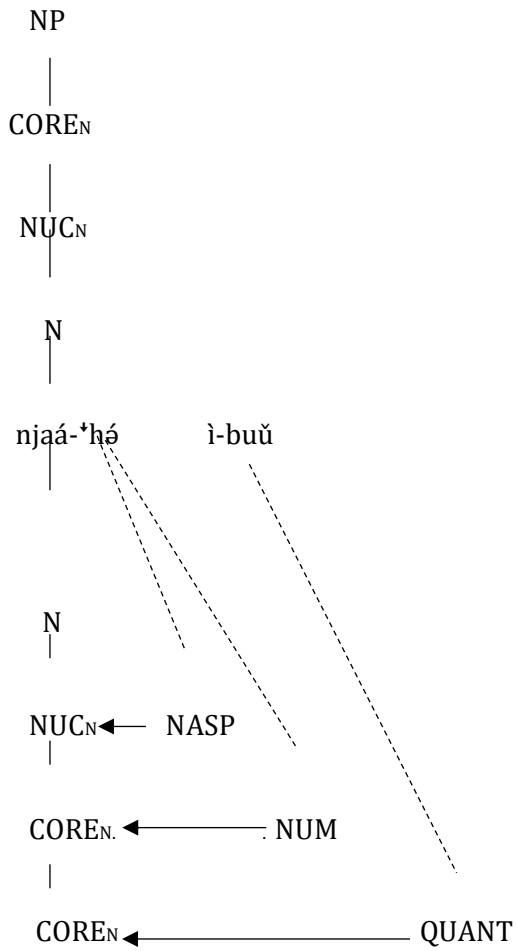


Figure 9. 39 Noun class marker as NASP operator in Bamunka

(48) Bamunka (Ingle, 2013: 50)

njaá-ʰhə́ ì-buŭ

house-C10 INANM-two

'two houses'

Since the RRG analysis has a functional emphasis the word class of a given element is less of a concern. Thus, the numeral, though a complex element that could take a layered structure in itself as we saw in section 9.6.2.2.1 can be limited to the operator projection. However, as regards numerals used with numeral classifiers in Bamunka at least, there is a possible argument to be made for placing the numeral classifier constituent in the NPFP position. Pavey (2010: 197) points out that "operator elements that act alone as referring expressions need to be shown in the constituent representation as arguments". In Bamunka the numeral classifier mbyuŭ/mbyuú-hə́ can occur alone as referring expressions.

(49) Bamunka (Ingle, 2013: 59)

mɔ̀	kɯ́ɯ́	nyɔ́	mbyuú-hə́	wûŋ
1SG	want	buy	unit.C10	ten

'I want to buy ten'

Thus, the following NP and numeral could be represented as follows by virtue of the ability of the classifier and numeral to occur independently.

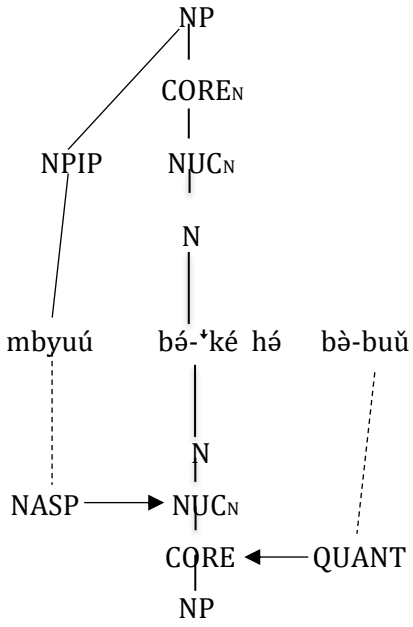


Figure 9. 40 Numeral classifier as NASP operator in Bamunka

(50) Bamunka (Ingle, 2013: 59)

mbyuú	bə́- ˈké	hə́	bə̀-buŭ
unit.C10	C2-female	C10.AM	ANM-two

'two women' (Ingle, 2013: 59)

In line with Rijkhoff's (2002) proposed iconic ordering of constituents in the NP, Pavey (2010:195) point out that "we expect NP level operators to be further from the head noun than core level operators". This is not the case with NP level deictic operator and core level quantifier operator in Ring. As has been explored this appears to be connected to the fact that numerals in Ring tend to be complex noun-numerals in themselves which are embedded in the NP. From a typological perspective this is interesting in that it lends support to Aikhenvald's (2003: 99) assertion that the presence of numeral classifiers in a language presupposes that numerals are a special word class. She points out that in Bantu languages numerals

are a subclass of nouns and take noun class markers which would fall in line with the findings of this chapter. However, she suggests that these languages do not have numeral classifiers which is not the case for all of the Ring languages researched here. Further to this, the ordering of constituents does not fall in line with the predictions of Rijkhoff's (2002) hypothesis which suggests that Noun Phrase (NP) internal ordering patterns iconically reflect the underlying (semantic) structure of the NP. We do not see evidence of any of the 8 predicted iconic patterns in this regard, but similarly to Hawkin's (1983) finding in Aghem, also a Bantu language, we see a [N A dem num] order of modifiers. This begs the question as to whether Rijkhoff's (2002) cautioning against semantically based definitions of adjectives, such as offered by Dryer (1992), is warranted. He notes that, because formal categories are generally too language specific, typologists have often applied semantic criteria to identify the varying types of constituents in his cross-linguistic investigation of ordering patterns. Thus, his semantic category of adjective largely covers all the forms and constructions that translate as an adjective in English, even if a language does not have a dedicated class of adjectives. Some, for instance, use relative clauses or stative verbs to express adjectival notions (Rijkhoff, 2002: 134-136). It is possible that, while certain formal categories were too narrow, semantically based categories may be too wide as evidence in deviations from predictable typological patterns. It may prove that what has been regarded as an adjective in Bamunka may be better defined in alternative terms such as those relating to verbs or associative noun phrase terms.

Mmen

Möller (2012: 28) has noted that the noun phrase in Mmen is head initial and that a specific order may be identified when several modifers follow the noun. The attribute and possessive are mutually exclusive as both can be positioned immediately after the head noun. See the following examples:

(51) Mmen (Möller, 2012: 28)

NOUN	ATTR	POSS	DEM	QUANT
líŋà	tɛ́-té	t- ɨ́m	t-ɨ́nə̀	té-kyà
bamboo	small-C13	C13-my	C13-DEM	C13-NUM

'these my four strong bamboos'

(52) Mmen (Möller, 2012: 28)

NOUN	POSS	ATTR	DEM	QUANT
líŋà	t- ɨ́m-té	tɛ́	t- ɨ́nə̀	té-kɨ́m
bamboo	C13-my-C13	small	C13-DEM	C13-all

'these all my strong bamboos'

The above does not reflect Rijkhoff's (2002) ideally 'iconic' patterns as mentioned above. It does however fall in line with Hawkins (1983) amended universal that no specific predictions can be made regarding modifers which follow the noun, though the most common pattern is that of a mirror image of the order for preceding modifiers. Mmen appears to follow the same pattern as Aghem, [N A dem num] which motivated Hawkins amendment. As has been said, possible explanations for such discrepancies to the 'mirror-image' theory may be related to a misattribution of certain elements as 'adjectives' when they may be better described as verbal or noun-like, as adnominal clauses or NPs which result in a complex structure. The frequent occurrence on associative noun phrases in Grassfields Bantu may lend strength to this assertion.

Aghem

Aghem, too, demonstrates a lack of adherence to Rijkhoff's expected order as to the Principle of Scope. While multiple attributes may be used, the order remains N A Dem Num.

(53) Aghem (Hyman, 2007:10)

NOUN	ATTR	ATTR	DEM	QUANT
fú	kɨ̀-bá˧ŋá	kɨ̀-dú˧ ú	kɨ́n	kɨ̀-mɔ̀ʔ
rat	red	big	this	one

'this one big red rat'

Babungo

As was the case with the previous two Grassfields languages, Babungo follows a noun phrase constituent order of [N A Dem Num]. While this seems to represent a contradiction to expected patterns, a number of explanations are possible relating to the notion of 'adjective' and the understanding of the numeral (Schaub, 1985: 77).

9.8 Possible Explanations

At first glance the languages above are a non-iconic anomaly as to Rijkhoff's (2002) Principle of Scope, similar to those identified by Hawkins (1983), leading him to modify Greenberg's twentieth universal. It may be that these GB languages have raised some challenges to this theory, but an analysis of the data seems to suggest some other explanations.

9.8.1 The Numeral as a Complex Constituent

A brief sketch of the realisation of NP operators in the languages examined has leaned in the direction of support for the RRG model on scopal relations of modifiers which has in part been based on Rijkhoff's theory. Referring back to Rijkhoff's (2002) word order predictions on the LSNP, the presence of demonstratives intervening between adjective and number appeared to contradict the Principle of Scope which asserts that the semantic distance of grammatical and lexical modifiers (operators and satellites) relative to the head in the underlying structure are reflected iconically the realization of the linguistic expression. Two ordering features are predicted by this principle. Firstly, that constituents in the scope of a certain modifier (part of the same semantic layer) are expressed in a continuous sequence. And secondly, that operators and satellites occur immediately before or after the material they have in their scope. The following is a reviewed outline of this layered structure.

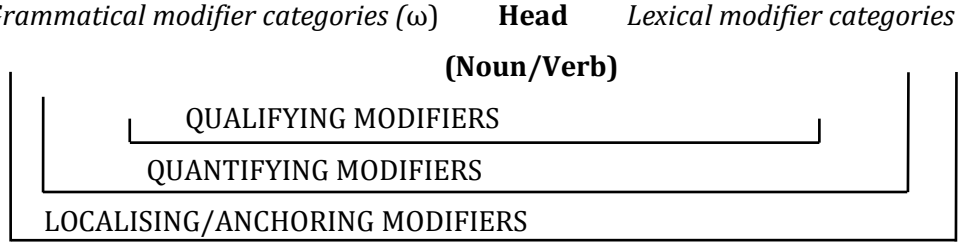


Figure 9. 41 Functional modifier categories in a layered representation of NP/clause structure reflecting differences in scope (Rijkhoff, 2008a, 2008c).

This is also denoted as: [ω2b [ω2a [ω1 N τ1] τ2a] τ2b] (Rijkhoff, 2002:311). Here we see [ω1 N τ1] constituting the quality layer which contains the qualifying operator ω1 and the qualifying satellite τ1. This is nested in the quantity layer with quantifying operator ω2 and quantifying satellite τ2. Finally, the quantity layer is in turn nested in the locations layer with localising operator ω2b and localising satellite τ2b. The simplex, integral NP is of interest in particular to this study so we

will use the following modified version proposed by Rijkhoff (2002:314): [ω2b [ω2a [ω1 N τ1].

Not all NPs are specified for all its operator and satellite positions, but the following would be the expected patterns. The above symbols with appropriate modifier categories – demonstrative (ω2b), numeral (ω2a), adjective (τ1), and free nominal aspect (ω1). Thus, we would expect that the demonstrative (ω2b) would not intervene between the numeral (ω2a) and the adjective (τ1). However, with reference to a similar situation in Babungo, Rijkhoff (2002:325) suggests that this is not a counter-example however in that numerals are expressed in the form of an embedded modifier, that is a quantifying satellite (τ2) rather than an operator (ω2a) and that their syntactic properties can be explained due to the fact that numerals are subject to conflicting ordering preferences. According to the Principle of Scope and the Principle of Head Proximity the preferred pattern is [N numτ2 dem]. However, the Principle of Domain Integrity, a competing principle, states that "Constituents prefer to remain within the boundaries of their domain; constituents of a domain prefer not to be interrupted by embedded domains." (Rijkhoff, 1990a) explains why constituents of the matrix domain, in this case [N dem] avoid being interrupted by embedded domains, such as lexical expressions of cardinality which appears to be the case here. Thus, we see the competing interactions of two ordering principles at work.

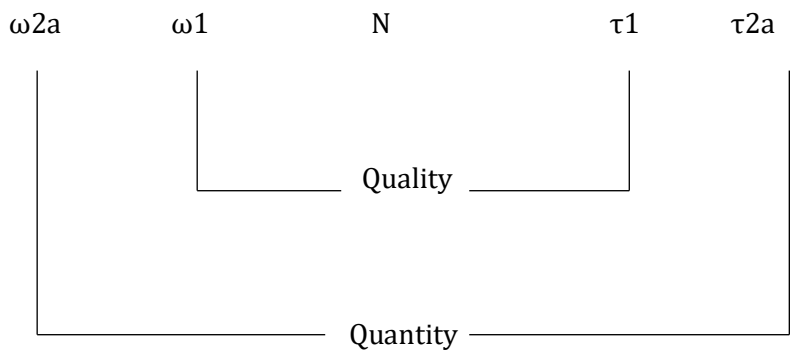


Figure 9. 42 Quality and Quantity Operators and Satellites

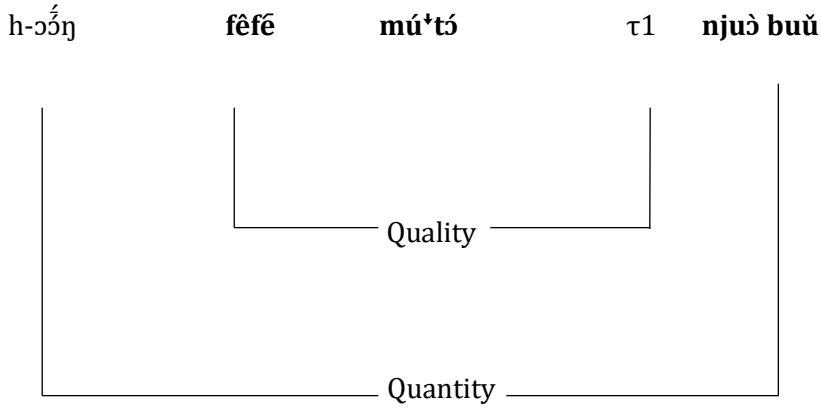


Figure 9. 43 Quality and Quantity Operators and Satellites in Bamunka

(54) Bamunka (Ingle, 2013:53)

mú'tɔ́	fêfē	h-ʉ́	h-ɔ́ɔ́ŋ	njuɔ̀	buŭ
farm.C10	new	C10-3PL.POSS	C10-PROX	digit	two

'these their twelve new farms'

Further evidence for numerals taking complex rather than simplex forms was seen in illustrations from Aghem for instance including a genitive/associative NP type form for the construction of most decades.

(55) Aghem (Hyman, 1979:35)

ŋ́-'ghɨ́'m	ǹ-tɨ́'ghá
ten	AM-three

'thirty' ('tens of three')

And in the creation of numbers between the decades using the connecting element 'àghè' which Hyman (1979:35) suggests may derive from the terms *à* 'with' and *ghé* 'them' thus, again, pointing to a complex rather than simplex element.

9.8.2 The Questionable Status of the Adjective

While position of adjective *is* iconic, based on our observations and Rijkhoff's issues with the use of appositional NPs and relative clauses as adjectives, it's worth highlighting that this may arise as an issue in future typological research. In more recent studies, Rijkhoff (2002) has noted the necessity of dropping certain languages from his study of iconic predictions regarding the word order in the integral NP due to a misattribution of word classes. As noted in chapter 4, the difficulty in using purely semantic definitions of word classes is that cross-linguistic comparability becomes a problem and elements that may in fact be complex

constituents such as relative clauses or numeral phrases are treated as simplex elements. As we saw in chapter 4 and in our overview of the LSNP in the Ring languages, adjectives in particular are often very noun or verb-like in the syntactic sense with some 'adjectives' taking the agreement marking of an associative NP. If this is the case and constituents deemed adjective in the Ring languages are in fact elements appositional, or compound noun structures, or verb-like elements then we may not be dealing with the integral (simplex) NP as per Rijkhoff's (2002) theory which may help in explaining their apparent lack of adherence to his iconic predictions. A modified version of Hengeveld's (1992a, b) approach to word classes, which takes both semantic and syntactic factors into account, was applied to the Ring languages in chapter 4. Analyses suggested these belong to a language of type 3 /4 those lacking or with a small closed set of distinctive adjectives. This may explain a lack of adherence to Rijkhoff's (2002) model.

Further evidence for questioning the categorisation of the modifying constituents studied under the term "adjective" was found in their close alignment to the structure of the associative noun phrase in Bamunka. The deletion of the constituent's suffix and use of what Ingle (2013) has labelled an associative marker lends further support to the theory that purely semantically based definitions of the term "adjective" may not always be helpful and that we are in fact dealing with some kind of appositional or associative noun. So, while the element containing the adjectival notion does occur next to the head noun as expected, it may be part of a complex construction. Such complex elements are not intended to be addressed by Rijkhoff's predictions, but rather simple elements of the integral NP, thus pointing to the potential unsuitability of these examples.

9.9 Summary

This chapter has provided a detailed description of the LSNP in a selection of the Ring languages through the lens of Role and Reference Grammar with reference to Rijkhoff's (2002) iconicity predictions under the Principle of Scope. While at first glance, the Ring languages do not appear to adhere to the expected nominal and modifiers patterns, conclusions as to the existence of the adjective as a word class within Ring provided insights into apparent discrepancies. Many constituents deemed 'adjective' in grammatical descriptions appear to be more verb or noun-like in nature. For instance, in Bamunka, 'adjectives' appear to align with the construction of an associative NP along with its noun class agreement marker thus pointing to a complex NP constituent. As Rijkhoff's (2002) theory only addresses the simplex NP, this appears to be a distinct reason for a lack of adherence rather

than a deficiency in the iconicity predictions themselves. A similar case arose in the positioning of the demonstrative between the adjective and numeral which is not expected by the Principle of Scope. However, an analysis on the numeral as a complex element, points to the necessity of the competing Principle of Domain Integrity (PDI) coming into play in which a complex element cannot interrupt the constituents of a matrix domain. Thus, in line with Rijhkoff's (2002) own recognition that the misattribution of elements due to largely semantically-based cross-linguistic categories may skew findings related to the Principle of Scope. We see this as a factor at play in Ring's apparent lack of adherence to expected constituent order findings along with the competing principle of PDI playing a significant role. Rijkhoff's (2002) theory is therefore upheld and the need for more cross-linguistically comparable typological categories is validated. However, future research may need to look at extending Rijkhoff's theory to account for the underlying semantic structure of the complex NP.

Chapter 10. The Layered Structure of the Clause – Voice and Valence

10.1 Introduction

Just as the presence of the word class adjective appears to be sensitive to the feature of [Shape] in its existence and realisation in the LSNP, Rijkhoff (2003) has also proposed that a language can only have a distinct class of nouns and verbs if it contains a group of lexemes that encode the properties associated with a prototypical event. That is to say, a transitive action involving a dynamic relationship between two obligatory parties: an agent and a patient (Rijkhoff, 2003:31). Thus, it is sensitivity to the feature of [Transitivity] that is involved in pointing towards the presence or absence of a verbal and noun class. This chapter will examine the presence of transitive lexemes in a selection of the Ring languages from a typological-functional perspective. Having examined such verbal subclasses, we will then go on to examine how a functional perspective on transitivity and verbal subclasses affects the realisation of the Layered Structure of the Clause (LSC) in terms of voice and valence changing operations.

10.2 Transitivity, Voice and Valence

All languages contain operations which adjust the relationship between the semantic roles and grammatical relations in clauses. These operations are often referred to in terms of various 'voices'. For instance, when the passive operation is applied to many transitive verbs in English, the 'patient' is placed in the subject role and 'agent' in the oblique role. These adjustments between semantic roles and grammatical relationships may be discussed in terms of valence. Valence can be viewed as a semantic notion, a syntactic notion, or a combination of both (Payne, 1997). Semantic valence relates to the semantically necessary arguments, the participants required from a given lexical entry. A predicate can be characterised as monovalent (1 participant), bivalent (2 participants), or trivalent (3 participants). Syntactic valence, also known as transitivity, on the other hand, refers to the number of these arguments which appear directly, rather than obliquely, in the resulting syntactic structure (King, 2010). For instance, a passive has the same semantic valence as its active counterpart, but a lowered syntactic valence.

(1) I broke the window (Semantic valence: 2, Syntactic valence: 2)
(2) The window was broken (Semantic valence: 2, Syntactic valence: 1)

Thus, the concept of transitivity relates to the number of direct arguments a verb has (intransitive, transitive or ditransitive).

Hopper and Thompson (1980) produced a well-known study on prototypical transitivity. They included several criterion to define grammatical transitivity relating to a clause's ability to demonstrate morphosyntactic transitive behaviour. The following outline of these criteria is found in Croft (2003:175,176). In nominative-accusative languages the following criteria point to transitive behaviour:

(3) (i) A morpheme, usually a verbal affix, that explicitly codes the transitivity of the clause.

(ii) Evidence of the direct-object status of the P argument of the verb:

(a) the P argument does not have an oblique (dative, instrumental, locative, etc.) case marker;

(b) the P argument has a special direct-object (accusative) case marker, if such exists in the language.

(c) the verb has object indexation of the P argument, if object indexation exists in the language.

While (i) may apply to languages with ergative case marking or index alignment, those in (ii) do not since these languages don't have a direct object category. However, the properties of standard ergative constructions in which the S of an intransitive verb aligns with the P of a transitive verbs, appear to be the counterpart to prototypically transitive constructions while the properties of antipassive constructions in which the P is marked as an oblique, the verb does not index the P if such marking exists, or the A is coded in the same way as the S argument of an intransitive verb (that is absolutive rather than ergative marking), appears to be the analog of intransitive constructions in accusative languages (Croft, 2003:176) Hopper and Thompson (1980:252) outlines the following cluster of prototypically transitive properties. While not all properties are necessary characteristics of transitivity, each one contributes to the transitivity of a clause.

Table 10. 1 Prototypical transitivity as per Hopper and Thompson (1980:252)

Grammatical category	Prototypical transitive feature
Participants	two or more
Kinesis	action (process)
Aspect	telic (bounded)
Punctuality	punctual
Volitionality	volitional
Affirmation	affirmative (positive polarity)
Mode	realis
Agency	highly agentive
Affectedness of object	totally affected object
Individuation of object	highly individuated

Dixon and Aikhenvald (2000:2) point to two universal clause types; the intransitive clause with an intransitive predicate and a single core argument in the S (intransitive subject function), and the transitive predicate with two core arguments marked by the A (transitive subject) and O (transitive object) functions. They further point to the ditransitive construction which are found in certain languages, and in which an additional argument has a significant status. They denote this as E (extension to the core). E arguments occurring with transitive predicates often relate to giving, showing and telling verbs, while E arguments with intransitive verbs largely relate to verbs such as seeing, hearing and wanting. This is outlined in table 10.2.

Table 10. 2 Modified version of Dixon and Aikhenvald's (2000:3) transitivity types

Predicate Type	Argument types
Intransitive	S
Transitive	A O
Ditransitive	A / S (O) E

10.3 Verb classes

The number of these 'core arguments' is determined by the choice of verb or word functioning as the predicate head. Certain verbs by virtue of their lexical

semantic underpinnings demand a particular semantic valence. A verb such as 'give', for example, is always semantically trivalent, but may be syntactically transitive or ditransitive depending on whether the beneficiary is expressed as an oblique or direct argument (Kroeger, 2005).

(4) I gave Martha a book (Semantic valence: 3, Syntactic valence: 3)
(5) I gave a book to Martha (Semantic valence: 3, Syntactic valence: 2)

Peripheral arguments or 'adjuncts' are less dependent on the nature of the verb and may be optionally included to point to place, time purpose etc., (Dixon and Aikhenvald, 2000:2). The majority of languages reveal a wide range of transitivity classes of verbs such as the following English examples as per Dixon and Aikhenvald (2000: 4, 5).

(6) a) **strictly intransitive verbs** (with S core argument): e.g. arrive, chat
b) **strictly transitive verbs** (with A and O core arguments): e.g. recognize, like
c) **ambitransitive verbs** (occurring in either a transitive or intransitive clause) of which there are two kinds.
c-1) S = **A ambitransitives**: e.g. follow, win (agentive ambitranstives)
c-2) S = **O ambitransitives**: e.g. melt, trip (patientive ambitransitives)

An alternative name for ambitransitive verbs is that of 'labile' verbs. That is, "lexemes that behave transitively and intransitively without any formal change" (Letuchiy, 2010:237) The corresponding terms for the two types that exist are A-labile verbs which can be used transitively and intransitively and are both agentive.

(7) English
(a) Mary ate food.
(b) Mary ate.

P-labile verbs on the other hand are patientive in their intransitive usage.

(8) English
(a) Jim broke the glass.
(b) The glass broke.

Letuchiy (2010:241, 242) asserts that A-labile are not necessarily lability proper in that they are still semantically transitive. This is due to the fact that the patient is semantically obligatory both in the transitive and the intransitive use. For example, in the illustration above the sentence 'Mary eats' entails that there is something that Mary eats though the details are not immediately relevant to the speaker. The majority of P-labile verbs on the other hand are semantically labile. He refers to 'canonically labile' verbs as those which have semantically different subjects in their transitive and intransitive use. Either the transitive subject is an agent, and the intransitive one is a patient, in verbs like *break,* or the subject of the intransitive use of the verb is co-referential with the object, in like *wash* which are reflexively labile. A-labile verbs do not demonstrate lability in this sense as the variation does not affect the subject, the syntactically most privileged argument of the verb (Letuchiy, 2010:242). Additional subtypes can also exist such as the following instances found in Tariana, a spilt system.

(9) a-1) **S_a verbs:** where S is marked the same way as A in a transitive clause - usually volitional verbs e.g. –emhani 'walk'

a-2) **S_o verbs:** where S is marked in the same way as O in a transitive clause - usually non-volitional verbs e.g. leka 'split' (Dixon and Aikhenvald, 2000:5).

10.4 Rijkhoff on Transitivity and Verb Classes

Just as shape is a central feature in identifying noun and adjectival classes, Rijkhoff (2003) proposes that transitivity is also an essential feature in establishing both noun and verb classes when looking at the parts-of-speech system of a language. He argues that a set of basic transitive items is a "necessary and sufficient" condition in order to establish that a language has a distinct class of verbs, and a 'necessary though not sufficient" condition in establishing a distinct class of nouns. Defining the notion of transitivity more specifically, he suggests that the basic lexicon must contain items that a) designate a dynamic relationship between an agent and a patient and b) designate a property that is specified as having a boundary in the spatial dimension (Rijkhoff, 2003:7). The latter point calls to mind notions of boundedness in previous chapters in which it has been suggested that nominals in Ring appear to be characterised by the feature [-Shape]. This has been referred to as the Seinsart feature of a nominal or nominal aspect. A counterpart of verbal Aktionsart features.

Demonstrating that there are languages which lack both features (a) and (b) altogether Rijkhoff (2003) cites Mosel and Hovdhoegen (1992:77) on Samoan, "What is given in the lexicon, is not a particular word class assignment, but the potential to be used in certain syntactic environments as a noun or as a verb". Based on a sample of 52 languages, Rijkhoff (2003) found that a basic set of transitive lexemes was missing from Hengeveld's (1992 a, b) classification of Type 1 languages such as Samoan which do not have a distinct class of verbs. Such languages do not have a set of transitive lexemes, defined as those which "designate a dynamic relationship between two obligatory participants: an agent/subject and a patient/object" (ibid:17). Unlike other languages in which transitive verbs can be derived from intransitive verbs, events in Samoan are marked by the addition of an agent along with an ergative preposition (this ergative phrase is never obligatory) or by expressing the agent as a possessor of the patient.

(10) Samoan (Mosel, 1991a: 182)

Sā	fasi	e	le	teine	le	maile
PST	hit	ERG	the	girl	the	dog

'The girl hit the dog'

Rijkhoff (2003:21) notes that it is the lack of transitivity that allows certain lexemes in languages such as Samoan, Salish, and Mundari to function flexibly as verbs or nouns. Building on this finding, Rijkhoff (2003) extends the relevance of transitivity to the word class of noun arguing that since verbs are related to temporal entities and events, the most common event being transitive, between agent and patient, this is directly linked to the presence of a noun class with a distinct set of entities that can function as agent or patient. Two important aspects of transitivity are the Aktionsart feature of kinesis denoting change, motion, or dynamicity and the presence of a patient and agent entity. Since the Seinsart feature of 'shape' is central to the presence of an adjectival system, Rijkhoff (2003) asks whether it is the Aktionsart feature of 'dynamicity', verbs that typically, though not always, involve some kind of change, is necessary for a distinct noun and verb class to exist rather than the wider term of transitivity. If this is true, then languages lacking a distinct verbal class also lack lexical items that allow for dynamic change. However, based on the studies of Type 1 languages such as Samoan and Salish, Rijkhoff suggests that such dynamic items do exist. In Samoan, for instance, some of these lexemes may be characterised as an agent or as a patient undergoing dynamic change, such as "siva"

dance and "sasa" *hit* respectively (Rijkhoff, 2003:29). Thus, it appears that while certain lexical items in Samoan, for example, take an agent and others a patient which can denote dynamicity, it is the lack of a transitive class of lexemes which require both, i.e., they have monovalent but not bivalent lexemes, which seems to indicate the absence of a distinct class of verbs. Based on Hengeveld's (1992a, b) hierarchy of word classes; verb > noun > adjective, this also points to the lack of a distinct class of nouns.

10.5 Transitivity, Verb Classes and the Ring languages

As we saw in chapter 6, there is evidence for a distinct word class solely fulfilling the role of verbal predicate in the absence of other syntactic measures being taken. Based on Rijkhoff's (2003) proposal of the central role of transitivity in the existence of the verb class, we will examine the verb classes present in a selection the Ring languages with Babungo as a case in point, and Babanki and Kom as examples that raise questions as to Rijkhoff's (2003) theory. Having examined the notions of transitivity in Ring, a renewed understanding of verbal subclasses in Babungo as to their transitivity from a functionalist perspective will be provided. We will then examine how this informs our understanding of voice and valence changing operations in a selection of the Ring languages.

10.5.1 Verb Classes in Babungo

In order to study these varying operations in the Ring languages, with particular reference to Babungo, we will examine the range of verb classes found therein.

10.5.1.1 Transitive and Intransitive Verbs in Babungo

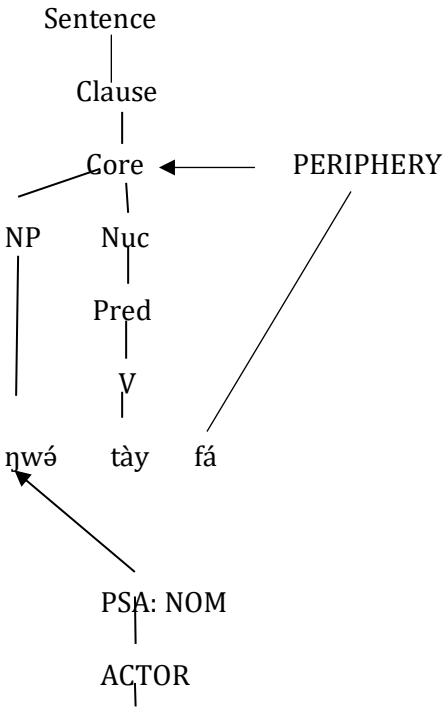
Schaub (1985:54, 55) has identified two main verb classes in Babungo; transitive and intransitive. Transitive verbs obligatorily take a direct object (DO) unless identical with the DO of the previous sentence in which case it is deleted. DOs known from the context may be optionally deleted. Intransitive verbs do not take a direct object apart from what Schaub (1985:55) calls a pseudo-objects – the word fá meaning 'thing', for emphasis. This, however, functions as an adverb rather than as an extended core argument as described by Dixon and Aikhenvald (2000). Under Rijkhoff's (2003:31) criteria of transitivity we see in example (11) the presence of lexemes that denote a 'prototypical event' denoting a dynamic relationship between two obligatory parties; those of agent and patient.

Intransitive verb in Babungo

(11) Babungo (Schaub, 1985:55)

ŋwə́	tày	fá
he	delay-pf	thing

'He delayed very much'



LS: do' (ŋwə́, [**delay'** (ŋwə́)])

Figure 10. 1 Intransitive verb in Babungo

Transitive verb in Babungo

(12) Babungo (Schaub, 1985:55)

nshú	wī	twàŋ	yìkɬŋ	yî
mother	her	roast-pf	crab	that

'Her mother roasted that crab'

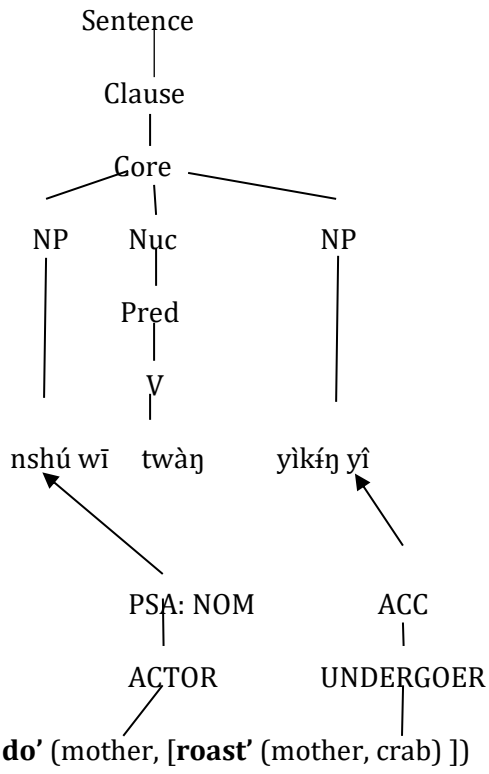


Figure 10. 2 Transitive verb in Babungo

10.5.2 Evidence from neighbouring Ring languages

A difference is to be noted is that in the languages of Babanki and Kom there are two verb classes identified; a) intransitive (those that cannot take an object) and b) transitive/intransitive (those that *may* take an object when the context requires but do not have to in every case). Thus, these languages do contain lexemes that *may* encode the properties of the prototypical event, a dynamic relationship between agent and patient, but the object is optional and not required in the transitive/intransitive verbal subclass. This is reminiscent of Dixon and Aikhenvald's (2000) ambi-transitive subclass and Letuchiy's (2010) A-labile verbs mentioned above.

Babanki

Akumbu and Chibaka (2012:142, 143) point to these two verb classes in Babanki; a) intransitive and b) transitive/intransitive. The second group is of relevance to this study. The transitive/intransitive group of lexemes do not necessitate an object but *can* denote a prototypically transitive event when required by the context, as seen below. Feedback from Akumbu (2017 personal correspondence) suggests that (13b) appears somewhat incomplete to a listener who would be likely to ask who or what the patient was. (13c), however with a

subject marker (SM) appears to hold more certainty for the listener. However, SMs are also often used in transitive clauses, and so do not appear to be exclusive to an intransitive usage.

(13) Babanki (Akumbu, 2017: personal correspondence)

(a) wìʔ tə gyàmtə tsɔ̀ŋ
C1.person P3 help C1.thief
'A person helped a thief'
do' (person, [**help'** (person, thief)])

(b) wìʔ tə gyàmtə
C1.person P3 help
'A person helped'
do' (person, [**help'** (person, ?)])

(c) wìʔ á tə̂ gyàmtə
C1.person SM P3 help
'A person helped'
do' (person, [**help'** (person)])

Akumbu (personal correspondence) did suggest that the intransitive usage with certain words at least would likely be used within an understood context or used anaphorically. Further study would be required to ascertain this. At present the transitive/intransitive class group will be retained while being cognizant of this. Similar examples are found in the centre Ring language Kom.

Kom

Three verbal subclasses have been identified in Kom; intransitive (do not permit an object), transitive/intransitive (allow an object), ditransitive (allow two objects) (Schultz, 1997:15). While certain verbs "permit" one or two objects Schultz (1997: 14) defines transitive verbs as "one that expresses an action and that action passes from the agent to the patient (object)". This is very much in line with Rijkhoff's (2003) definition. He explicitly asserts that "there are many verbs that are both transitive and intransitive, that is, the verb may take an object, but it frequently does not (the presence of the object is determined by the context). There are few verbs that are ditransitive. *There are no verbs that are transitive as defined above*" (emphasis mine).

Table 10. 3 Verbal subclasses in Kom. Modified version of Schultz (1997:15)

Intransitive	Transitive/Intransitive	Ditransitive
ndù 'go' lù 'leave' timi 'stand' gvì 'come'	ki 'look' zue 'kill' yeyn 'see' tum 'send' gàmtɨ 'help'	bè 'say' fu 'give

Again, as in Babanki, verbs used in the transitive/intransitive group may take an object, but often do not. Providing evidence contrary to the 'obligatory' occurrence of agent and patient entities with a given group of lexemes. So, while we see evidence of lexemes that *can* denote a dynamic event between agent and patient entities when required by the context we cannot say that the lexemes themselves are strictly transitive, thus, questioning the aspect of Rijkhoff's (2003) theory that requires the presence of the agent and patient to be obligatory when used with a given lexeme. A solution may be found in Dixon and Aikhenvald's (2000:4,5) ambi-transitive subclass in which predicates can function in either a transitive or intransitive clause and in Letuchiy's (2010) description of A-labile verbs. Based on current data, no formal changes appear to occur in the intransitive and transitive use of these verbal roots and while there may be 'argument omission' (Letuchiy, 2017: 258) the lexemes in and of themselves could still be characterised as semantically transitive. According to (Letuchiy, 2010:242) A-labile verbs do not demonstrate lability proper as the variation in use does not affect the subject, the syntactically most privileged argument of the verb. This is supported by Akumbu and Chibaka's (2012:142) description of the intransitive/transitive class which refers to a group of verbs which describe "an action that passes from an agent to a patient" and while they may take an object syntactically, they often do not "except when the context requires that the object should be mentioned" and by verbal lexemes in Kom. Thus, while we do not see syntactic valence, we do see semantic valence entailed in the lexeme. We see this is an RRG representation of the transitive and intransitive use of verbs in Babanki in which the PSA remains the same in both uses of the lexeme.

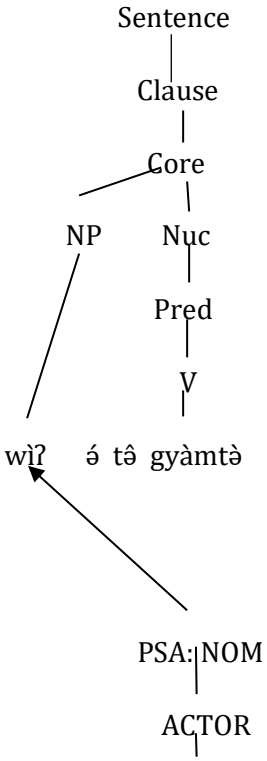
Babanki

(14a) Babanki (Akumbu, 2017: personal correspondence)

wìʔ á tə̂ gyàmtə̀

C1.person SM P3 help

'A person helped'



LS: do' (wìʔ, [**helped'** (wìʔ)])

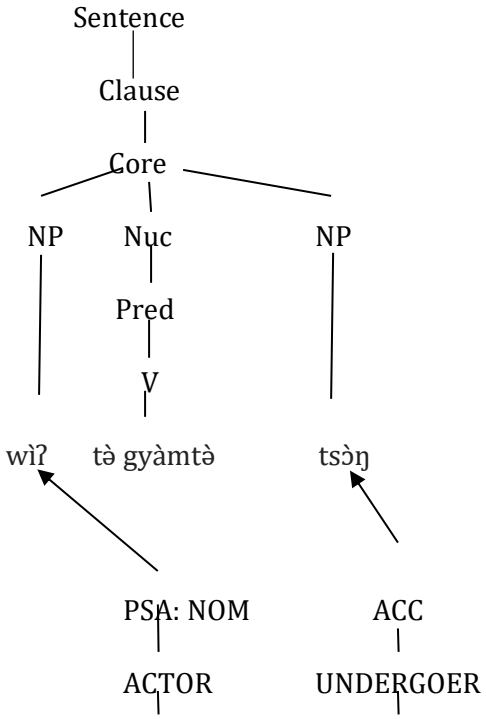
Figure 10. 3 Intransitive use of A-labile verb in Babanki

(14b) Babanki (Akumbu, 2017: personal correspondence)

wìʔ tə̀ gyàmtə̀ tsɔ̀ŋ

C1.person P3 help C1.thief

'A person helped a thief'



LS: do' (person, [**help'** (person, thief)])

Figure 10. 4 Transitive use of A-labile verb in Babanki

An explicitly transitive set of lexemes, in the sense that the arguments is required in syntactic expression, is not seen here. However, Letuchiy's (2010) definitions of A-lability assert that the patient is still entailed in the expression though not directly expressed. In the case of Babanki, the PSA remains the same in both transitive and intransitive uses, in a semantic sense. On this basis, the lexemes in Ring do appear to meet Rijhkoff's (2003) requirements of a basic set of transitive lexemes in order for a language to have verbs.

10.5.3 Re-examining Rijkhoff's (2003) feature of Transitivity

While it has been asserted that transitive/intransitive lexemes in Babanki at least, semantically require an agent and a patient, the term transitivity in much of the literature is a syntactic notion referring to the number of direct arguments that appear in a clause. Rijkhoff's (2003:99) paper refers to the obligatory presence of an agent and patient participant and should be clarified to take into account semantic transitivity in which agent patient arguments are entailed but not necessarily syntactically expressed. While he references Comrie (1993), for a definition of obligatoriness, Comrie (1993) does not provide an explicit outline of what would constitute an obligatory semantic argument. In fact, he later points to the "principles of underlying controversy" when defining semantic arguments

(Comrie, 1993:909). Should Rijkhoff (2003) hold to a strictly syntactic definition of transitivity then the Ring languages of Kom and Babanki fail to meet this test.

In light of this possibility, we will revisit the feature of dynamicity which Rijkhoff (2003) as a potentially alternative feature in determining the presence of a distinct verbal class by comparing a sample of his data from the Type 1 (languages without a distinct verbal class) language group as per Hengeveld's (1992a, b) model.

10.5.3.1 Defining Dynamicity

Rijkhoff (2003) has proposed that the lexemes in Type 1 'flexible' languages do in fact code for the feature of dynamicity and, thus, this cannot be the determining factor in the lack of a verbal class. While there are a variety of ways of defining dynamicity, Rijkhoff (2003) defines dynamic verbs as those that 'involve some kind of change'. He further points to Dik (1997:118) regarding the notion that an agentive argument can also imply dynamicity. He also refers to the following two definitions of agent and dynamic by Oxford Dictionary of Linguistics (Matthews, 1997:11,107,) in (1a) and (1b) and Dik (1997: 107, 118) in (2a) and (2b) respectively as outlined in Rijkhoff (2003:17).

1a) **agent. 1.** Noun phrase, etc. identifying an actor or actors performing some action. E.g. Mary is an agent in *Mary went out* **2.** A syntactic category which is characteristically that of agents as opposed to patients. Thus, the subject of a transitive construction in English has the role of agent (A) in opposition to an object as patient: *Mary* (A) *shut the door* (P). **3.** The elements in a passive sentence which would correspond to a subject in the active, e.g. by *Mary* in *The car was driven by Mary;* cf. active *Mary drove the car.*

1b) **dynamic.** (Verb) denoting an action, process, etc. as opposed to a state. E.g. *buy* is dynamic: *own,* which denotes the resulting state, is stative. Also of aspect: e.g. a verb meaning 'sit' might, in a dynamic form, be used of the action of sitting down.

2a) **Agent:** the entity controlling an action (= Activity or Accomplishment)

2b) A [+**dynamic**] State of Affairs) SoA) [...] necessarily involves some kind of change, some kind of internal dynamism. This dynamism may consist in a recurrent pattern of changes all through the duration of the SoA, or in a change from some initial SoA into some different final SoA. [+dynamic] SoAs may be called Events and

are illustrated in: *the clock was ticking, The substance reddened, John opened the door.*

Rijkhoff (2003: 17) notes that Dik's definition of the semantic role of Agent relates to certain 'States-of-Affairs', that is event types or Aktionsarten. The RRG framework also draws strongly on the notion of Aktionsart classes, however the definitions of agent and dynamicity appear to be more nuanced than those referenced by Rijkhoff above. For instance, on the Actor-Undergoer Hierarchy, not all actors are necessarily agents as seems to be implied by the definition in 1a. Van Valin (2005:56) notes that while agent is taken as a basic thematic relation in many frameworks that the RRG analysis takes a different approach to this role. Here an agent is "taken to be the *intentional, volitional and controlling* participant in an event" (emphasis mine) and thus not all verbs necessarily take agents. The example is provided of *murder* versus *kill* in which the former involves a perpetrator who is 'acting intentionally and volitionally and is in control of his or her own actions', the latter however, may be used with a non-intentional perpetrator or an inanimate perpetrator (ibid). Thus, both kill and murder involve effectors, but agents are a special type of effector. There is, therefore, a distinct logical structure for verbs that lexicalise for agency as opposed to those who do not. Building on Ross (1972), Van Valin (2005:56) utilises DO to signal for agency in logical structures. An important point to remember here is that RRG takes a semantic rather than a syntactic view of transitivity, that is, 'M-transitivity' referring to the number of macroroles it takes on the actor-undergoer hierarchy and can range from 0-2. S-transitivity refers to the number of syntactic arguments a predicate takes (Van Valin, 2007:39).

(13) **LS for murder**

DO (x, [**do** (x, Ø)] CAUSE [BECOME **dead'** (y)])

(14) **LS for kill**

[**do** (x, Ø)] CAUSE [BECOME **dead'** (y)]

Van Valin (2005:56, 57) notes that languages differ in the extent to which agency is lexicalised in verbs and English, for instance, 'has *relatively few verbs which absolutely require an agentive interpretation of their effector*' (emphasis mine). Thus, in contrast to murder, kill is *only* interpreted as an agent is the referent is human (or sentient), and if the clause contains no evidence to the contrary, for

example, an adverb such as 'accidentally' (ibid). This addresses the elements of Rijkhoff's (2003) chosen definition of agent as an actor performing 'some kind of action' and the related implication that agency implies dynamicity in a given lexeme. From an RRG framework, one must also look for the features of volition and intention in characterising a lexeme as an agentive effector and opposed to a regular effector.

Secondly, Van Valin (2005:33) defines dynamicity as referring to whether a situation involves action or not. He highlights that both activities and active accomplishments involve action, and this is indicated by the fact that these verbs can be modified by adverbs like violently, vigorously or energetically. States, achievements and accomplishments are non-dynamic and do not occur with adverbs like these. Vendler (1967) does not point to achievements and accomplishments as [-dynamic] and at first glance, both achievements and accomplishment may appear to be [+dynamic] in that they involve activity. However, Van Valin (2005:36) determines allocation of a [+/- dynamic] feature based on the type of adverbs the verb can take. He makes a distinction between adverbs that code for dynamic actions such as "vigorously" and "powerfully", and "pace" adverbs such as "rapidly" or "slowly" which may or may not occur which verbs that involve dynamic action. Thus, since the former do not occur with achievement and accomplishment verbs, he classifies these as [-dynamic] verbs. Van Valin and La Polla (1997:95) further clarify that "despite being [-static], achievement and accomplishment verbs are odd" with adverbs such as "vigorously" and "dynamically", thus this additional distinction of [+/- dynamic] is necessary. Such a test or distinction would not apply to states since they are [+static].

Thus, the intransitive version of a lexeme like 'bake' is characterised by the feature [-dynamic]. An illustration of English verbs from each of the Aktionsart classes as per Van Valin (2005:32) is provided below:

(15) States: *be sick, be tall, be dead, know, love, believe*
Achievements: *pop, explode, shatter* (the intransitive versions)
Accomplishments: *melt, freeze, dry,* (the intransitive versions); *learn*
Activities: *march, walk, roll* (the intransitive versions); *swim, think, snow, write, drink*

The RRG account of the features of each verb class is repeated below for convenience:

(16) a. State: [+ static], [– dynamic], [– telic], [– punctual]
b. Activity: [– static], [+ dynamic], [– telic], [– punctual]
c. Achievement: [– static], [– dynamic], [+ telic], [+ punctual]
d. Semelfactive: [– static], [± dynamic], [– telic], [+ punctual]
e. Accomplishment [– static], [– dynamic], [+ telic], [– punctual]
f. Active accomplishment: [– static], [+ dynamic], [+ telic], [– punctual]

While the static versus non-static (that is, happening versus non-happening) is the main distinction in this verbal decomposition, of particular relevance to this study is the feature of dynamicity, defined by Van Valin (2005:33) as referring to whether the situation involves action or not.

Thus, taking the RRG definitions of agency, dynamicity and the notion of logical structure into account, we will compare a selection of the data from Rijkhoff's (2003) Type 1 flexible languages with the transitive/intransitive class of Babanki, to assess whether, in RRG terms, dynamicity may indeed be the distinguishing factor as to whether a given language has a distinct verbal class.

10.5.3.2 Agency and Dynamicity in 'flexible' languages versus Babanki

Starting with the feature of agency, Rijkhoff (2003) first argues that in the Type 1 languages of Salish and Samoan we find arguments that can act as agents, thus implying dynamicity.

(17) Samoan (Mosel and Hovdhaugen 1992: 105)
Sā siva le teine
PST dance ART girl
'the girl danced'
LS: do' (girl, [**dance'** (girl)])

However, the Samoan lexeme 'teine' which can be used as the head of a referential phrase meaning 'girl' or the head of a predicate phrase meaning 'be.a.girl'. This takes the logical structure of a state predicate and is thus [–dynamic].

(18) **LS: girl'** (x)

While the nominal use *may* be used in an agentive sense, this is not obligatory, and therefore the lexeme is not necessarily inherently dynamic. If anything, the latter verbal use is inherently coding for a stative rather than a dynamic form, and would not take on the feature of [+dynamic] until used as an argument in a clause denoting an action of some kind. Alternatively, there is the argument that these lexemes have the potential for either usage in context. Thus, dynamicity does not necessarily appear to be an obligatory or inherent feature of this root, particularly when we take into account Van Valin's definition of 'dynamic' as involving an action. Lexical decomposition of the basic lexeme 'teine' does not indicate this feature. Secondly, the lexeme 'siva' can also be used in nominal form in the sense of people attending a 'dance' (Milner, 1993: 352). This usage of the lexeme does not imply inherent dynamicity.

We see further evidence of this kind in favour of a [-dynamic] reading of Samoan lexemes in the nominal and verbal translations of basic lexemes/contentives provided as examples by Rijkhoff (2003) when they are examined side by side as regards the feature of 'dynamicity'. Even granting that agency points to dynamicity as Rijkhoff argues referring to Dik (1997), we see that in each case where there is a potential agentive use of the lexeme as in 'girl', there is a stative interpretation of the verbal use in its base form. And in these instances, where there could be a dynamic or action-based use of the verbal interpretation, the nominal counterpart is inanimate and thus precluded from the role of 'agent' as per the RRG definition of the term which states that an agent is the 'intentional, volitional, and controlling participant of an event' (Van Valin, 2005:56). We see this in (19b) in the verbal and nominal uses of 'tusi' ('write' versus 'book/letter'). The nominal interpretation of the lexeme is therefore not coded for [+dynamic].

(19) Samoan (Mosel and Hovdhaugen, 1992: 73f., 82f in Rijkhoff, 2003: 10, 11)

a) teine	'girl'	'be a girl'	[Potential agent +Dyn, state –Dyn)
b) tusi	'book, letter'	'write'	[Inanimate –Dyn, action +Dyn)
c) salu	'broom'	'sweep'	[Inanimate –Dyn, action +Dyn]
d) ma'i	'sun'	'be sunny'	[Inanimate –Dyn, state –Dyn]
e) fana	'gun'	'shoot'	[Inanimate –Dyn, action +Dyn]

Thus, while these Samoan lexemes provided by Rijkhoff have the *potential* to be used in a dynamic sense in a given clause, it does not appear these lexemes can necessarily be characterised by the feature [+dynamic] any more they can be

characterised by the feature [-dynamic]. According to Rijkhoff (2003) use of Dik's (1997: 107, 118) definition as follows: "A [+dynamic] State of Affairs *necessarily involves some kind of change*, some kind of internal dynamism" (emphasis mine). This necessity of internal dynamism is not found in the basic contentives in the examples provided by Rijkhoff (2003) regarding Samoan in that they have the potential to be used in either a stative or inanimate and thus [-dynamic] sense.

With Babanki and Kom on the other hand, while transitive/intransitive verbs do not necessarily require an explicit object/patient in their syntactic realisation, there are a number which involve internal dynamism such as 'kill', 'give', 'squeeze'. Such lexemes '*necessarily involves some kind of change'* as per Rijkhoff's (2003) definition of dynamism. Thus, the differentiating feature between Samoan lexemes and Babanki/Kom lexemes is not the obligatoriness of the presence of a patient but the presence of dynamicity providing evidence of the existence of lexemes that are inherently carrying the feature [+dynamic]. Since it is unclear if the intransitive use of verbs such as 'kill' in Babanki are used contrastively or anaphorically, a lexical decomposition for 'kill' in Kom could be as follows,

(20) [**do'** (x, Ø] CAUSE [BECOME **dead'** (y)]

However, since mentioning the object is not obligatory is may be best to decompose this in that the lexeme 'kill' results in the state of 'death'.

(21) [**do'** (x, Ø] CAUSE [BECOME **dead'**]

10.5.3.3 Summary

Thus, while Rijkhoff (2003) has argued that since the examples provided in (17) appear to involve change that we are left with no choice but to assume that it is transitivity rather than dynamicity that leads to Type 1 languages like Samoan lacking a distinct verbal class. However, we have noted that the labile/ambitransitive nature of verb roots in Babanki and Kom means that they, too, do not require an object in all cases. Secondly, if one takes a basic lexeme in Samoan like 'teine' in its predicative sense it appears not be 'stative' which is inherently opposed to the notion of dynamicity. Secondly, lexemes used as predicates with an agent that can express dynamicity in that context, can also be used on a non-dynamic nominal sense referring the occurrence of a 'dance'. Thirdly, using the RRG definition of dynamicity in verbal decomposition based on the Aktionsart classes

that Rijkhoff (2003) refers to, it is possible to argue that in some cases lexemes in Samoan are by nature more stative than dynamic, taking teine as a case in point. The lexical decomposition of the verb form of 'teine' 'be.a.girl' is stative and thus inherently [-dynamic]. So, while these roots can be used in combination with other arguments and predicates that denote dynamic events, they do not appear to inherently denote the feature of [+dynamic] in their basic form.

While, this does not expressly settle the matter, it does raise some questions as to Rijkhoff's (2003) conclusions that transitivity is the feature necessary for the presence of a distinct verbal class in a language. Should he clarify that he is referring to semantic transitivity, then the A-labile lexemes of Babanki and Kom would fit in his analysis. However, if he is, as he appears to be, referring to the explicit obligatory expression of agent *and* patient in the clause, then perhaps the feature of dynamicity as the differentiating lexical feature should be re-examined as outlined above.

10.6 Other Verbal Subclasses in Babungo

Granting the importance of [Transitivity] as a potential indicator of a verbal and noun class, particularly when taken in a semantic sense in the case of ambi-transitive verbs such as Kom, we will now examine the impact of such an understanding on related verbal subclasses. Returning to the case of Babungo, Schaub (1985:56-58) identifies two other related verbal subcategories relating to the notion of transitivity; what he deems, semi-transitive and bi-transitive. The following section will examine these subclasses with regards to their transitivity from a functional perspective while also drawing on constructionist literature which takes into account the notions of verb and satellite framed languages, to assess whether these subclasses may need to be reanalysed for cross-linguistic comparative purposes.

10.6.1 Semi-transitive verbs and satellite constructions in Babungo.

Semi-transitive verbs are described by Schaub (1985) as those with which a locative adverbial is obligatory. They tend to be motion verbs such as gə̌ 'go', sí' 'descend', kó' 'climb' and zí 'arrive'.

(22) Babungo (Schaub, 1985:57)

Ndùlá	gə̀	táa	yìwìŋ
Ndùlá	go-pf	in/to	market

'Ndula has gone to the market'

(23) Babungo (Schaub, 1985:57)

fəshīa	kó’	fúu	tɨ̀
Squirrel	climb-pf	on	tree

‘A squirrel climbed on a tree’

Interestingly, based on current data, these all appear to be verbs of motion and may best be interpreted in light of Talmy’s (1985, 1991, 2000) satellite-framed versus verb-framed language distinctions. Verb-framed languages are those such as Spanish in which motion and path are conflated in the verb while manner is placed in a separate expression, such as *entró* ‘moved-in’ or *subó* ‘moved-up’(Talmy, 1985:69). Manner, if needed, is encoded in a separate expression such as *se separaron flotando* ’moved-apart floating (ibid: 70). Satellite-framed languages, such as English or Babungo, on the other hand, conflate motion and manner in the verb and path is expressed in a satellite or preposition such as ‘run into’ ‘flee from’. Kiessling (2011:92) points out that Isu (West-Ring) along with other Ring languages do in fact qualify as those that often lexically conflate the notions of manner and motion. While a verb such as sí’ ‘descend’ in Babungo appears to encode path, Talmy (1985: 72) points to the most “characteristic” types of verbs as those that determine a language as verb or satellite-framed. Slobin (2004) has suggested a third category of equipollently-framed languages in which Path and Manner are expressed by equivalent grammatical forms, but which outside the scope current study. Future research into SVC constructions in Babungo in Ring could examine whether Slobin’s (2004) development of Talmy’s theory including an equipollental approach could be applied.

The adverbial constituent in Babungo, in this subclass of verbs, appears to be semantically dependent on the nature of the verb and the necessity of its positioning directly after the verb in these cases. With other verbs, the same locative prepositions may be used optionally but as a marginal constituent which may change position with another adverbial. The obligatory role and semantic dependence on the nature of the verb suggests that we may be dealing with a complex predicate, a transitive verb-particle construction within a satellite-framed language. Linguistic verb-particle constructions have been defined as pairings of form and function that are represented within a network of linguistic knowledge known as the “construct-i-con” (Goldberg, 2016:111). This is referred to as an “expanded version of the familiar lexicon that includes fully-specified or partially abstract words, idioms, and more abstract phrasal patterns” (ibid). The current

study will deal with the verb-particle construction in Babungo. Goldberg (2016:110) from whose framework will be drawn upon for constructions in Ring uses the terms "particle" and "preposition" interchangeably regarding English verb-particle constructions and this same pattern will be followed in this analysis. While we do not see evidence of separation of the verb and particle by an NP here, such verb-particle constructions may be separated by a direct object. The following illustration from English verb-particle constructions demonstrates a similar notion.

(24) English
He put the shirt on
(25) English
He put on the shirt

Generativist circles have argued that verb-particle combinations are phrasal when the V and P are separated by an NP but compound words when the V and P are not separated by an NP. However, Goldberg (2016:117) notes that the distinction between words and multi-word units is less important in constructionist approaches than it is in mainstream generative syntactic constructions. She asserts that this is because words and multi-word patterns are the same basic type of unit in that they are both pairings of form and function. In dealing with verb-particle constructions in English Goldberg (2016:123) came up with the following constructions for the transitive English verb-particle construction. Curly brackets indicate that the word order is underspecified.

Transitive English V-P Construction

Form: [V {P, NP}] $_{VP}$
FUNCTION: PREDICATION; V-P (NP)

Figure 10. 5 Transitive English VP Construction Goldberg (2016:123)

This applies equally well the so-called 'semi-transitive' verb-particle constructions in question in Babungo. In the case of Babungo, however, word order is strict and the particle cannot be separated from the verb in this case and, as such, curly brackets will be omitted.

Transitive Babungo V-P Construction
Form: [V (P, NP)] VP
FUNCTION: PREDICATION; V-P (NP)

Figure 10. 6 Transitive Babungo VP Construction

Thus, rather than dealing with the syntax-only approach of a semi-transitive verb which takes a peripheral argument as a direct object, taking these verbs with obligatory particles as transitive verb-particle constructions allows us to treat them as transitive complex predicates in the lexicon, allowing what appears to be a non-core argument to function as the direct object of a complex transitive verb.

Current data on Babungo also shows that there may at least be one example of an intransitive verb-particle construction. The verb for 'arrive' can co-occur obligatorily with the verb particle 'here'.

(26) Babungo (Schaub, 1985:57)

ŋwə	zí'	féenə̀
He	arrive-pf	here

'He has arrived here'

Taken as a verb-particle construction due to its obligatory nature in which the verb and particle form a complex predicate this could be understood as an intransitive construction.

Intransitive Babungo V-P Construction
Form: [V (P)] VP
FUNCTION: PREDICATION; V-P

Figure 10. 7 Intransitive Babungo VP Construction

10.6.2 Bi-transitive verbs and satellite constructions in Babungo

Two types of 'bi-transitive' verbs are described by Schaub (1985), those that take an obligatory locative adverbial as above and those that take an obligatory prepositional phrase marked with 'tɨ́' (to/for) which Schaub (1985: 56) suggests functions in the role of indirect object with the semantic role of recipient or beneficiary. This third constituent cannot be deleted.

Those with an obligatory locative such as ‘put’ and ‘fill’ place the adverbial directly after the direct object.

(27) Babungo (Schaub, 1985: 58)

Lámbi	kwáŋ	fá	táa	mbá	ŋwə́
Lambi	put-in-pf	thing	in	bag	his

‘Lambi has put something in his bag’

The second verb type deemed by Schaub as bi-transitive verbs are those such as ‘give’ and ‘show’ which also take an obligatory prepositional phrase marked with ‘tí ‘ (to/for) which Schaub (1985) suggests functions in the role of indirect object with the semantic role of recipient or beneficiary. This third constituent cannot be deleted.

(28) Babungo (Schaub, 1985:56)

mə̀	kɔ̀	fá	tɨ́	Lámbi
I	give-pf	thing	to	Lambi

‘I gave something to Lambi’

(29) Babungo (Schaub, 1985:56)

ŋwə́	táa	də̀	jɨ́ɨ́	tɨ́	ghɔ̂
He	F1	show	road	to	you

‘He will show you the road’ (Schaub, 1985:56)

While the same prepositional phrase can be used optionally as a marginal constituent with other predicates, as was the case with ‘semi-transitive’ verbs, its obligatory role and semantic dependence on the nature of the verb suggests that we may again be dealing with a complex predicate, in this case a di-transitive verb-particle construction requiring two objects. While the interruption of the so called ‘indirect object’ of particle and NP has not been observed in speech of elicitation, native speakers have not deemed artificially constructed sentences of this second kind with an intervening adverbial as wrong (Schaub, 1985:56, 57). For this reason, the strictness of word order is not as tightly supported as we saw with obligatory locative adverbial constructions. Thus, the primary distinguishing feature of the verb-particle construction in this case is its obligatory presence.

(30) Babungo (Schaub, 1985:57)

mə də nú tɨ́ ŋwə́ táa ŋ̀̀i

I show-pf thing to him in house

'I showed something to him in the house' (S-V-O-IO-ADV: most common form)

(31) Babungo (Schaub, 1985:57)

mə də nú táa ŋ̀̀i tɨ́ ŋwə́

I show-pf thing in house to him

'I showed something to him in the house' (S-V-O-ADV-IO: rare, but accepted by speakers)

We have noted that an interruption in word order is less important in constructionist approaches than it is in Goldberg's (2016:117) view. Mainstream generative syntactic constructions such as words and multi-word patterns are both the same general type of unit: pairings of form and function (Goldberg, 2016:117). As such, the following di-transitive verb construction with the use of curly brackets to underspecify word order thus allowing for the interruption of a non-core adverbial if necessary, though it is much less common.

Di-transitive Babungo V-P Construction

Form: [V (NP {P NP}] VP

FUNCTION: PREDICATION; V-P (NP, NP)

Figure 10. 8 Transitive Babungo VP Construction

These observations would support the notion of such verb-particle constructions as belonging to a di-transitive verb class rather than classifying them as transitive verbs with a peripheral, non-core third argument. The semantic dependence of the third argument points to the characteristic of a core argument as mentioned above. The impact of this revised understanding of transitivity and verbal sub-classes in Babungo; intransitive, transitive, and di-transitive will be examined in light of valence changing operations with reference to other Ring languages and wider Bantu through the lens of RRG. The semantic underpinning and syntactic realizations of such subclasses in the LSC will be looked at with a view to

strengthening the need for an integrated syntax-semantics approach to definitions of word classes from a functional-typological perspective.

10.7 Realisation of the Verbal Subclasses in the Layered Structure of the Clause

Having proposed a renewed understanding of transitivity and word classes in Babungo building on Rijkhoff's (2003) proposal in the central role of this feature in establishing the verb classes from a functional-typological perspective, we will now examine the impact of these findings on valence and voice changing operations in Babungo and related Ring languages. The operations surrounding causatives, reflexives, reciprocals and passive, and anti-passive structures will be examined from a functional perspective. An RRG analysis will be conducted utilising the notion of the PSA demonstrating semantic underpinnings of these operations thus strengthening the claim that both syntactic and semantic considerations must be taken into account in cross-linguistic studies and definitions of word classes.

10.7.1 Voice and valence adjusting operations

Languages commonly have various methods of adjusting, i.e., increasing, decreasing or rearranging the syntactic valence of clauses (Payne, 1997:172). The semantic/pragmatic effect of increasing syntactic valence is seen in upgrading a peripheral participant to centre stage, while the decreasing the syntactic valence involves downplaying a centre-stage participant to peripheral status or removing it from the scene completely. The participants brought onto or taken off centre stage can also be seen as controllers, meaning agents/agent-like participants or affected/patient-like participants. Valence-adjusting operations fall under three broad categories; lexical, morphological and analytical constructions. 90% of the languages investigated by Bybee (1985) mark valence morphologically on the verb. Derivational valence-adjusting morphemes often appear in a different location of the verb or verb-phrase from the TAM operators, for instance, prefixes rather than suffixes. Valence adjusting operators tend to derive from free verb roots that earlier formed analytic constructions. There are some however which derive from inflectional operators such as pronouns or anaphoric clitics. Morphological reflexives are an example of this.

10.7.1.1 Valence-raising operations

Two broad categories have been identified with regard to valence-increasing operations; causatives and applicatives. Prototypically speaking, causatives and applicatives apply to intransitive and derived transitive verbs with S becoming O in a causative and S becoming A in an applicative construction (Dixon and Aikhenvald,

2000:6). We will take causatives in Ring as a case in point for analysis based on the proposed review of transitivity and the verb classes present in Babungo.

10.7.1.1.1 Causatives

Causatives raise the valence of a base predicate by licensing a 'causer' participant (Dixon, 2000). There are three ways to accomplish this; the addition of a distinct causative predicate (analytic/periphrastic causatives), the addition of causation affixation (morphological causatives), and suppletion (lexical causatives (Kroeger, 2004). Dixon and Aikhenvald (2000:13) outlined the characteristics of a causative as follows:

(32) a) Causative applies to an underlying intransitive clause and forms a derived transitive
b) The argument in underlying S function (the cause) goes into O function in the causative
c) A new argument (the causer) is introduced, in A function
d) There is some explicit formal marking of the causative construction

Many languages also apply causatives to transitive and ditransitive clauses, but none have been identified where causatives can apply to transitive but not intransitive (King, 2010). Comrie (1976, 1981) therefore proposed the following hierarchy as applies to such constructions:

The Case Hierarchy (CH)

Subject > direct object > indirect object > oblique object.

Figure 10. 9 The Case Hierarchy (Comrie:1976, 1981)

While this hierarchy has received support from languages such as Turkish, Song (2001:265, 266) points out that many languages deviate from this hierarchy in two major ways; firstly, in languages where the cause NP occupies a lower position on the CH than is predicted, referred to as 'extended demotion' (Comrie, 1975, 1976), and secondly, languages in which the cause NP may 'double up' on the grammatical relation taken by another core NP so that there are, for instance, a basic transitive taking two direct objects. Another challenge to the CH paradigm noted by Song (2001:266) is the observation that transitive verbs are more difficult to causativise morphologically than intransitive verbs, and that ditransitive verbs are more difficult to causativise morphologically than transitive verbs.

Song (2001:266) concludes that the maximum number of core NPs per clause (MCNPs) may range from two to three regardless of whether it is a causative or non-causative construction, that is, both clause types are subject to a given languages case marking system. Therefore, devices such as extended demotion may be a method of maintaining a language's restrictions regarding its MCNP. For instance, when transitive verbs are morphologically causativised the number of core arguments rises to three. Some languages will not accommodate this number of MCNPs and will therefore utilise an adjunct (non-core argument) to encode the cause. As regards doubling on the direct object, both Song (2001) and Comrie (1989) note that this appears to only occur in languages in which non-causative clauses are also permitted to have two accusative objects. No data have yet examined this notion regarding the doubling of indirect causatives. We will examine the relevance of the above phenomena to GB.

10.7.1.1.2 Semantic motivations in Causatives

With regard to the function of causative constructions, Dixon (2000) proposes that causatives rarely have a discourse function. They are rather, largely semantic, licensing an argument which could not otherwise appear in the clause. Some languages may include two or more semantically-distinct causative constructions, which differ in terms of the type of predicate to which they can apply, the degree of control, willingness, or affectedness of the causee, or the degree of directness, intentionality, effort, or involvement of the causer (King, 2010). Alternate ways of coding the causee may mark the semantic distinctions in such clauses. Song (2001:259) indicates that different (semantic/pragmatic) causation types such as direct versus indirect causation, show a strong correlation to the formal type of causative construction used (lexical, morphological, or syntactic). That is to say that the formal distance between the predicate of cause and the effect is semantically motivated in an iconic sense by the conceptual distance between the cause and effect, and between the causer and causee. For example, in Kannada the dative case signals the causee has little control over the action, while the instrumental case indicates that the causee has greater control (Comrie 1981:175). Three basic types of causality have been identified in the literature; a) direct (coercive), (b) indirect (non-coercive), and c) permissive (Nolan, 2012:34). In terms of logical structures, both direct and indirect causation are represented by 'CAUSE' while permissive causation is represented by 'LET' or 'ALLOW' (ibid). The directness of causation may be represented in Haiman's Iconicity Pyramid in Figure 5.2.

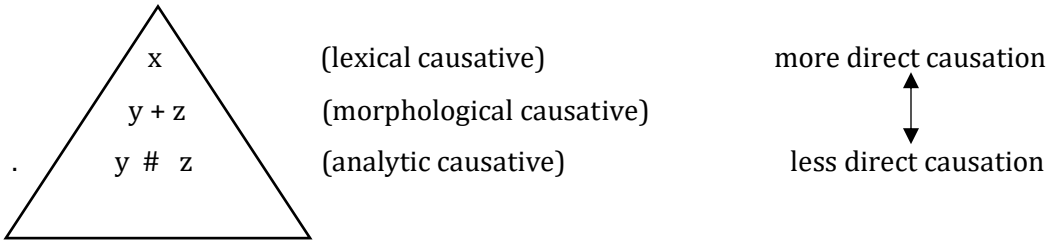


Figure 10. 10 Haiman's Iconicity Pyramid (Nolan, 2012:34)

The syntax-semantics interface approach encapsulated by the RRG model will help to capture such iconic reflections in the Ring languages through an analysis of syntactic structure in conjunction the notion of the PSA and logical structures.

10.7.1.2 Valence-lowering operations

Languages can use morphological, lexical and periphrastic/analytic means of reducing the valence of a verb. The most common means of achieving this are the operations of reflexive, reciprocal, passive and antipassive. This study will take the passive and anti-passive as a particular point of reference to examine the influence of an understanding of transitivity on their existence in Ring.

10.7.1.2.1 Passives

Payne (1997:204) states that a prototypical passive clause is characterised by both its morphosyntax and its discourse function. Morphosyntactically a passive is a semantically transitive (two-participant clause for which the following three properties hold:

(33) a. The Agent (or most Agent-like participant) is either omitted (not zero-pronominalised) or demoted to an oblique role.
b. The other core participant (the "P", Patient) possesses all properties of subjects relevant for the language as a whole.
c. The verb possesses any and all language-specific formal properties of intransitive verbs.

With regard to discourse function, a prototypical passive is used in contexts where the A is relatively low in topicality with respect the P. Various types of passive-like constructions occur across languages, the following sections will look primarily at personal and impersonal passives.

Personal passives are constructions for which some specific agent is implied, but either is not expressed or is expressed in an applied oblique role. They can be lexical, morphological or periphrastic/analytic. Payne (1997) points out that true lexical passives appear to be rare while morphological passives are common (often

using similar marking to the perfect aspect). Impersonal passives are different in the sense that they can be formed from intransitive as well as transitive verbs. There are various other passive constructions that a given language may employ such the adversative passive and the non-promotional passive.

10.7.1.2.2 Anti-passives

Anti-passives are a valence-lowering operation which downplay the centrality of a Patient (P) rather than the Agent (A). They prototypically involve syntactic suppression of the P argument often moving it to the instrumental case. The verb or verb phrase will typically take an overt marker of intransitivity and the A will appear in the absolutive case. The antipassive is frequently found in ergative languages where the absolutive case is morphologically defined but in non-ergative languages, object demotion or omission appear to serve essentially the same function. The main distinction to be drawn between object demotion/omission and antipassive, if required, is that in antipassives the verb takes some specific marker of antipassivation or intransitivity, whereas in object demotion/omission no such verbal marker occurs (Payne, 2007:219).

10.8 Valence changing devices in Babungo

We will now look at a range of valence changing devices in Babungo with brief references to other members of the Grassfields Bantu family, and wider Bantu. Lexical, morphological, and analytic constructions will be examined.

10.8.1 Causatives in Babungo

Both morphological and analytical forms of the causative have been observed in Babungo, revealing similarities with historical work on the wider Bantu family.

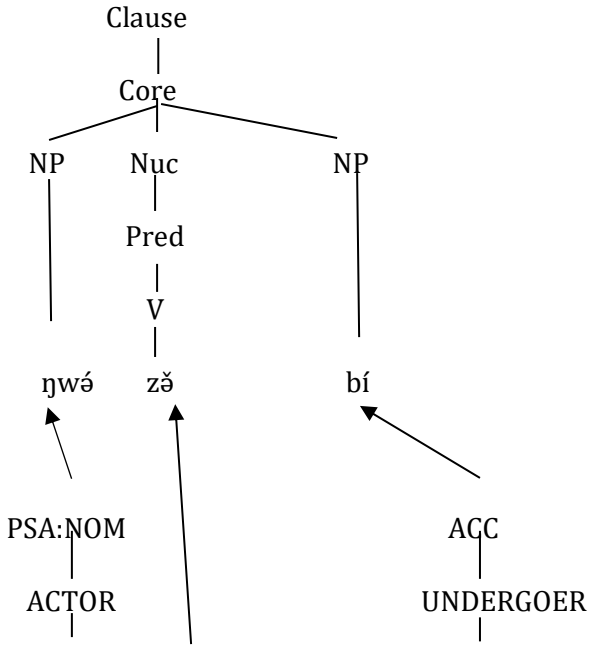
<u>Lexical causative in Babungo</u>

The following is an example of a lexical causative in Babungo. This demonstrates a high level of actor control as predicted by Haiman's iconicity pyramid. This verb can be used with the suffix -sə́ but according to Schaub (1985:223) while this has a causative element, it's contrastive use here highlights distributive aspect. This will be further discussed in section 10.8.4.4 on anti-passives in Ring.

(34) Babungo (Schaub, 1985:223)

ŋwə́	zə̌	bí
3SG	feed-pf	goat

'He fed the goat'



LS: [**do'** ((3SG, Ø)] CAUSE [BECOME **fed'** (goat)

Figure 10. 11 Lexical causative in Babungo

Morphological Causatives in Babungo

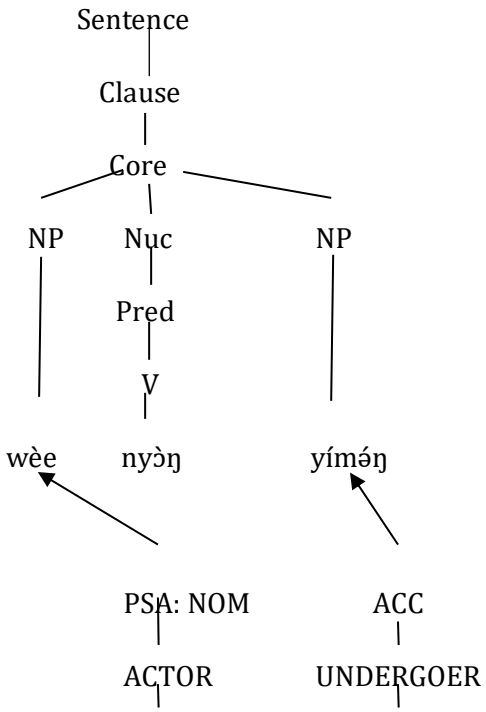
Morphological marking with regard to causatives has been identified in Babungo. The suffix -sə is commonly used to increase the valency of a verb and has a causative function. The subject of the non-causative sentence always becomes the direct object of the causative sentence. The original direct object (undergoer) of transitive verb roots does not appear in the causative sentence or can follow as an optional adverbial. The causee cannot be omitted in this case (Schaub, 1985:210. 211). The causative affix may be suffixed to transitive, semi-transitive (defined in this study as a transitive complex predicate), or intransitive verb roots. This may have its roots in the Proto-Bantu causative extensions *-i- after C and *-ici- after V. It has not been observed, however, with ditransitive verb roots. As there is no evidence of a sentence having more than three core arguments in the data on Babungo it is likely that the restriction on usage with the ditransitive is related to Song's (2001:266) conclusion that the maximum number of core NPs per clause (MCNPs) which applies to both causative and non-causative clauses alike.

(35a.) Babungo (Schaub, 1985:211)

wèe nyɔ̀ŋ yímə́ŋ

child suck-pf breast

'The child sucked the breast"



LS: do' (child, [**suck'** (child, breast)

Figure 10. 12 Transitive verb in Babungo

(35b.) Babungo (Schaub, 1985:211)

wə̀zwì nyɔ̀ŋsə́ wèe

woman suckle-pf child

'The woman suckled the child'

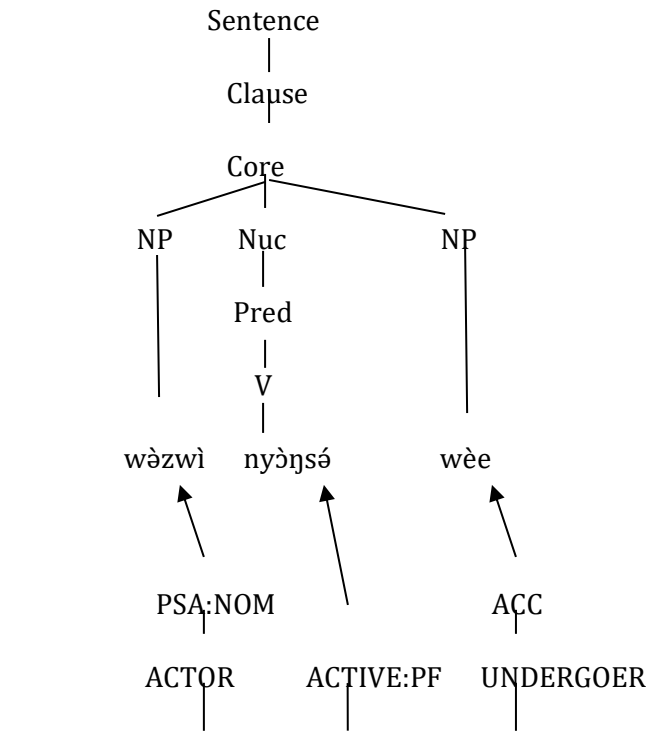


Figure 10. 13 Causative with transitive verb in Babungo

Examples (36a) and (36b) along with Figures 10.14 and 10.15 are further examples using transitive verb-particle constructions (semi-transitive) and intransitive verbs which are also expressed in their logical structures. The re-examination of such verb particles in light of Goldberg's (2016) framework has also been taken into account.

(36a.) Babungo (Schaub, 1985:211)

ŋwə́	ŋìi	táa	ŋ̀̀i
3SGM	enter-pf	in	house

'He entered the house.'

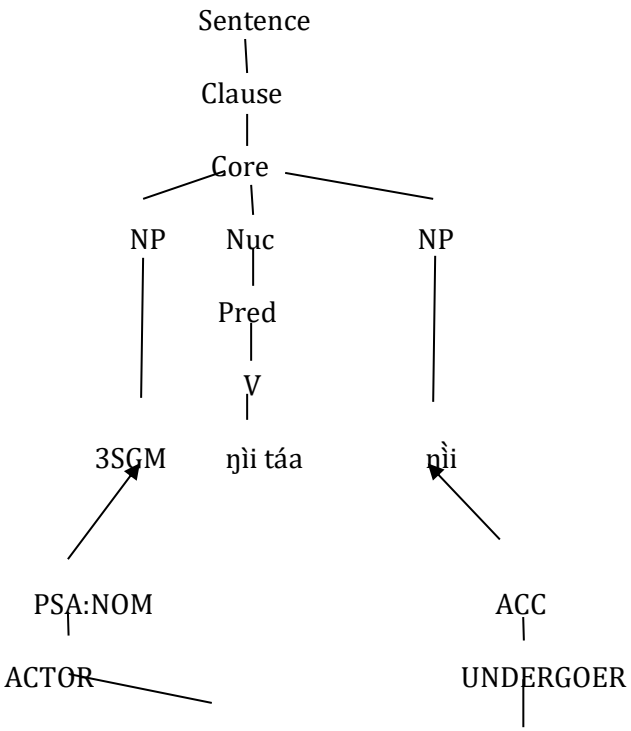


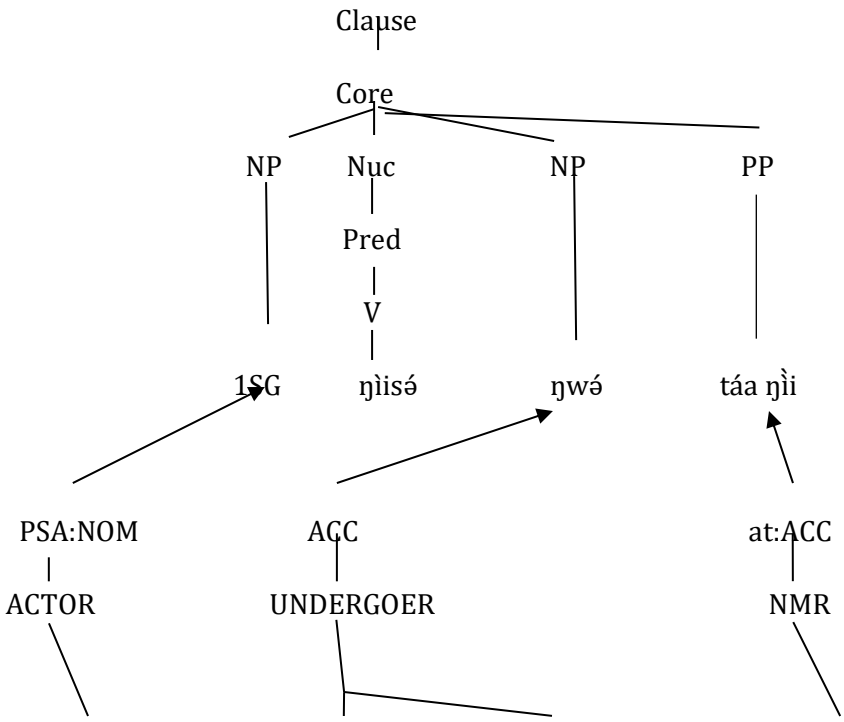
Figure 10. 14 Transitive Verb-Particle Construction in Babungo

What appears to be a locative adverbial 'táa ŋì̀I', deemed by Schaub as semi-transitive' has been re-examined in this study in section 10.6.1 as in fact, a complex verb-particle construction taking a direct core argument. Firstly, because of its semantic dependence on the verb used, locative adverbials are obligatory with certain verbs pointing to a core argument function. Secondly, this is strengthened by the fact that such locative adverbials can occur with other verbs, but optionally, and when used have freedom to be positioned after another intervening adverbial which is not the case with semi-transitive verbs wherein it must occur in immediate post-verbal position suggesting a close iconic and core argument relationship with the predicate.

(36b.) Babungo (Schaub, 1985:211)

mə	ŋìisə́	ŋwə́	táa	ŋì̀i
1SG	make-enter-pf	3SGM	in	house

'I made him enter the house.'



LS: [**do'** (1SG, Ø)] CAUSE ([**do'** (3SGM, [**entered'** (3SGM])] & [INGR **be-at'** (house, 3SGM))

Figure 10. 15 Causative with semi-transitive (complex transitive) verb in Babungo

Interestingly, while there is a semantic increase in arguments with the causative suffix –sə in the semi-transitive (complex transitive), i.e., we see semantic changes in that now there is an actor, undergoer, and goal in the elements of 1SG, 3SGM and 'house' respectively, there does not necessarily appear to be a syntactic valence increase. This is due to the fact that the locative adverbial now appears to be functioning in the optional adjunct sense in which it is used with other verbs. It is no longer in the obligatory postverbal condition which partially identifies the location as a core argument in other cases. It can now be interrupted by another constituent as with other verbs classes. This could be by virtue of the maximum number of NPs (MCNPs) allowed in the Babungo clause. This further begs the question as to whether the causative suffix –sə may have the additional function of de-transitivising the complex verb-particle construction so that it behaves as an intransitive verb with an additional causative argument added and the original direct object demoted to an adjunct position. This finds support in Creissels (2016) study of a selection of west-African Mandé languages in which he proposes that event nominalization markers evolved from anti-passive markers. Specifically, he points out that verbs with the meaning 'do, make' often occur in occur in causative periphrases, and are a well-known source of causative markers. Crucially, such

verbs are also very often involved in constructions that can be viewed as antipassive periphrases, though they may not be referred to as such. (Creissels, 2016:7,8). The possibility that verbs with the meaning 'do, make' may grammaticalise as both causative and antipassive markers lends strength to the assertion that this may be the case for the use of –sə in Babungo with semi-transitive verbs. We will now examine causation in regular intransitive verbs.

(37a.) Babungo (Schaub, 1985:211)

múu	ndɔ̀ŋ
water	be-hot-pf

'The water was hot'

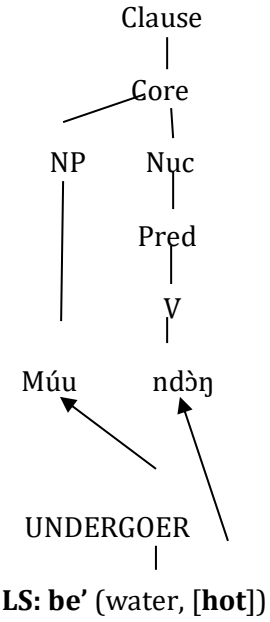
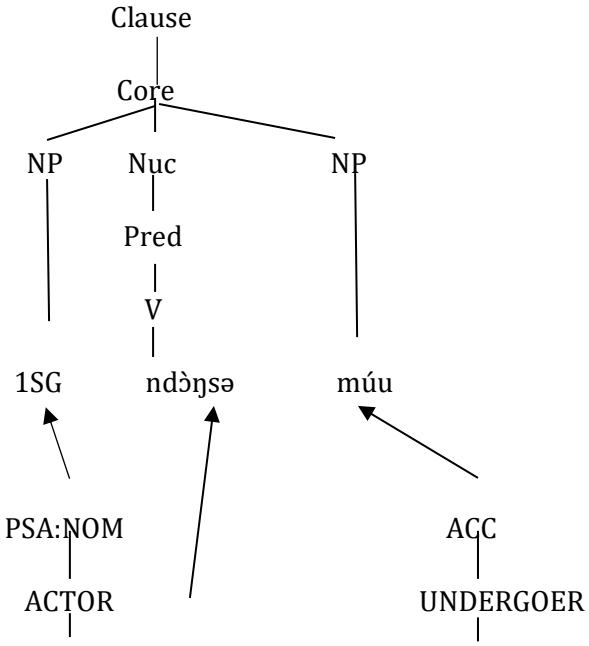


Figure 10. 16 Intransitive verb in Babungo

(37b.) Babungo (Schaub, 1985:211)

mə	ndɔ̀ŋsə	múu
1SGM	heat-pf	water

'I heated water'



LS: [**do'** ((1SG, Ø)] CAUSE [BECOME **hot'** (water)

Figure 10. 17 Causative with Intransitive verb in Babungo

Here we see the causative suffix increasing both semantic and syntactic valency of the intransitive verb. Like the intransitivity suffix -nə, the causative suffix -sə is limited to a lexically conditioned subclass of verbs. Future data collection on the lexical semantics of such verbs and their influence on valency may shed some additional light in their function in the language and how they fall in line typologically with wider Bantu and indeed other languages.

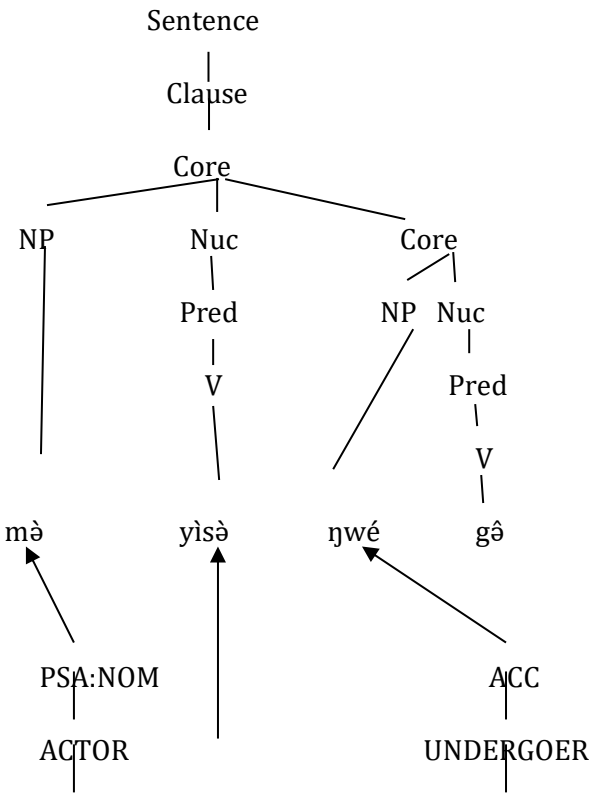
Analytical causatives in Babungo

With verbs that do not have a causative form, the verb yìsə 'make' (with the causative suffix -sə) is used (Schaub, 1985: 211). This appears to be an analytical construction, and while it is semantically valence-increasing, Payne (1997:181) noted that such constructions are not syntactically valence-increasing in that they consist of a matrix verb (expressing the notion of CAUSE) whose sentential complement refers to the caused event.

(38) Babungo (Schaub, 1985:212)

mə̀	yìsə̀	ŋwé	gə̂
1SG	make-pf	3SGM	go-impf

'I made him go'



LS: [**do** (1SG, Ø)] CAUSE **do' (**3SGM, [**go'** (3SGM)])

Figure 10. 18 Analytical causative in Babungo

This appears to be an example of core subordination in that the core 'ŋwé gə̂' is functioning as a core argument of the main predicate 'yìsə̀' as per Pavey (2010: 231). Furthermore, Pavey notes that, in subordinate constructions, the dependent unit can take its own operators as we are dealing with an event within another event. This is seen in the use of perfective marking in the main clause in (38) and imperfective marking in the dependent clause.

10.8.2 Evidence from other Ring Languages

This morphological marking of the causative is seen across a range of Grassfields Bantu Ring languages. In Babanki it is used with stative, intransitive and transitive/intransitive verbs. The suffix itself does not have a tone, but takes the tone of the verb in question. With stative verbs, valence is increased with the addition of a new agent and a change of state occurs in the patient (Akumbu and Chibaka, 2012).

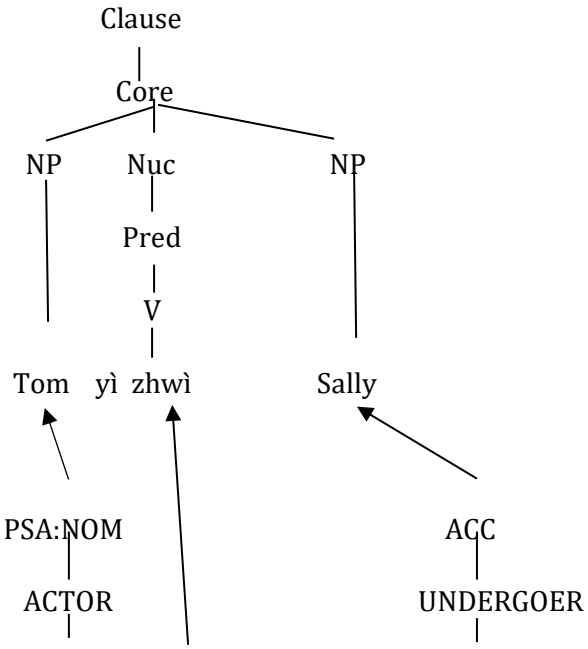
Lexical Causatives in Babanki

There is evidence of the use of at least some lexical causatives in Babungo and they appear to fall in line with Haiman's notion that lexical causatives will have the highest degree of control and involvement by the causer.

(39) Babanki (Akumbu, 2018: personal correspondence)

Tom	yì	zhwì	Sally
Tom	P2	kill	Sally

'Tom killed Sally'



LS: [**do'** ((Tom, Ø)] CAUSE [BECOME **dead'** (Sally)

Figure 10. 19 Lexical causative in Babanki

Morphological Causatives in Babanki

(40) Babanki (Akumbu and Chibaka, 2012: 132)

nyàm.sə́	sə́	lyɛ́n.sə́	lí	jì
animal.C10	C10.SM	slippery.CAUS	P1	C9.road

'Cattle have caused the road to be slippery'

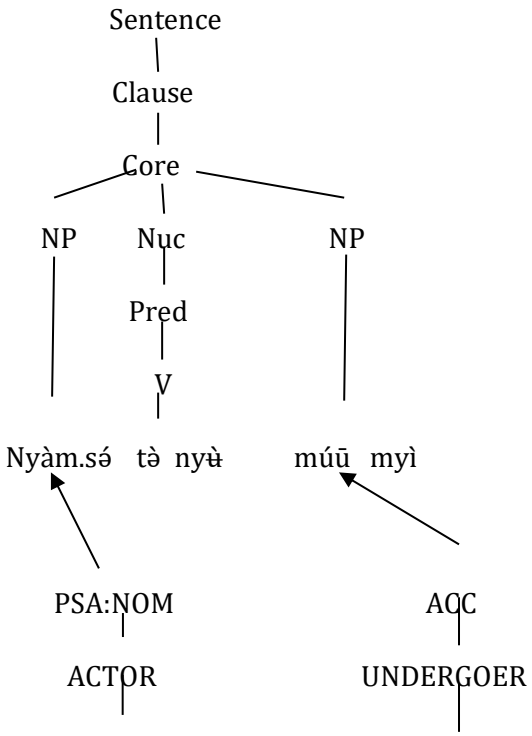
When used with intransitive verbs the causative suffix can denote meanings such as assistive, causation and permission. Akumbu and Chibaka (2012:133) note that when used with verbs of movement the verb tends to encode the meaning 'help someone to do something'.

(41) Babanki (Akumbu and Chibaka, 2012: 133)

wú	yì	chá'.sə́	mò	nó	nàntó
1s	P2	laugh.CAUS	me	very	much

'You caused me to laugh too much'

When attached to intransitive/transitive verbs the causative suffix expresses assistive or causation meanings. Interestingly, when used with a transitive verb, the third argument must be expressed using a prepositional phrase suggesting that the original direct object is demoted to adjunct position. This may point to an MNCP of two core arguments in Babanki forcing a demotion of a third argument to a peripheral position. The use of prepositional phrases for a third argument is also necessary when used with stative or intransitive verbs with the suffix. These phenomena may lend support to the polysemous function of the causative suffix as both causative and detransitivising as we saw in Babungo. The MCNP of two arguments constraint as per Song (2001:266-268) may force the suffix to also carry out the function of demoting a previously core argument. Alternatively, data in question may refer to more indirect causation and thus use analytical means.



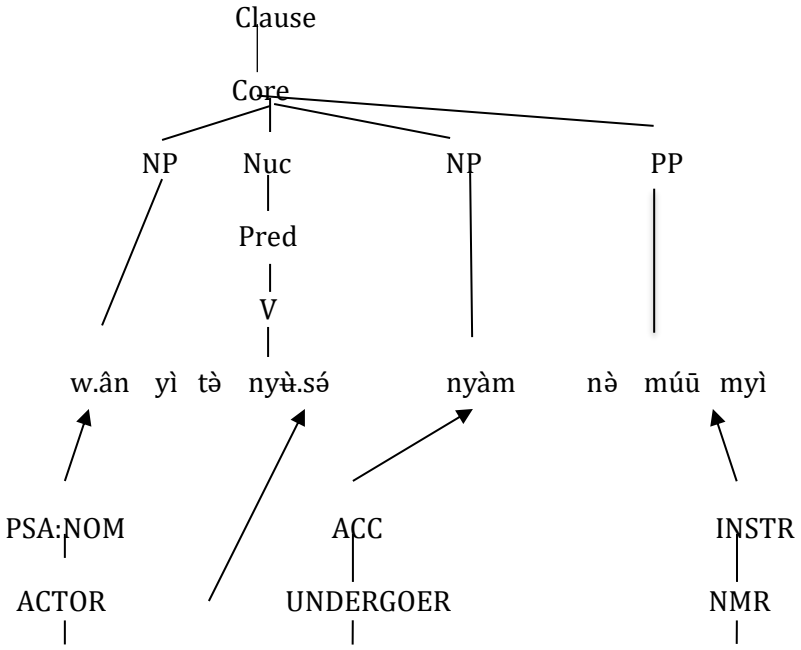
LS: do' (Nyàmsə́, [**drink'** (Nyàmsə́, the water)

Figure 10. 20 Transitive verb in Babanki

(42a.) Babanki (Akumbu and Chibaka, 2012: 135)

nyàm.sə́	tə̀	nyʉ̀	múū	myì
anima.C10	P3	drink	C6a.water	C6a.DET

'The cattle drank the water'



LS: [**do'** (child, Ø)] CAUSE [**do'** (Nyàms, [**drink'**] ^ **use'** (child, the water)]

Figure 10. 21 Causative with transitive verb in Babanki

(42b.) Babanki (Akumbu and Chibaka, 2012: 135)

w.ân	yì	tə̀	nyʉ̀.sə́	nyàm	shì
C1.child	C1.that	P3	drink.CAUS	animal	C10.those

(nə̀ múū myì)

(with the water)

'The child helped the cattle to drink the water'.

The verb 'drink' in Babanki can be used in both intransitive and transitive function. We see here that the demotion of the direct object to an adjunct instrumental phrase actually causes the transitive use of the verb 'drink' to be used in an intransitive sense in this case. The water has been analysed as an implemental use of the thematic relation of instrument as per Van Valin (2005:59) in which the water is used by the child to cause the cow to drink. Here we once more see the possibility of a detransitivising function of the causative suffix in certain cases. Again, if there

is an MCNP of two core arguments in Babanki, which there appears to be, then detransitivising 'drink' to its intransitive sense with the suffix –sə in both causative and depatientising (or anti-passive) function and utilising the original direct object as an adjunct allows that constraint to be fulfilled. Perhaps transitive use has retained some patient-blocking features of the anti-passive in order to maintain the MCNP. Furthermore, as highlighted by Song (2001: 267), extended demotion of an object to an oblique position does not tend to occur when a base verb is intransitive, but does tend to occur with transitive verbs in order to maintain the MCNP. Intransitives *can* be morphologically causatives in Ring, however. Thus, the dual usage of the causative suffix in both causation and demotion of the patient is possible. Evidence of such a phenomenon was demonstrated by Creissels (2016: 7, 8) in relation to the Manding languages that former anti-passive marker –ri or –li found its source in a Proto-West-Mande root ***tin** 'do' . He proposes that this root is the source of a range of both anti-passive and causative suffixes in Manding and related languages and results from the grammaticalization of ***tin** 'do', either in causative periphrases or in antipassive periphrases. While much less productive, we also see remnants of the causative suffix –sə which functions to change a small number of intransitive verbs into their transitive counterparts as seen in the following examples from Hyman (1979:81). While they appear to be largely grammaticalised, the inability to use certain such verbs like *fɔsí* make blind' in their causative form as an imperative suggests some remnants of productivity.

Analytical causatives in Babanki

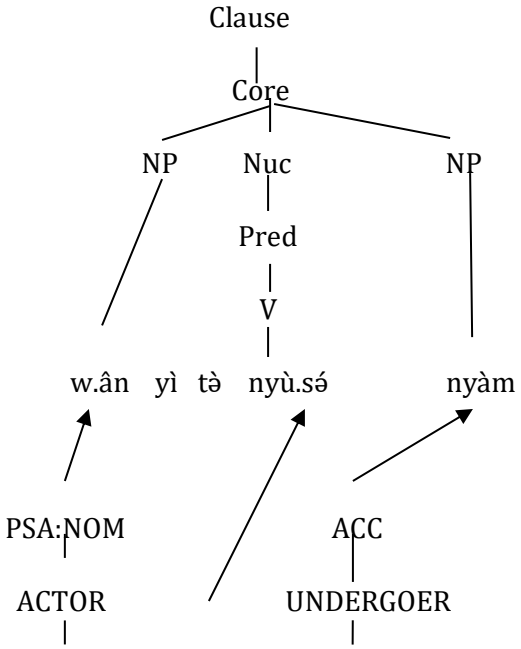
A contrast with possible iconic underpinnings as per Haiman's view may be demonstrated with the verb *ndzéʔ* 'walk'. Based on personal correspondence with Dr. Akumbu[1], forming a morphological causative here involves very direct causation in the sense of taking someone by the hand and walking them around. Whereas pushing someone and then leaving them to walk by themselves i.e., less direct involvement or control by the causer. See examples (43) and (44) respectively.

(43) Babanki (Akumbu, 2018: personal correspondence)

mà	yî	ndzèʔ-sə	Joe
1SG	P2	walk-CAUS	Joe

'I walked Joe around'

[1] Special thanks to Prof. Dr. Pius Akumbu, Associate Professor of Linguistics at the University of Bamenda for his contribution to and feedback on my research on Babanki.



LS: [**do'** (1SG, Ø)] CAUSE [**do'** (Joe, [**walk'** (Joe)])]

Figure 10. 22 Morphological causative with high actor involvement in Babanki

Example (43) denotes a causative event with high actor involvement in which there is continued and direct physical involvement by the causer in the process of causing the event to take place. Example (44), on the other hand, points to a lesser degree of involvement and physical causation in not continuous. The contrast in usage of morphological versus analytical marking of causation in a semantic sense appears to point to an iconic motivation.

(44) Babanki (Akumbu, 2018: personal correspondence)

mà	yî	nè	Joe	ə́	ndzéʔ
I	P2	make	Joe	SM	walk

'I made Joe walk'

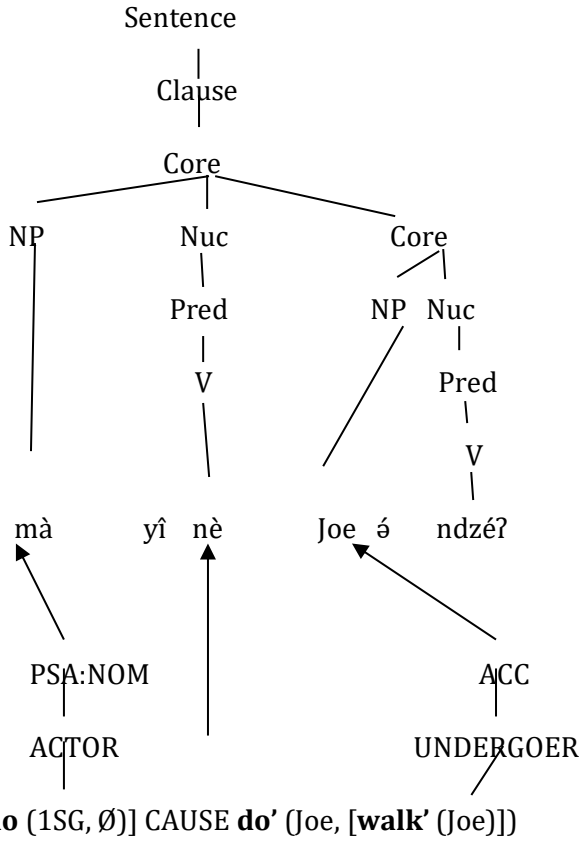


Figure 10. 23 Analytical causative with lower actor involvement in Babanki

Morphological Causatives in Aghem

Aghem, too, makes use of a similar suffix -/sɔ/ in causative formation.

Table 10. 4 Use of Causative suffix in Aghem (Hyman, 1979: 81)

Intransitive	Transitive
énôm 'be hot'	énômsɔ̀ 'heat (something)'
émîɛ 'be finished'	émîɛsɔ̀ 'finish (something)'

Morphological Causatives in Kom

We also see evidence of a cognate causative suffix in Kom, a Centre Ring language. The suffix – sɨ can be joined to a free verb stem to produce a causative meaning.

(45) Kom (Schultz, 1997:7)

(a) Ko'

'Go up'

(b) Ko'sɨ

'Make go up.'

10.8.3 Iconic underpinnings of Ring Causatives

The majority of causatives thus far examined in the Ring languages are morphological in nature with a smaller amount of data on analytical causatives. Based on Haiman's iconicity pyramid, those lexical types should represent the most direct causation, morphological types should indicate somewhat direct causation and the analytic forms even less so. Lexical forms involving a high level of cause control such as 'feed' and 'kill' were demonstrated in Babungo and Babanki respectively. An illustration of a higher level of direct causation in morphological rather than analytical causation was found in Babanki in contrasting uses of the verb meaning 'walk'. The former structure representing a much higher level of direct involvement by the causer than the latter. Further data collection is needed in future research to ascertain whether the same holds for the other Ring languages examined in this chapter. Preliminarily though, findings do support the predictions of Haiman's iconicity pyramid of causatives.

10.8.1.3 Evidence from Narrow Bantu

As regards the relationship between Ring and the Narrow Bantu family, there is evidence that the causative suffix –se may have been derived from Proto-Bantu. The primary means of realising the causative function Bantu-wide appears to be through morphological means.

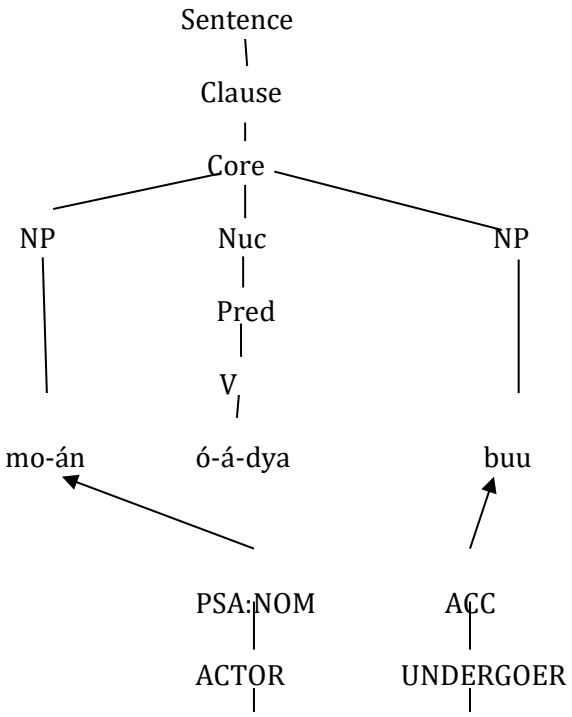
The causative suffix -is- prototypically expresses direct causation, semantically speaking. Indirect causation which includes two agentive participants is expressed using periphrastic constructions is found in Mbuun for instance utilising auxiliaries, such as -shína 'send' (Bostoen & Mundeke, 2011: 193) Pointing to Yemba, Bostoen and Mundeke (2011) argue that, syntactically speaking, the causative suffix is valency-increasing: intransitive verbs become transitive and transitive verbs become ditransitive. However, if we look at the transitive example (46b) from Mbunn (Bantu B87, DRC) provided with the causative suffix, we see a situation similar to the use of the causative with the Babanki transitive verb. The original direct object is in fact demoted to an instrumental function giving the sense that the

mother causes the child to eat *with water'.* This may lend support to a secondary depatientizing function of the causative suffix in Bantu.

(46a.) Mbunn (Bostoen & Mundeke, 2011: 194)

mo-án	ó-á-dya	buu
C1-child	sm1-pres.prog-eat	fufu

'The child is eating fufu.'



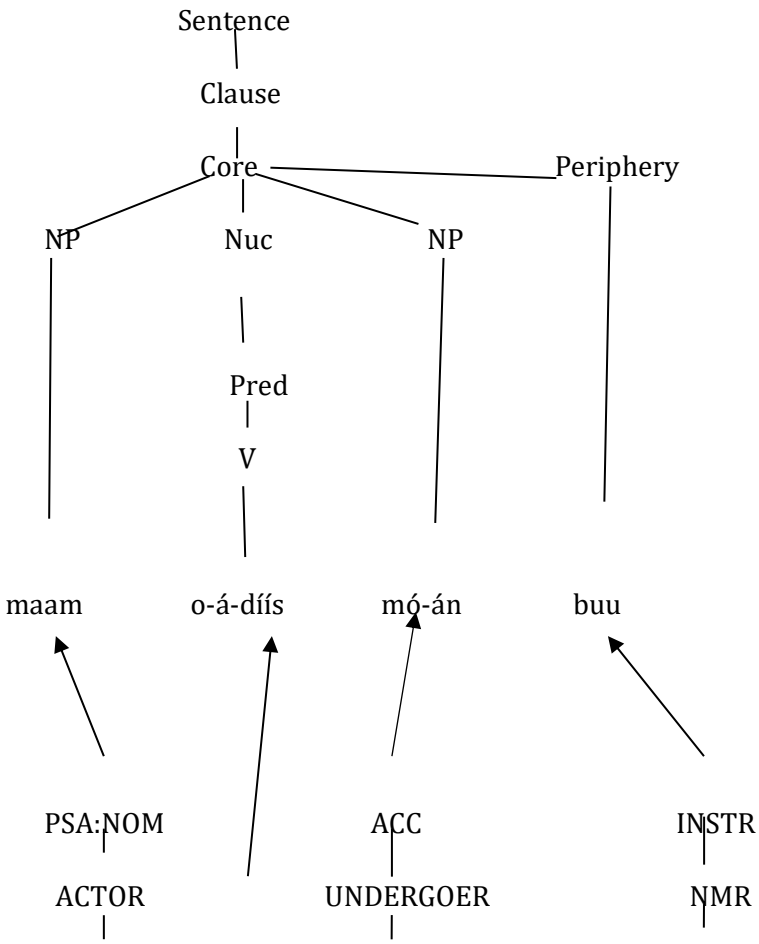
LS: **Do' (**child, [**eat' (**child, fufu)])

Figure 10. 24 Transitive clause in Mbuun

(46b.) Mbunn (Bostoen & Mundeke, 2011: 194)

maam	o-á-díís	mó-án	buu
mother	sm1-prs.prog-eat.caus	C1-child	fufu

'My mother is feeding the child with fufu.' (ibid)



LS: [**do'** (mother, Ø)] CAUSE [**do'** (child, [**eat'**] ^ **use'** (child, fufu)

Figure 10. 25 Transitive with causative in Mbuun

The above examples appear to be in line with the iconicity principle referred to above, in that direct causative marking occurs in a position closer to the verb than indirect causation which is marked periphrastically. While the distinction is not as clear in Babungo, this gives us some insight into the potential for stronger agentivity in the morphological causative of Babungo, at least with regard to its origins.

10.8.4 Passivisation

Another valence reducing operations to be examined in light of a renewed understanding of transitivity and verbal subclasses in Babungo is that of passivisation. It has been noted the construction of the passive construction can be both personal and impersonal. In general terms, they involve demotion or defocusing of the agent and/or the promotion of a non-agent to the main topic role (Nolan, 2012, 93). Personal passives imply or supress the actor role or express it in its demoted state, while impersonal passives utilise an indefinite actor of some form to demote the role of the actor. While narrow Bantu makes use of a specific passive

marker, Babungo differs in its use medio-passive and impersonal passive constructions.

10.8.4 1 Impersonal Passive in Babungo

While Schaub (1985) has suggested that there is no passive form in Babungo, he did note that the closest equivalent to passive sentences in other languages are active sentences with the impersonal 'they' pronoun in the subject.

(47) Babungo (Schaub, 1985: 209)

vɨ́	jìa	ŋwə́
They-impers	hold-pf	him

'He was caught'

LS: [**do'** (they, [**catch'** (they, 3SG)])] & [INGR **caught'** (they)]

10.8.4.1.1 Impersonal Passive Ring Languages

As is the case with Babungo, there are no verbal affixes that have been identified with the passive voice in Kom. A similar device is used to de-s the agent with the use of an impersonal pronoun 'ghɨ' or to mark the subject as the semantic goal of the action (Schultz, 1997:18).

(48) Kom (Schultz, 1997:18)

ghɨ	zue	meyn	ŋweyn
Ind	kill	comp	him

'He has been killed' or 'they killed him'

10.8.4.2 Medio-Passive in Babungo

While not identified as a passive construction by Schaub (1985:209, 210), the use of the verbal suffix '-nə' is described as decreasing the valency of transitive verbs to intransitive by not specifying the actor. The grammatical direct object becomes the subject of the intransitive verb, or in RRG terms, the undergoer becomes the PSA of the construction. The use of the perfective tense also points to the interpretation of the event as completed rather than in progress, a key component of the middle construction (Nolan, 2012: 103). Though Schaub (1985) doesn't describe this as a passive, the construction appears to fall in line with many of the characteristics outlined by Nolan (2012:102, 103) of middle passives such as a means by which a speaker can view the activity as a state, a valence reduction or detransitivisation which points the logical subjects affectedness, and a construction

which involve an implicit argument. Nolan (2012) also points out that for a medial definition the action must be inchoative reflecting a change of state where the subject of an intransitive verb is typically understood as the logical undergoer. For these reasons, we will interpret example (49b) in Babungo as medio-passive.

(49a.) Babungo (Schaub, 1985:209)

mə ŋà' shúufwə

I open-pf door

'I opened the door'

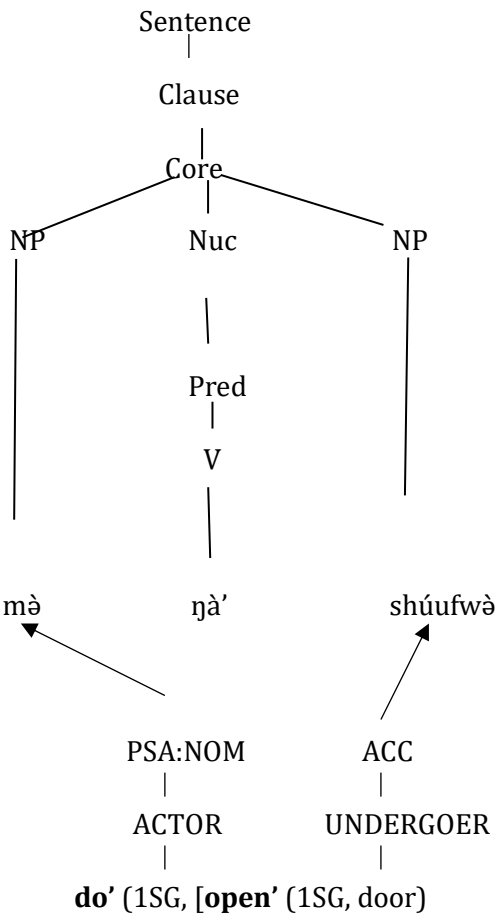


Figure 10. 26 Active form of impersonal passive in Babungo.

(49b.) Babungo (Schaub, 1985:209)

shúufwə ŋá'nə

door open-pf

'The door opened'

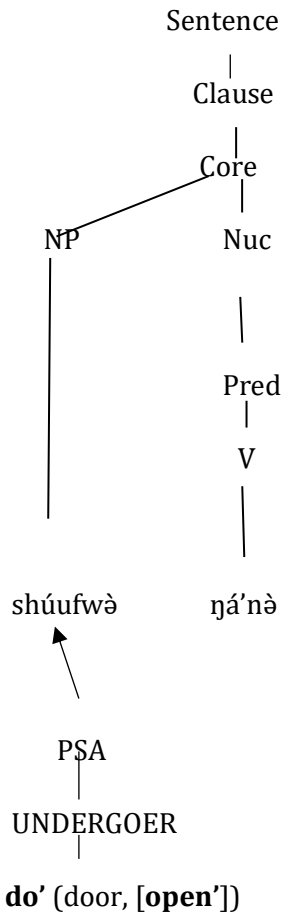


Figure 10. 27 Impersonal passive in Babungo

10.8.4.2.1 Medio-Passive in other Grassfields languages

We see further support for the interpretation of the '-nə' suffix as a medio-passive (also referred to as anti-causative, stative and derived intransitive) construction in the closely related Grassfields languages of Bafut. Tamanji (2009:118, 119) suggests the mediopassive in Bafut points to an action taking place without the intervention of a discernible agent, which would fall outside of the implied agent notion characteristic of the middle voice above. However, it does contain many of the major characteristics of the middle voice such as detransitivisation, focusing of the dynamic activity as a state, the affectedness of the logical subject, and the interpretation of the logical subject of the intransitive verb as undergoer of the action (Klaiman, 1991:105, Nolan, 2012:103). So, while not a perfect prototype, this too will be interpreted as a form of passive construction due to the significant number of middle voice features it contains.

(50a.) Bafut (Tamanji, 2009: 119)

fórɨ́	wâ	à	kɨ̀	bwǐ	à-bàà	j-á
C1-rat	C1-the	SM	P2	burst	C7-bag	the

'The rat (bore a hole into) the bag'

do' (rat, [**open'** (burst, bag)

(50b.) Bafut (Tamanji, 2009: 119)

à-bàà	j-á	à	kɨ̀	bwǐ-nə̂
C7-bag	C7-the	SM	P2	burst-SPON

'the bag got burst'

do' (bag, [**burst'**])

10.8.4.3 Passivisation in Narrow Bantu

Both morphological and analytic means of expressing the passive voice have been identified across the Bantu languages. In contrast with the Grassfields languages above, two allormorphs of the passive extension have been reconstructed occurring after C and *-ibu- occurring after V. The non-canonical shapes –V- and –VCV- and the conditioning of the allomorphs find their parallel with the causative extension. Regarding the analytical realisation of the passive in Bantu, there are several other areas where the passive extension is used sparingly or not at all. One of these areas covers parts of zones H, K and L, but generally a few synchronically underived verb stems attesting *-u- have survived. In the greater part of zone C, the passive extension has been lost due to a phonologically triggered merger with *-uk. Where the passive extension is not frequently used, other extensions (*-am-, -an-) take its place, or other types of constructions, such as a passive participle, are used (Schadeberg, 2003: 78-79)

10.8.4.4. The Anti-passive in Babungo

No anti-passive has previously been identified in Babungo. However, in line with recent research on the presence on the antipassive in Bantu by Bostoen et al (2015), this warrants further investigation. It was noted in examples (22a) and (22b) above that the use of the causative suffix –sə appears to not only introduce a causative function but potentially depatientise or demote the existing direct object to a peripheral function. These will be shown again for convenience.

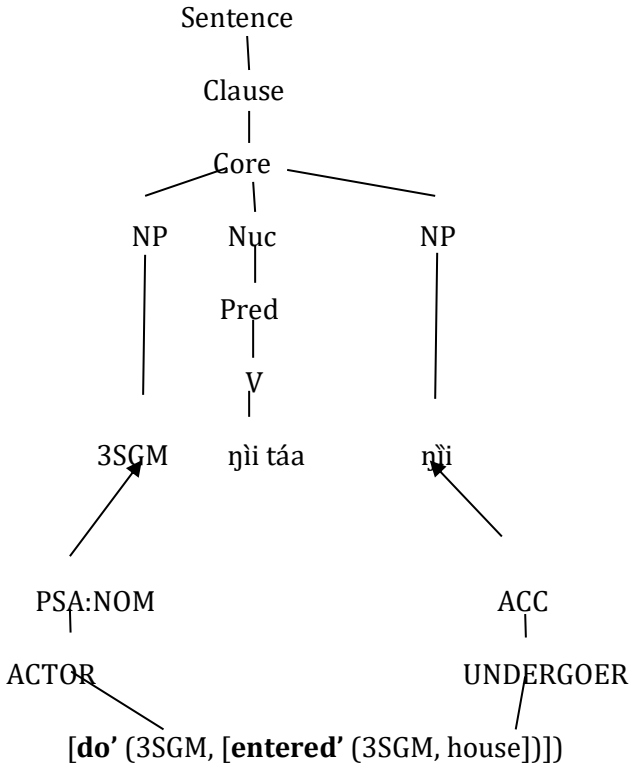


Figure 10. 28 Transitive Verb-Particle Construction

(51a.) Babungo (Schaub, 195: 211)

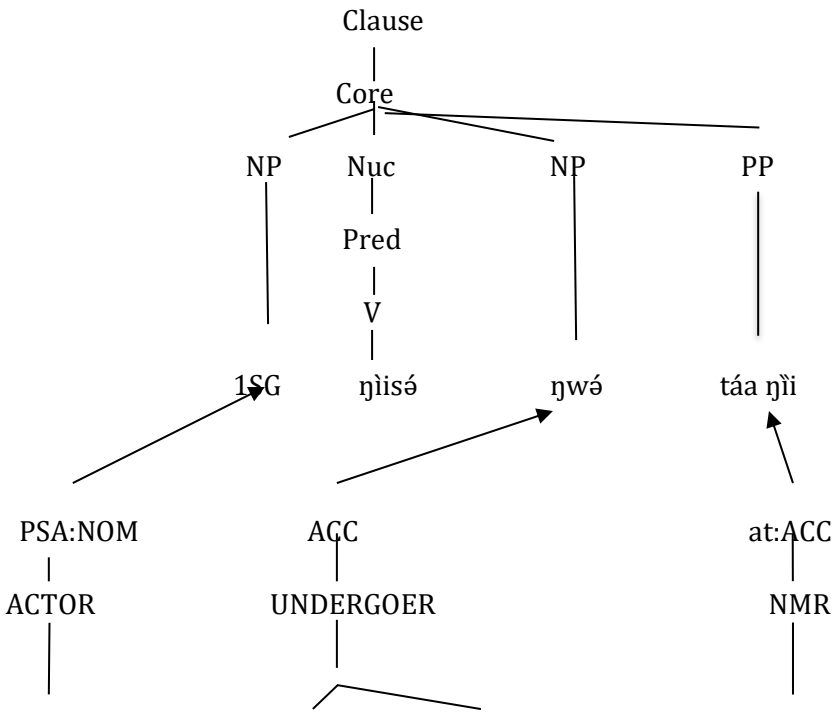
ŋwə́	ŋìi	táa	ŋ̀̀i
3SGM	enter-pf	in	house

'He entered the house.'

(51b.) Babungo (Schaub, 195: 211)

mə̀	ŋìisə́	ŋwə́	táa	ŋ̀̀i
1SG	make-enter-pf	him	in	house

'I made him enter the house.' (ibid)



LS: [**do'** (1SG, Ø)] CAUSE ([**do'** (3SGM, [**entered'** (3SGM])] & [INGR **be-at'** (house, 3SGM))

Figure 10. 29 Causative with semi-transitive verb

Semi-transitive verbs take an obligatory locative adverbial which this study has identified as a satellite construction taking a core argument in this account. One identifying feature of this as a core argument is its obligatory post-verbal position and inability to be interrupted by other constituents. The addition of the causative suffix however removes this constraint allowing a new direct object to intervene and the locative adverbial appears to be demoted to a peripheral/adjunct position as would be the case with other verb classes. Support was provided from Creissel's (2016) study of anti-passives in the Mandé language group.

We saw further evidence of this in the use of the causative suffix –sə in Babanki. The introduction of a third argument in stative, intransitive and transitive verbs when used with the causative suffix must occur in an adjunct position. This often involves the demotion of a core argument to a peripheral position pointing to the potential for a polysemous understanding of the suffix –sə in both a causative and anti-passive sense in certain cases.

While anti-passives have not been widely recognized in the Bantu language family, further support for the potential presence of an anti-passive in the Bantu language family has been found the area of reciprocal constructions with a polysemus anti-passive function.

10.8.4.5 Support for Anti-passive in Narrow Bantu.

While the anti-passive operation is commonly associated with ergative-absolutive languages, support for the notion of an anti-passive in nominative-accusative and more specifically in the Bantu language family, finds support in Bostoen et al's (2015) proposal that the commonly found Bantu reciprocal affix –an may also serve a depatientivising or antipassive function in a number of languages. As the Bantu languages are accusative, and thus the anti-passive, identified closely with ergative languages, is not a construction that has been much investigated or expected. Bostoen et al (2015) however, have proposed that the anti-passive is in fact a common grammatical category in Bantu, though they rarely have a dedicated marker of passivity. If they do, it's often identified as a dedicated marker of reciprocity and therefore overlooked. According to Bostoen et al the antipassive occurs in geographically distinct areas but always has the same semantic origin. The anti-passive is commonly associated with the derivational suffix –an-, a widespread extension that has been reconstructed for Proto-Bantu as -an reciprocal/associative marker but is polysemic thus allowing for other functions. As has been noted, the difference between antipassivisation and object demotion is that the former takes a verbal marker while the latter does not. If this derivational suffix is correctly identified as demoting or removing the patient in a given context it would indeed qualify as an antipassive construction.

Additional support has been found for the presence of the anti-passive constructions in accusative languages. Polinksy (2013) notes that while there is debate surrounding the anti-passive's connection with ergativity, the WALS sample of languages "shows no principled correlation between ergativity and the antipassive." Heath (1976) also proposes the existence of the anti-passive form in nominative accusative languages such as English and several Uto-Aztecan languages. He concludes that the anti-passive can occur in languages with accusative morphology in addition to those with ergative morphology, though the latter is more common (ibid:210). Other examples from the literature are as follows: Say (2005) provides evidence of two types of sja-affixation - lexical "sja-verbs" in Russian carrying out an antipassive function in their incorporation of the transitive object into the sja-verb. Interestingly, in line with notion of "plurality of participants" discussed in section 10.8.4.6 below, some of these verbs of this type "border reflexives proper" such as *umyt'sja* - washing one's face (262,263). He also points to the use of "sja" as a grammatical anti-passive construction in that these uses are less tightly connected to the verbal lexeme and the implied object(p.267)

Both Masullo (1992) and Meijas-Bikandi (1999), provide evidence for the presence of an anti-passive construction in Spanish, while Postal (1977) examines the possibility of an anti-passive in French.

With regard to the antipassive in Bantu, Bostoen et al (2015: 732) suggest that it is the plurality of participants which is semantically reduced by making the patient in a canonically transitive construction less prominent, even implicit. Syntactically speaking, the "depatientive" function of the anti-passive is obtained through the deletion of the demoted second participant in discontinuous reciprocal constructions, which are pervasive in Bantu. The following illustrations (52-56) are a summary of the realisations of various occurrences of anti-passive throughout Bantu provided by Bostoen et al (2015). In some languages, such as Cilubà, the antipassive reading is in complementary distribution with the more central reciprocal/associative meaning. Dom et al. (2015) describe the Cilubà (L31a) sentence in (52a) as an antipassive construction in that the primary verb in (a) is syntactically detransitivised through -angan-. Such a derived verb can no longer take an object as in the active voice construction in (5b). In the first case the Privileged Syntactic Argument (PSA) changes from the A of a transitive predicate to the Sa of an intransitive predicate when the anti-passive marker is used.

Cilubà

(52a.) Cilubà (Dom et al. 2015: 355)

Mù-sàlaayì	u-di	ù-lu-angan-a	mu	ci-alu
C1-soldier	PC1-PRS	SC1-fight-ANTIP-FV	LOC18	C7-meeting.place
cì-à	m-vità...			
PC7-CON	NP1n-war			

'The soldier who is fighting (someone) on the battlefield . . . '

(52b) Cilubà (Dom et al. 2015: 355)

Mù-sàlaayì	u-di	ù-lu-a	mu-lwishì.
C1-soldier	PC1-be	SC1-fight-FV	C1-enemy

'The soldier who is fighting the enemy.'

In others, such as Kirundi, antipassive/reciprocal ambiguity is permitted. Kirundi reciprocals having a plural subject, as in (53) and (54) are ambiguous in terms of a reciprocal versus generic/quantificational reading.

Kirundi

(53) Kirundi (Ndayiragije, 2006: 275)

a-ba-nyéeshuúle ba-a-tuk-an-ye

AUG2-NP2-student SC2-PST-insult-RECP/ANTIP-PRF (original author's gloss)

(i) 'Students insulted each other.'

(ii) 'Students insulted people(arb)'

(54) Kirundi (Ndayiragije, 2006: 275)

i-m-bwa zi-a-ri-an-ye

AUG10-NP10-dogs SC10-PST-eat-RECP/ANTIP-PRF

(i) 'Dogs bit each other.'

(ii) 'Dogs bit people(arb). (Ndayiragije 2006: 275)

Bostoen et al (2015) highlight that this ambiguity can only be removed in order to produce an antipassive reading if the subject is singular, as in (55). Thus, again, changing the PSA from an A of a transitive construction to S of a transitive one. Perhaps best explained in the lexicalised form of a student who "people-insulted".

(55) Kirundi (Ndayiragije, 2006: 276)

u-mu-nyéeshuúle a-a-tuk-an-ye

AUG1-NP1-students SC1-PST-insult-ANTIP-PFV

'A student insulted people(arb).'

In still other languages, such as Kisongye, the core meaning of -an- completely shifted to the antipassive, while the reciprocal/associative function was adopted by another marker (Bostoen et al, 2015: 741).

Kisongye

(56a) Kisongye (Bostoen et al, 2015: 742)

bà-mpùlushì abà-yip-an-a bi-kìle bu-kùfu

C2-police SC2-kill-ANTIP-FV C8-much C14-night

'The police often kill at night.'

(56b) Kisongye (Bostoen et al, 2015: 742)

bà-mpùlushì	abà-yip-a ba-ngìfi	bi-kìle	bu-kùfu
C2-police	SC2-kill-FV NP2-thief	C8-much	C14-night

'The police often kill thieves at night'

Thus, in the above examples (52-26), Bostoen et al (2015) have contended for the existence of the antipassive in Bantu and suggested a type of implicational hierarchy in line with this view. Further studies will be required to test the validity of this hypothesis (ibid:765).

10.8.4.6 Parallels between Babungo's -sə́ suffix and Bantu's –an- affix

Pluractionality is a key feature in Bostoen et al's (2015) account of the grammaticalisation of the –an- affix to anti-passive markers. Factors such as decreased agentivity and a low distinguishability of arguments in reciprocal and associative constructions lay the groundwork for development of the anti-passive understanding of the affix which itself focuses more on the primary subject and event than the patient. They argue that the emergence of the anti-passive in Bantu "emerges as a specific instantiation of the "sociative-reciprocal" category" (ibid:732). It is posited that the notion of "plurality of relations" accounts for the semantic extension from prototypical associative meanings which involve both plurality of participants *and* events to meanings that relate to plurality of events such as iterative, intensive and habitual (ibid: 758). As regards the development of the anti-passive, this arises in connection with the semantic reduction of the notion of plurality of participants and making it implicit.

While not identical we see a number of similar polysemous features of the Babungo suffix -sə́ pointing to a plurality of participants and events that may give insights into its use as a possible anti-passive marker.

Schaub (1985: 221) points out that distributive aspect refers to "an event that occurs more than once, when several actors do the same action, when one actor does it more than once or a combination of these". The occurrences may happen all at once with several actors or sequentially one after the other. These events can happen in one place or be distributed in many places. The distributive aspect is closely related to both the iterative and repetitive aspect. While the iterative aspect refers to a repetition of a previously occurring event, the distributive aspect points to many occurrences in one verb. There are five verb suffixes used to mark the distributive aspect one of which is -sə which is strongly reminiscent of the causative

suffix in Babungo. The use of the -sə suffix in its distributive form and Schaub (1985:222) affirms that it has some causative element.

When we look at some of the features of associative and reciprocal constructions that allows them to grammaticalise into an anti-passive marker we see a number of similarities here.

Plurality of participants

Both the –an- suffix and the -sə suffix can be used to denote a plurality of participants in a given event. While the reciprocal interpretation of –an- refers to a mutual action to "to one another" the associative use can denote "acting in concert" (Bostoen et al, 2015: 747) The latter semantics appears similar to the distributive use of -sə in which several actors do the same action.

Plurality of events (but not of participants)

Plurality of participants can shift in meaning to plurality of events in the –an- affix which allow for the expression of intensive or repetitive actions. Thus, the extension -an- can be detransitivising and to have polysemous meanings such as reciprocal, associative and extensive, the latter signalling that the notion expressed by the verb is extended in time or space (Bostoen et al, 2015: 751). We see a similar semantic usage in the ability of the -sə suffix to denote an event that happens more than once. There is also evidence of the -sə suffix in Babungo denoting what Schaub (1985:223) calls an "excessive" aspect denoting a notion such as "strongly". Interestingly, this appears quite similar to the semantics of what Bostoen et al (2015) define as "intensive". Compare, for example, the Lomongo example (57) provided by Bostoen at al (2015: 751) and Babungo a Ring language of the current research study (58).

Lomongo

(57) Lomongo (Hulstaert 1965: 254)

(a) -sá- 'to complain'

(b) -sá-an- 'to complain (intensively)

Babungo

(58) Babungo (Schaub, 1985: 223)

(a) mə tɨ́ ŋwə́ nə nû
I advise-pf him with thing
'I advised him on something'

(b) mə tɨ̀sə́ ŋwə́ nə nû **(-sə excessive)**
I advise-pf-exc him with thing
'I advised him strongly on something'

Lomongo, too, takes a prepositional phrase to denote the participant towards whom or which the intensive action is aimed and is introduced by a comitative marker. Interestingly, Bostoen et al (2015: 752) suggest that the syntactic structure of such iterative/intensive/habitual verb constructions in languages such as Lomongo are identical in structure to discontinuous reciprocal constructions in Kiswahili and Kisikongo from which anti-passive constructions appear to have stemmed. They highlight that these similarities in syntax and meaning demonstrate how the plurality of participants prototypically associated with -an- can quite easily be reanalysed as a plurality of events.

While there are other uses of the –an- suffix such as socio-causative and middle voice, the above semantic parallels in both the plurality of participants and plurality of events found in Babungo. Additionally, similar semantic and syntactic structures as regards the 'intensive' or Schaub's (1985) 'excessive' use provide a basis for typological comparison and some further rationale as to how an anti-passive usage of the Babungo causative suffix -sə could have arisen.

10.9 Conclusion

As a counterpart to the [Shape] notion as a typologically central component in noun and adjectival classes, Rijkhoff (2003) has proposed that, as a typological predictor, [Transitivity] is central to the existence of a verbal class. An examination of verb classes in Babungo with reference to the notion of transitivity supported this proposal when taken in the sense of an ambi-transitive verbs that can take an object semantically speaking but need not include it expressly in the syntax. However, further clarification by Rijkhoff (2003) is needed to determine whether such a semantic definition as sufficient and, if this is not the case, further investigation made into whether [Dynamicity] may indeed be the differentiating fact. Taking [Transitivity] in the semantic sense when applied to both transitive and

ambi-transitive verbs in Ring, a revised understanding of certain verbal subclasses as verb-particle constructions was proposed from a functional perspective taking into account research of satellite versus verb-framed languages. Based on this renewed understanding, a further examination of the valence and voice changing operations in Ring were examined taking causatives, passives, and anti-passives as an illustration from a functional perspective. Thus, demonstrating the importance of a cross-linguistically accessible approach to word classes and the impact this has of on our understanding of related subclasses and the operations involved therein.

Both morphological and analytical causatives were identified in Babungo and the revised understanding of transitive complex predicates raised questions as to possible dual functions of the causative suffix. Support was drawn from Creissels' (2016) study of the west-African Mandé languages in which he suggested that event nominalisation markers evolved from anti-passive markers. Specifically, he points out that verbs with the meaning 'do, make' often occur in causative periphrases, and are a well-known source of causative markers. Crucially, such verbs are also very often involved in constructions that can be viewed as antipassive periphrases, though they may not be referred to as such thus lending support to the Babungo illustration.

Secondly, while at first glance it may appear that the passive form is not present in Babungo or data on the Ring languages, the use of an impersonal passive that deemphasises the agent to an unknown role and brings the patient onto centre stage may be asserted as a real form of passivisation. Furthermore, with support from neighbouring Grassfields language Bafut, we also see strong evidence for constructions with many of the elements of a medio-passive construction in Babungo such as detransitivisation, change of state, and the affectedness of the PSA in RRG terms.

The understanding of verb subclasses in Babungo as complex predicate verb-particle constructions further lent support to Bostoen et al's hypothesis as to the presence of an anti-passive construction in Bantu. While Bostoen's work found evidence in a reciprocal/anti-passive connection, this study suggested a causative/anti-passive connection in Ring as mentioned above. Further exploration into the semantics of a distributive use of the -sə suffix in plurality on participants point to another possible basis for the emergence of an anti-passive function. Thus, a renewed understanding of transitivity and word classes in Babungo from a functional-typological perspective which draws on the literature surrounding verb-versus satellite framed languages, provided further insights into voice and valence-

changing constructions present in Ring. Additionally, semantic parallels related to the evolution of anti-passive markers in narrow Bantu language provide a basis for further typological research in these areas.

On a broader scale, future research of the Ring and GB languages building on Creissels' and Bostoen et al's work on the connection between anti-passive, the semantics underlying events and causative markers may contribute to a need expressed by Kiessling (2011) in which he points to the need for grammatical descriptions of understudied languages like Ring, with fields such as cultural linguistics and perceptions. In Kiessling (2011:1) he states that, "..in depth research at an interface of descriptive linguistics and cultural studies...does not seem to have received due attention so far in African linguistics: the cultural aspects of event coherence as reflected in the serialisability of particular verbs, since the degree to which individual verbs could be integrated into SVCs reveals the degree of cognitive association of the events which they encode." Thus, extended research on the semantic and cognitive phenomena underlying grammatical structure such as the anti-passive and causative may be provide valuable insights to such pursuits.

Chapter 11. Discussion & Conclusions

11.1 Overview of the issues

In examining any language from a functional-typological perspective, some agreement must be reached on how best to define the word classes in a given language, whether they exist at all, and enquiry made into the motivations for their word order and realisation in the LSNP and the LSC. In moving away from the strictly syntax-first approach of the generativists, some authors in the functionalist school have come up with largely semantic and syntactically language specific definitions when it comes to an assessment of word classes (Dryer, 1992, Dixon 2004). While taking the semantic function of lexemes into account has been a valuable development, problems relating to cross-linguistic comparison have arisen from this approach. Notably, Rijkhoff (2002) has noted that in examining iconic motivations for word order in the simplex noun phrase, many languages had to be discarded from the research due to miscategorisations of elements as adjectives and numerals that were based largely on their function. When syntactic operations such as markedness are taken into account, elements deemed 'adjectives' may in fact turn out to be verbal constituents or relative clauses. Dryer (1988, 1992) himself, acknowledged the problems in his own work as a result of using purely semantic definitions in typological work. Thus, in working towards a functional typological account of word classes, the LSNP and the LSC in the Ring languages, it was necessary to re-examine grammatical descriptions of a selection of these languages to assess whether such word classes exist and how to assess this. Using a modified version of Hengeveld's (1992a, b) Parts of Speech (PoS) system, Rijkhoff (2002) proposed a means of assessing the existence of verbs, nouns, adjectives in a given language which takes both semantic and syntactic factors into account (Adverbs were outside the scope of the current study). The following definitions were provided in light of Rijkhoff's (2002) modified approach to languages lacking a large, distinct adjectival class:

A *verbal* predicate is a predicate which, without further measures being taken, has a predicative use *only*.
A *nominal* predicate is a predicate which, without further measures being taken, can be used as the head of a term (NP).
An *adjectival predicate* is a predicate which, without further measures being taken, can be used as a modifier of a nominal head (Hengeveld, 1992b: 58).

Further to these criteria, Rijkhoff (2000, 2002, 2003) suggested two complementary means of assessing the presence of an adjective class and a verb and noun class: the features of [Shape] and [Transitivity], respectively. The findings regarding word classes go on to have implications for the analysis and understanding of word order, iconic motivations in modifier positions and the realization of the LSNP and the LSC.

The languages under investigation include a selection of Centre, South, and West Ring languages, a subgroup of Grassfields Bantu of northwest Cameroon, based on available data via language descriptions. The Ring languages, and Grassfields Bantu as a whole, have been relatively understudied, and indeed under-described, thus allowing access to relatively new linguistic descriptions by which to test the theories on word classes, the features of Shape and Transitivity as central to such definitions, and their realisation in and impact on the LSNP and LSC. Questions around the status of the adjective have been raised in various descriptions of Ring providing further incentive for a more thorough analysis of the presence of this class (Akumbu and Chibaka, 2012, Ingle, 2013). Furthermore, while syntactic descriptions have been produced, there has been little work done on the Ring languages from a functionalist perspective that also takes semantic underpinnings into account.

11.2 Hypothesis and research questions investigated

This research hypothesised that:

A functional-typological account provides the theoretical basis for identifying and characterizing the ways that word classes in the Ring languages are sensitive to the features of [Shape] and [Transitivity].

The following research questions were used as a means to investigate this hypothesis:

Research Question 1: How are typological word order (WO) predictions realised in the grammar of the Ring languages and what does this reveal about the syntax-semantics interface in typological definitions of word classes?

Research Question 2: Does the adjective exist as a distinct, closed word class in the Ring languages? What does this tell us about the role of the syntax-semantics interface in defining parts-of-speech systems?

Research Question 3: What do the classifier systems of the Ring languages tell us about the feature of [Shape] and its connection to the status of the adjective?

Research Question 4: How do we account for the position of modifiers in the Layered Structure of the Noun Phrase (LSNP)? Does the status of the adjective class play a role here, and what are the implications of this for typological word order prediction principles, such as Rijkhoff's(2002) iconicity model?

Research Question 5: Is the feature of [Transitivity] central to the existence of a distinct verb and noun class just as the feature of [Shape] is central to the existence of an adjectival class? And what is its impact on voice and valence-changing constructions in Ring?

11.3 Data sources: The Ring languages

Data was sourced from a range of grammatical description, post-graduate theses from the University of Yaounde and personal correspondence with linguist and native Babanki speaker, Dr. Pius Akumbu. Most texts were in the form of descriptive grammars and did not come from a functional framework with the exceptions of some work by Watters (1979) on Aghem and some references made to Babungo in Rijkhoff (2002) from a functional perspective. Descriptions ranged from those of the noun phrase in a given language such as Bamunka and more comprehensive descriptions covering syntax and focus marking such as Babungo and Aghem. Particular reference was made to Babungo with regard to word order and verb classes due to its nature as one of the larger data sources, while data from the remaining Ring languages is drawn on for further illustrative and comparative purposes.

11.4 Value of the RRG framework

The Role and Reference Grammar (RRG) model was deemed a suitable means of assessing these languages due to its ability to take the syntax-semantics interface into account in its Layered Structure of the Noun Phrase and Clause and the semantic decomposition identified in its logical structures. The RRG model's commitment to describe languages from a diverse range of backgrounds without imposing the better-known features of western languages for instance made it a helpful tool in examining a subgroup of Grassfields Bantu, Niger-Congo languages. As this research drew on a range of functionalist approaches in its early stages, such as Dryer (2007), Dixon and Aikhenvald (2004) and Rijkhoff (2002), the RRG model allowed for both syntactic and semantic analysis without favouring any one

approach too soon. As the latter end of the thesis drew largely in Rijkhoff's (2002) approach to iconicity and word classes, the RRG model remained a useful tool, particularly in that it has been acknowledged by both Van Valin and La Polla (1997:52-9) and Rijkhoff (2002:4) to work complementarily with Rijkhoff's earlier model of noun phrase structure.

11.5 Research findings

In answering research question 1, *"How are typological word order (WO) predictions realised in the grammar of the Ring languages and what does this reveal about the syntax-semantics interface in typological definitions of word classes?"*, chapter 5 examined word order patterns in Ring with Babungo as a case in point. This introduced Dryer's (2007) approach to typology and word classes which takes a largely semantic functionalist approach in defining its terms. The purpose was to assess its suitability as a framework for investigating word order from a typological perspective, and to address potential challenges that could arise from a largely semantically defined approach.

While Babungo did adhere to the majority of predictions made and supported that division of a VO-OV typology, questions around the definitions of terms such as adjective began to arise as an issue at this point. Dryer's (2007) thesis that SVO languages pattern closely with VO languages has been largely supported by an analysis of bidirectional and unidirectional word order patterns in Babungo. A number of discrepancies were predictable by Dryer's (2007) own work such as the presence of both an NG and GN pattern in SVO languages, departing here from the verb-initial pattern. A possible explanation is that, like Fijian and unlike English, the demonstrative in Babungo belongs to a different category to that of determiner, thus explaining the discrepancy in word order. Dryer's (2007) critique of Greenberg's conclusions in certain areas is also supported by the Babungo data. For example, in relation to the intensifier/adjective patterns since the verb-initial languages he argues that Greenberg's data were primarily AdjIntens. Dryer suggests that, contrary to Greenberg's suggestion, both orders are common among verb-initial languages, and that the order of IntensAdj is possibly somewhat more common among verb-initial languages. In Babungo we see data that exhibits both orders thus supporting Dryer's (2007) thesis.

The debate as to whether typological categories should be more semantically or syntactically motivated was raised in the analysis as a result of discrepancies found in the predicted orderings of adjectives, demonstratives and numerals. Furthermore, as seen in section 5.6.9.6, we see a verb acting as an intensifier. Such

findings beg the question as to whether the definitions used in cross-linguistic typological analyses are sufficient. Babungo, for instance showed the same order for adjective and demonstrative but both orders in relation to numerals. This relates to Rijkhoff's (2002) questioning of Dryer's (1991) purely semantic definitions relating to word classes such as adjective and numeral. He points out that in an effort to move away from rigidly defined formal grammatical categories, some semantic motivations in categorising elements such as that of "adjective" have become too loosely defined, importing English language notions of the constituent of adjective where another term might serve us better. Quoting Dryer (1988), Rijkhoff (2002:284) notes that in many of the languages he has studied much of what are called adjectives are really verbs, and so-called 'adjectives' modifying nouns are actually relative clauses. This may provide insights into apparent discrepancies in word order predictions relating to constituents such as numeral and adjective and this will be further explored later in chapters relating to the status of word classes in the Ring languages and iconic predictions relating to the layered structure of the noun phrase.

Having raised the questions of the validity of functional definitions of word classes that are purely semantically based, chapter 6 sought to address research question 2, *"Does the adjective exist as a distinct, closed word class in the Ring languages? What does this tell us about the role of the syntax-semantics interface in defining parts-of-speech systems?".* Having assessed two approaches to establishing the word classes of a given language; one semantic and syntactically language specific, and the other taking both functional and cross-linguistic syntactic features of markedness into account (Dixon, 2004, Rijkhoff, 2002, Hengeveld 1992a, b), the latter approach was determined to be the most useful. A selection of data from the Ring languages was then examined with particular reference to the word class of adjective. It was found that while lexemes denoting verbal and nominal categories met with Hengeveld's (1992a, b) criteria as adapted by Rijkhoff (2002), constituents regarded as adjectives did not in many cases. While a small number of lexemes in the languages studied could be regarded as true adjectives (though potentially merely due to a loss of evidence for verbal or nominal roots), the majority appeared to be verb or noun-like elements with 'further measures' taken on them for the purpose of nominal modification. For instance, in Bamunka, so-called 'adjectives' appeared to carry the form of an associative noun phrase construction or a verb that was reduplicated or took a verbal extension.

(1) Bamunka (Ingle 2013:63)

ŋgwó	ká -mbuù	mǎ
oil.C6a	C7-red	C6a.AM

'red oil' (Ingle 2013:69)

or

(2) Bamunka (Ingle 2013:63)

nyiǐ	ˈchyuú-chyuú
cutlass.C9	sharp-sharp

'sharp cutlass'

The use of a framework that took both semantic and cross-linguistically defined measures of markedness into account allowed for a more nuanced definition of the adjective class in Ring. Unlike Dryer's (2007) semantic-first approach or Dixon's (2004) language-specific approach, a parts of speech categorisation for the adjective class was produced that takes the syntax-semantics interface into account and can be compared cross-linguistically with greater ease and accuracy. Finally, Rijkhoff's (2002) theory that the lexical feature of [+/- Shape] in the nominals of a language can further indicate the presence or absence of an adjectival class was introduced. This is often indicated by the presence or absence of numeral classifiers, as numerals can only directly modify nominals of the feature [+Shape].

This notion of the Seinsart feature of [Shape] was addressed in chapter 7 with reference to research question 3, *"What do the classifier systems of the Ring languages tell us about the feature of [Shape] and its connection to the status of the adjective?".* As it was proposed that a language with a distinct class of adjectives can only be present if the nominals contain the feature [+Shape], a selection of the Ring languages were examined in this regard. Firstly, it was assessed as to whether numeral classifiers were present in these languages as this is an indicator of a [-Shape] languages, one without a large, distinct class of adjectives. While numeral classifiers were found to be used with countable nouns in Bamunka, there was not clear evidence of this in Mmen and Babungo.

Based on research relating to the co-existence and possible replacement of noun class systems in related Grassfields and Bantu languages, and the proposal by Denny and Creider (1986) that shape played a central role in the Proto-Bantu noun class system, the study went beyond the identification of numeral classifiers and

investigated whether noun class markers in Ring could indicate the presence of [-Shape] root nouns. The current noun class systems have been grammaticalised in many cases, and so, while many have semantic similarities can be identified, clear semantic borders denoted by noun class affixes may no longer be necessarily in effect. However, by looking diachronically at the possible Proto-Bantu ancestor of Grassfields Bantu, and observing shape-based semantic similarities in the languages under study to this day, we saw that noun class membership may indeed have been more semantically transparent than sometimes assumed, with Shape/Configuration being a major characteristic of these distinctions as per Denny and Creider (1986). As is known, the noun class roots cannot occur alone apart from their class affix. This begs the question whether the noun roots alone were conceived of by speakers as having the lexical feature of [–Shape] with the relevant affix proving information on characteristics such as animacy and shape configuration. This is supported by Dimmendaal's (2011:137, 138) observation on the development of numeral classifier systems in related Bantu languages such as Ejagham of the Ekoid family. He notes that as noun class systems diminished or became obsolete, numeral classifiers replaced them, providing information on the shape of a noun in systems where the distinction between mass nouns and countables do not play a role in the grammatical system. He suggests that the emergence of such strategies "reflect a more deeply rooted cognitive basis (manifested in the mass/count continuum) *where shape and form play a central role"* (emphasis added). Such systems have begun to develop both in place of and alongside a number of Grassfields Bantu noun class systems, at times to compensate for a loss of noun classes (Kiessling, 2018). Kiessling (2018) points out that, while the study of these systems is still at an early stage, the possible motivations relate to countability, individuation and specificity.

Based on this further support for the absence of a distinct class of adjectives in the Ring languages based on Rijkhoff's (2002) modified version of Hengeveld's PoS system and evidence for the languages in question as having the nominal feature of [-Shape], the Ring languages were placed in a PoS 3/4 group. The notion of a potential misattribution of word classes, with specific reference to the adjective, was taken into account in an examination of modifier patterns in the LSNP and how well they adhere to notions of iconic motivation.

Chapter 8 built on approaches of authors such as Dimmendaal (2011) and, in particular (Kiessling, 2018) in tracing possible semantic and syntactic bases for the emergence of numeral classifiers in the Ring languages. In terms of the semantic

roots of classifiers, the data showed support for both Dimmendaal's and Kiessling's assertion that "eye" stands out as a salient source of classifier construction in Isu, Babanki and Kom. While the prominent numeral classifier *mbyuu(hə)* unit(s) fell under Kiessling's category of terms of aggregation and partition. The probable syntactic basis for the emergence of the Ring classifier was strongly demonstrated by Bamunka to be in line with Kiessling's (2018) proposal that an associative construction exhibiting dependency reversal is the source. That is, one in which the N2 (the syntactically dependent noun) is the semantic head. Compare,

(3) Bamunka (Ingle 2013:72)

ŋkwé	kə̀-tyʉ̆
mother.C9	C7-tree

'big tree' **(kə̀-tyʉ̆ is syntactically N2 dependent noun but semantic head)**

(4) Bamunka (Ingle 2013:58)

mbyuú	nyuù	hə̆	i-buŭ
unit.C10	hair.C9	C10.AM	INANM-two

'two hairs' **(nyuù is syntactically N2 dependent noun but semantic head)**

Support from Bamunka also demonstrated for the notion that Allan's (1977) proposed universal that, "a classifier...cannot be interrupted by the noun it classifies" does not apply in all cases. Bamunka classifiers are Type IIa that is, CLF N Num. The close patterning of Ring languages such as Bamunka, Babanki and Kiessling's previous findings on Isu, demonstrate further evidence for a similar pattern in the emergence of numeral classifiers in related Niger-Congo languages which Dimmendaal asserts is motivated by a system in which the count-mass continuum plays a significant role. He suggests that these reflect a cognitive system wherein shape and form are central which is very much in line with findings on the role of the semantic feature of [Shape] in the Ring noun class system, at least historically. Taken in conjunction with findings on the shape based noun class remnants of Denny & Creider's (1986) proposals relating to PB, and the absence of a large closed class of adjectives in Ring, there is a strong case to be made for the existence of nominal roots that are characterised by the feature [-Shape] in these languages. Thus, Rikjhoff's (2002) suggestion of the role of [Shape] in the presence or absence of an adjectival class, typologically speaking, is further strengthened.

Chapter 9 went on to examine research question 4, *"How do we account for the position of modifiers in the Layered Structure of the Noun Phrase (LSNP)? Does the status of the adjective class play a role here, and what are the implications of this for word order prediction principles, such as Rijkhoff's(2002) iconicity model?".* This RRG analysis of the LSNP in a selection of the Ring languages raised a number of questions relating to Rijkhoff's (2004) typological prediction that the ordering of modifying elements in a given language will iconically reflect that underlying layered semantic structure. The connection is an important one, as Van Valin and La Polla (1997:69) note that the morphosyntactic structure of the NP is very much semantically based. The universal aspects of the layered structure of clauses and NPs are not arbitrarily, but rather semantically motivated. Thus, an analysis of the underlying semantics of the NP as they relate to the LSNP may shed light on such motivations and give insights into cross-linguistics labelling of elements such as noun, adjective and relative clause. Rijkhoff's (2002) explanation for exceptions to predictions related to the layering of operators may be explained by the fact that such elements are not in fact elements of the integral (simplex) NP but are rather miscategorised elements of a more complex phrase. We saw evidence of this in the possible misattribution of the verb-like elements and associative noun phrases as simple adjectives, and in the allocation of the numeral in Babungo as a simple element when in fact Schaub (1985) himself did not recognise it as such. Therefore, at first glance the languages analysed are a non-iconic anomaly here similar to those identified by Hawkins (1983) leading him to modify Greenberg's twentieth universal:

Universal 20'. *When any or all of the items (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).

It may be that these GB Ring languages have raised some challenges to this theory, but an analysis of the data seems to suggest some other explanations. Certain elements, such as those deemed 'adjective' may not in fact be elements of the simple integral NP but part of a more complex structure. As noted by Rijkhoff (2002), in an effort to move away from rigidly defined formal grammatical categories, some

semantic motivations in categorising elements such as that of 'adjective' have become too loosely defined, importing English language notions of the constituent of adjective where another term be serve us better. Another cause for questioning the categorisation of the modifying constituents studied under the term 'adjective' is their close alignment to the structure of the associative noun phrase in Bamunka. The deletion of the constituent's suffix and use of what Ingle (2013) has labelled an associative marker lends further support to the theory that purely semantically based definitions of the term "adjective" may not always be helpful.

The above findings suggest that, though Bamunka, at first, appears to be non-iconic with regard to Rijkhoff's (2002) theory the explanation may be found in the miscategorisation of constituents rather than his typological predictions. While we saw that authors such as Dryer (1992) have argued for semantically based definitions for the notion of "adjective" for cross-linguistic purposes, the difficulties with utilising such a broad term have become apparent in the above analysis. Constituents which may be better labelled in verbal or noun-like terms at first suggest a non-iconic typological pattern, when in fact, it may be that they have been categorised in semantic terms outside of the scope of such typological predictions. For instance, as we saw in chapter 4 and in our overview of the LSNP in the Ring languages, adjectives in particular are often very noun or verb-like in the syntactic sense with some 'adjectives' taking the agreement marking of an associative NP. If this is the case and constituents deemed adjectives in the Ring languages are in fact appositional elements or compound noun structures or verb-like elements then we may not be dealing with the integral (simplex) NP as per Rijkhoff (2002) theory which may help in explaining their apparent lack of adherence to his iconic predictions.

A significant discrepancy as to Rijkhoff's (2002) word order predictions on the LSNP, was seen in the presence of demonstratives intervening between adjective and number appeared to contradict the Principle of Scope which asserts that the semantic distance of grammatical and lexical modifiers (operators and satellites) relative to the head in the underlying structure are reflected iconically in the realization of the linguistic expression. Two ordering features are predicted by this principle. Firstly, that constituents in the scope of a certain modifier (part of the same semantic layer) are expressed in a continuous sequence. And secondly, that operators and satellites occur immediately before or after the material they have in their scope. The following is a simplified outline of this layered structure.

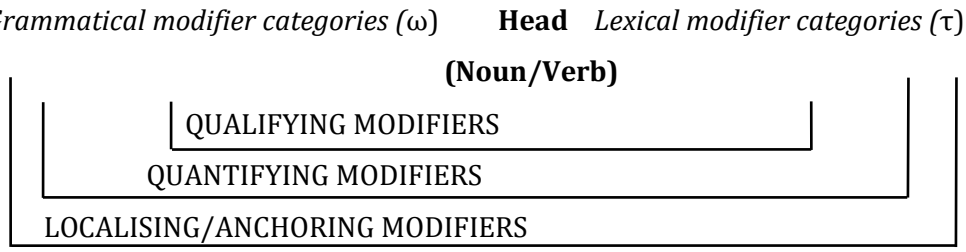


Figure 11. 1 Functional modifier categories in a layered representation of NP/clause structure reflecting differences in scope (Rijkhoff, 2008a, 2008c).

This is also denoted as: [ω2b [ω2a [ω1 N τ1] τ2a] τ2b] (Rijkhoff, 2002:311). Here we see [ω1 N τ1] constituting the quality layer which contains the qualifying operator ω1 and the qualifying satellite τ1. This is nested in the quantity layer with quantifying operator ω2 and quantifying satellite τ2. Finally, the quantity layer is in turn nested in the locations layer with localising operator ω2b and localising satellite τ2b. The simplex, integral NP is of interest in particular to this study so we will use the following modified version proposed by Rijkhoff (2002:314): [ω2b [ω2a [ω1 N τ1].

Not all NPs are specified for all its operator and satellite positions, but the following would be the expected patterns. The above symbols with appropriate modifier categories – demonstrative (ω2b), numeral (ω2a), adjective (τ1), and free nominal aspect (ω1). Thus, we would expect that the demonstrative (ω2b) would not intervene between the numeral (ω2a) and the adjective (τ1). However, with reference to a similar situation in Babungo, Rijkhoff (2002:325) suggests that this is not a counter-example. In fact, numerals are expressed in the form of an embedded modifier, that is a quantifying satellite (τ2) rather than an operator (ω2a). Thus, their syntactic properties can be explained due to the fact that numerals are subject to conflicting ordering preferences. According to the Principle of Scope and the Principle of Head Proximity the preferred pattern is [N numτ2 dem]. However, the Principle of Domain Integrity, a competing principle which states that "Constituents prefer to remain within the boundaries of their domain; constituents of a domain prefer not to be interrupted by embedded domains." (Rijkhoff, 1990a) explains why constituents of the matrix domain, in this case [N dem] avoid being interrupted by embedded domains, such as lexical expressions of cardinality which appears to be the case here. Thus, we saw the competing interactions of two ordering principles at work.

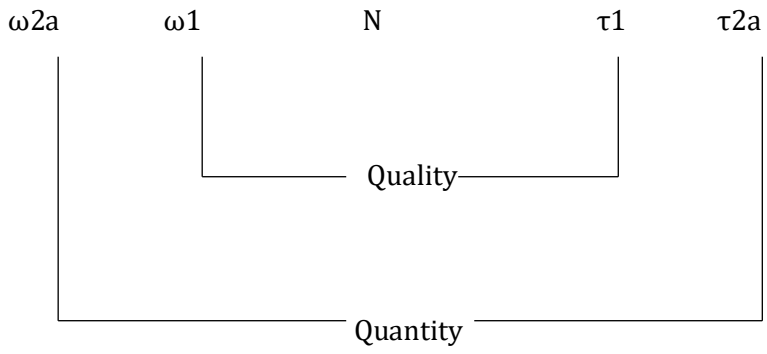


Figure 11. 2 Quality and Quantity Operators and Satellites

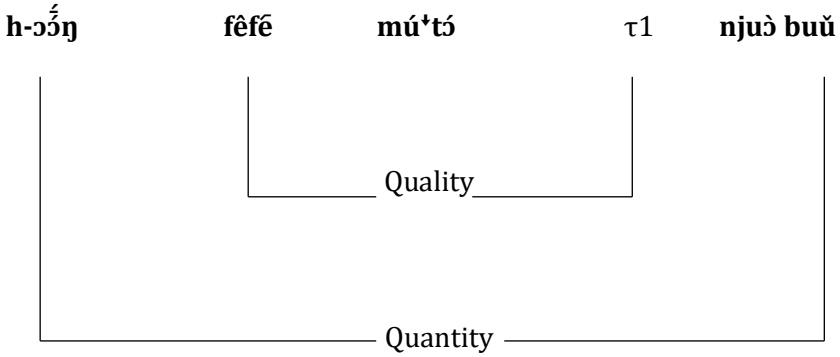


Figure 11. 3 Quality and Quantity Operators and Satellites in Bamunka

(5) Bamunka (Ingle 2013: 53)

mú'tɔ́	fêfē	h-ʉ́ə́	h-ɔ́ɔ́ŋ	njuɔ̀	buŭ
farm.C10	new	C10-3PL.POSS	C10-PROX	digit	two

'these their twelve new farms'

Additional evidence for numerals taking complex rather than simplex forms was seen in the West Ring language Aghem in numbers above ten. The majority of decades appeared as a genitive/associative NP type form:

(6) Aghem (Hyman, 1979:35)

ŋ́-'ghɨ́'m	ǹ-tɨ́ghá
ten	AM-three

'thirty' ('tens of three')

While the formation of numbers between decades used the connecting element '*àghè'* which Hyman (1979:35) suggests may be related to the individual forms '*à* 'with' and *ghè* 'them'.

Thus, the reason for the apparent discrepancies of these Ring languages as they pertain to iconicity predictions may be found in the miscategorisations of complex elements such as appositional phrases and complex numeral as simplex elements of the integral NP. Evidence was found in the study of word classes and classifiers as examined in chapters 4 and 5. A brief look at the numeral in Bamunka and Aghem suggested the existence of complex constituents, as Schaub (1985) and Rijkhoff (2002) had proposed for the Babungo numeral. In more recent studies, Rijkhoff (2002) has noted the necessity of dropping certain languages from his study of iconic predictions regarding the word order in the integral NP due to a misattribution of word classes due to largely semantic definitions. It appears that there is evidence in the Ring languages for the misattribution of elements as simplex rather than complex as having skewed the findings as they pertain to Rijkhoff's (2002) theory of scope as it relates to the integral NP. Here, again, the importance of having a cross-linguistic account of parts of speech that takes the interface of syntax and semantics into account from a typologically workable perspective.

Another interesting finding in the analysis of the LSNP was the compatibility of the RRG model with Rijkhoff's (2002) proposal of the Seinsart feature of [Shape] being a central notion in understanding nominal aspect. The position for a nuclear operator of nominal classification in the RRG framework allows for classifiers which provide information of the nature and shape of nominals into account such as 'stick-like' or 'round' to be accounted for (Pavey, 2010:194). This allowed for the suggested findings in chapter 7 on noun class markers in Ring providing information on shape and spatial boundedness to be included in the RRG representation of the LSNP as seen in figure 9.39.

Finally, building on findings in line with Rijkhoff's (2002) proposal of [Shape] as a central feature in analysing noun and adjectival class systems, chapter 10 sought to investigate his theory that [Transitivity] plays a central role in the existence of a distinct verbal and nominal class. Thus, Research question 5: *"Is the feature of [Transitivity] central to the existence of a distinct verb and noun class just as the feature of [Shape] is central to the existence of an adjectival class? And what is its impact on voice and valence-changing constructions in Ring?"* was investigated from a functional perspective along with the impact of such findings on voice and valence in the LSC. In line with Rijkhoff's (2002) proposal, a distinct set of transitive lexemes was found in Babungo. Posing some challenge to his theory, the existence of an intransitive/transitive group in Babanki and Kom which allow, but do not demand, an object was examined. An explanation may be found in Dixon and

Aikhenvald's (2004) ambitransitive subgroup which can function in both an intransitive and transitive environment, but do have the ability to code for a dynamic transitive event without having to take additional syntactic operations on the root. Should Rijkhoff (2003) clarify his definition of [Transitivity] to include an obligatory syntactically expressed object, it may be beneficial to re-examine [Dynamicity] as the predicting feature of a verbal class. Building on the idea of transitivity as a central notion in the existence of a verbal class, at least semantically speaking, a revised understanding of semi-transitive and bi-transitive lexemes in Babungo was provided proposing the existence of complex transitive predicates having taken into account constructionist literature on verb and satellite framed languages. Significantly, in the examination of voice and valence changing operations in the LSC, the revised understanding of Schaub's (1985) semi- and bi-transitive subclasses as transitive complex predicates raised questions as to possible dual functions of the causative suffix. Creissel's (2016) study of the west-African Mandé languages lent support to this notion in his suggestion that event nominalisation markers evolved from anti-passive markers. In particular, he pointed to verbs with the meaning 'do, make' that often occur in occur in causative periphrases as a well-known source of causative markers. Such verbs are also very often involved in constructions that can be viewed as antipassive periphrases, though they may not be referred to as such, thus further strengthening the proposals relating to Babungo. Further evidence for the possible evolution of a polysemous anti-passive use of the -sə causative marker is found in a comparison of the semantics of the distributive use of this marker which can point to multiple actors, multiple occurrences of the event or a combination of both. It was highlighted that the feature of plurality of participants could provide a basis for the development of an anti-passive function stemming from semantic features such as decreased agentivity and a low distinguishability of arguments. This also contributed support to the notion of the existence of anti-passive constructions in nominative-accusative languages in a wider sense, and in related languages of the Bantu family in particular which have been largely unaddressed at this point. Thus, a cross-linguistically comparable approach to word classes which takes into account the semantic motivations underlying their existence can have a significant impact on our understanding of related subclasses and operations, such as voice and valence.

11.6 Conclusions and Areas of Future Research

An analysis of word classes in the Ring languages from a functional-typological perspective has demonstrated the importance of taking neither syntax-first nor a semantic-only approach to the definition of word classes. A critique of both Dryer (1992) and Dixon's (2004) approach pointed to Hengeveld's (1992a, b) parts-of-speech system as a more useful approach to comparing languages cross-linguistically. Data from the Ring languages under investigation illustrated that a largely semantic and syntactically language–specific approach could lead to the miscategorisation of associative noun phrases and verb-like elements as members of a distinct adjectival class. These findings indicate further implications for typological research as a whole in that such misattributions can skew findings centred around the iconic underpinnings of modifier order in the simple noun phrase. Not only the miscategorisations of certain canonical word classes, but the miscategorisations of complex numerals as simplex leading to apparent counter-examples to the Principle of Scope, as pointed out by Rijkhoff (2002:171) was supported by an examination of the numeral in Bamunka and Aghem in chapter 8.

The centrality of the notion of [Shape] in cross-linguistic research, deemed by Rijkhoff (2002) a seinsart feature; the nominal aspect correlate of the verbal aspect category of aktionsart, was evidenced in its central role in pointing to the lack of a distinct adjectival class in Ring, and its diachronic roots in the Proto-Bantu noun class system. The connection between noun class markers and numeral classifiers in designating spatial boundedness to nominal roots was supported in the analysis of a selection of Ring language data, however further research would strengthen such assertions. The complementarity of Rijkhoff's (2002) proposal of [Shape] as an importance feature of nominal aspect with the RRG model was indicated in Figures 8.30 and 8.31 in which the RRG framework allows a slot for the nuclear operator of nominal aspect. The suitability of RRG as a framework that indicates both semantic underpinnings and formal representations without imposing features of better-known Western languages is again demonstrated in this instance. These findings also strengthen the assertions of Denny and Creider (1986), Kiessling (2018) and Dimmendaal (2011) on the importance of assessing the impact of the notion of [Shape] when assessing the formal realisations of recently documented and understudied languages of the Bantoid and related Bantu languages. An examination of semantic roots of classifiers in languages such as Bamunka and Babanki and syntactic grammaticalisation paths based on reverse dependency associative constructions fall in line with Kiessling's (2018) proposal as to the

emergence of numeral classifiers in Niger-Congo. This further strengthens notions that shape and form play a central role in the Ring classification system as it is hypothesised by both Kiessling and Dimmendaal that the emergence of numeral classifiers in related languages are compensating for a loss of noun classes which features such as shape and form played a central role. An incentive is provided to further explore the connection between the loss of noun classes in Ring and related Grassfields Bantu languages and their replacement by numeral classifiers. This could be pursued in conjunction with the work of Rijkhoff (2003) who points to the notion of seinsart features and spatial boundedness and configuration as playing a role, not only in noun classification, but in the presence of a distinct adjectival class.

Finally, just as [Shape] was analysed as a central feature with relevance to adjectival and nominal classes, Rijkhoff (2003) proposed that [Transitivity] was crucial in identifying the presence of a verbal and noun class. A language with a distinct class of verbs, and by implication a distinct class of noun based on Hengeveld's (1992a, b) Parts of Speech hierarchy, a language must have a class of lexemes that denote the properties of a prototypical dynamic event between an agent and a patient, i.e. transitive lexemes. With Babungo taken as a case in point a set of transitive lexemes was indeed identified, and while Babanki and Kom raised questions as to this notion, the transitive/intransitive group was best analysed as an ambi-transitive subclass with the ability to capture the elements of a prototypical event. Building on the centrality of transitivity to an understanding of word classes from a functional-typological perspective, two subclasses deemed by Schaub (1985) as semi-transitive and bi-transitive were reanalysed as transitive and intransitive complex verb constructions in light of literature on verb- and satellite framed languages. This led to implications for realisations of voice and valence changing constructions in the Layered Structure of the Clause (LSC). Notably, an analysis of the morphological causative suffix lent weight to assertions by authors such as Creissels (2016) and Bostoen et al (2015) as to the presence of anti-passive operations in nominative-accusative languages in general, and West-African and Bantu languages in particular. Furthermore, a comparison of the semantic uses of a distributive use of the causative -sə with the reciprocal affix –an- in Bantu pointed to the feature of plurality of participants as a potential basis for the development of an anti-passive function in this suffix in Ring.

Thus, an analysis of the features of [Shape] and [Transitivity] in the Ring languages, has supported the notion that functional-typological definitions of word classes are sensitive to the feature of [Shape] in its nominal classification system

and presence of an adjectival class, while the feature of [Transitivity] plays a crucial role in a reanalysis of Schaub's (1985) 'semi-transitives' and 'bi-transitives' into complex predicates in Ring. It has been suggested that [Dynamicity] rather than [Transitivity] may be the differentiating factor when it comes to the presence of a verbal class in a given language. Furthermore, cross-linguistic definitions of word classes must take both semantic and syntactic features such as shape and markedness into account rather than syntax-first or semantic-only approaches.

While outside the scope of this study, future research could look further into the cognitive factors at play in Grassfields Bantu Ring speakers and those of related languages as regards their perception of shape in nominal roots and classifiers. The application of Seifart's (2005) 'Shape Classifier Task' in Mirana as described in section 7.6 in which he found that, apart from deictic markers, class markers provided the most important cues to establish reference or attribute shape to objects both in primary identification and anaphorically apart from noun roots, may provide further evidence for the findings in this research if applied to GB speakers.

Extended research of the Ring and wider Grassfields Bantu languages building on Creissels' (2016) work on the connection between anti-passive and causative markers may provide further weight to this theory. Along these lines, Kiessling (2011:1) points to the need for grammatical descriptions of understudied languages like Ring, with fields such as cultural linguistics and perceptions, "..in depth research at an interface of descriptive linguistics and cultural studies...does not seem to have received due attention so far in African linguistics: the cultural aspects of event coherence as reflected in the serialisability of particular verbs, since the degree to which individual verbs could be integrated into SVCs reveals the degree of cognitive association of the events which they encode." Understanding how the speakers of a given language view the world, the metaphorical extensions they may make based in their history and culture, and how these perceptions are realised in their grammar is an area in which native speakers and others can better understand the integrity and value of their and mother tongue along with their unique perceptions of the world. Furthermore, it can provide insights into cognitive and universal factors from a typological perspective that may supersede cultural boundaries.

11.7 Significance of findings in relation to the research hypothesis

The research hypothesis in this research stated:

A functional-typological account provides the theoretical basis for identifying and characterizing the ways that word classes in the Ring languages are sensitive to the features of [Shape] and [Transitivity].

While an analysis of Babungo in relation to Dryer's predictions relating to verb-initial languages, Dryer himself highlights that the purely semantic definition of word classes in his own approach can lead to appositive noun phrase and relative being identified as adjectives, and complex noun phrases being identified as simple numerals. These issues become more evident when word order in the NP is adjectival class is missing from the Ring languages.

In exploring reasons for the lack of a distinct adjectival class, research questions 2 and 3 were answered; "Does the adjective exist as a distinct, closed word class in the Ring languages? What does this tell us about the role of the syntax-semantics interface in defining parts-of-speech systems?" and "What do the classifier systems of the Ring languages tell us about the feature of [Shape] and its connection to the status of the adjective?" Delving further into the semantic motivations for the absence of a large adjectival class, the presence of numeral classifiers in Bamunka supported Rijkhoff's theory that these point to [-Shape] nominals and, therefore, the lack of a large adjectival class. However, since not all Ring languages contain numeral classifiers, their noun class system was examined as a potential means for providing the shape/boundedness feature that is otherwise played by numeral classifiers in other languages. While some have argued that Bantu and Grassfields Bantu noun class system have become largely opaque, Denny and Creider's (1986) suggestion that the Proto-Bantu system was very much characterised by the features of shape and configuration was examined. A number of semantic similarities in a selection of Ring languages to Denny and Creider's findings further strengthen the assertion of the role of noun class affixes in providing the shape/boundedness feature to otherwise [-Shape] concept label-like noun roots. Research from Kiessling (2018) and Dimmendaal (2011) that the emergence of numeral classifiers in Isu (Ring) and related Bantoid languages compensates for the loss of noun class systems in which shape and configuration played a central role provided further typological support for the assertions made in this research. Furthermore, the semantic and syntactic roots of a number of Ring languages such as Bamunka and Babanki in the presence and potentially emerging forms of numeral classifiers in very much in line with Kiessling's (2018) proposed grammaticalisation paths, particularly with regard to the reverse-dependency

associative construction as a syntactic root form. Again, tracing the line between, classifiers, [-Shape] nominals, and the lack of a large closed adjectival class. These findings on the role of the semantic feature of [Shape] also has implications for Rijkhoff's proposed universal which stated,

If a language has a distinct class of adjectives, then the nouns in that language are generally characterised by the feature [+Shape] (Rijkhoff, 2002:142).

The findings related to the possible role of noun class markers in Ring, at least historically providing information on the shape and configuration of nouns, along with data in Ring that supported Kiessling and Dimmendaal's view that the emergence of numeral classifiers may be compensating for this is significant. Rijkhoff (2002: 142) has stated that Type 3 / 4 languages would not violate this implication as they do not have sortal classifiers. However, Bamunka, a type 3 /4 language and the clearest example of a Ring language with sortal classifiers suggests at least one exception to this universal. Furthermore, evidence from the shape-based semantics of Ring noun class systems and the emergent numeral classifier system in a language such as Babanki, suggest that not only sortal classifiers, but noun class markers may also play a significant role in identifying a [-Shape] language which may have implications for those in a PoS 3 / 4 system. Rijkhoff points to the significance of sortal rather than mensural classifiers as indicators of [-Shape] nominals. However, evidence from Ring supported Dimmendaal and Kiessling's suggestion that shape-based noun classes and emergent numeral classifier systems in related Bantoid languages are somewhat motivated by a system in the mass-count continuum of nouns is unclear. What is perceived as a mass noun and takes what is described in the data as a mensural classifier in a Ring language would probably be viewed as a sortal classifier in a language like English. For instance, individual fruits and insects often take 'mensural classifiers' in a language like Bamunka or Babanki. Thus, where a given language falls on the count-mass continuum of its nominals may encourage typologists to look not only at sortal classifiers for evidence of [-Shape] nouns, but also at noun class markers and so-called mensural classifiers.

Regarding, research question 4, "how do we account for the position of modifiers in the Layered Structure of the Noun Phrase (LSNP) in Ring? Does the status of the adjective class play a role here, and what are the implications of this for typological word order principles, such as Rijhkoff's (2002) iconicity model?"

While not strictly members of the adjectival class, attributive modifiers in Ring to occur next to the head noun in line with iconic predictions made by Rijkhoff. However, Rijkhoff's has asserted that his iconic model of the NP explicitly refers to the adjective as modifier, rather than, for instance, appositional elements and compounds. The latter were discarded from his research. The use of attributive nominals in associative NPs both as N1 heads and N2 dependent nouns point to the need for a model of iconicity that accounts for attributive nominals and verbs in addition to those of a distinct adjectival class. It also points to the necessity of nuanced description in the documentation of understudied languages such as Ring in which allocation of modifiers to the adjective class may have an impact on future typological research.

The necessity for an accurate description of constituents as to both their semantic and syntactic features is most evident in the numerals of Ring. While the interruption in the demonstrative between 'adjective' and number in Ring is non-iconic in Rijkhoff's terms, this can be attributed to the fact that the numeral itself is a complex embedded constituent. Thus, the competing "Principle of Domain Integrity" accounts for its position at the end of the NP. Rijkhoff (2002) proffered this explanation for the apparent discrepancy in Babungo, and evidence from Ring languages such as Bamunka, Mmen and Aghem provide support that this is the case.

Research question 5 asked, "Is the feature of [Transitivity] central to the existence of a distinct verb and noun class as the feature of [Shape] is central to the existence of an adjectival class? And what is its impact on voice and valence-changing constructions in Ring?" Data from the Ring languages Babanki and Kom were examined in light of this question. A reanalysis of Rijhkoff's evidence for transitivity as a central feature for the presence of a verbal class in Type 1 language Samoan was also carried out. These analyses suggested that semantic rather than syntactic transitivity must be taken as a sufficient definition or, alternatively, the feature of [Dynamicity] must be re-examined as the differentiating feature in the presence of a verbal and, by implication, noun class. The feature of [Transitivity] was significant however in a reviewed understanding of what Schaub (1985) deem 'semi-transitives' and 'bi-transitives'; that is intransitive and transitive verbs that take obligatory adverbials. Based on their obligatory role and semantic dependence on the nature of the verb, they were reanalysed as complex predicates in a similar vein to Goldberg's (2016) work in English complex verb-particle constructions with roots in Talmy's theory of satellite- versus verb-framed languages. This had further implications for an understanding of voice and valence-constructions in Ring. In

particular, along with semantic, syntactic and grammaticalisation-based evidence from Creissels on the Manding languages, and Bostoen et al's 'plurality of participants' account of the motivations for the development of an anti-passive marker in Bantu, the -sə causative marker in Babungo was posited as having a possible anti-passive function in demoting the patient of certain clauses. This could also be tied in with the notion of the Maximum Number of NPs per Clause (MCNP) which appears to be two in Ring, thus perhaps necessitating the presence of an anti-passive marker in such contexts.

11.8 Significance of the findings as regards our understanding of the Ring languages

The findings of this research have a number of implications for our understanding of the Ring languages. Firstly, having taken into account the problems noted by Dryer (1992) and Rijkhoff (2002), and the presence of such issues in Ring as regards the misattribution of constituents to word classes or categories on a purely semantic basis, has been illustrated. This was particularly seen in the adjectival class of Ring, and as regards iconic predictions in the numeral as a complex constituent. Highlighting these issues in documentation of the Ring and related Grassfields Bantu languages, and typological analyses of them, may allow for more fine-tuned understanding of the semantics and motivations underlying issues such as word order and accounting for apparent discrepancies that may arise.

The significance of the presence of numeral classifiers in Bamunka and potentially emerging in Babanki along with Kiessling's (2018) findings on Isu point to the need for an awareness of the potential presence of such constructions which have been largely understudied in Ring and related languages. Furthermore, the notion that their emergence compensates for a loss of noun class markers in which shape and configuration played a central role (Dimmendaal, 2011, Kiessling, 2018) along with the fact that this ties in with Rijkhoff's view that languages lacking a large adjectival class are characterised by the feature [-Shape], points to the need for future research in this area. Potential areas include further reconstructive work on the Proto-Ring semantics of shape in the Ring languages diachronically speaking and whether they tie in with the findings of this research and that of Denny and Creider (1986) on the Proto-Bantu semantics of the noun class system.

Findings on the feature of dynamicity versus transitivity as the differentiating factor in the presence of a verbal and nominal class in a given language could be further tested and challenged by examining Ring and related languages for an

intransitive/transitive verb class like that of Kom which allows, but does not appear to require an object. This could provide further insight into Rijhkoff's (2003) proposals on this topic. Furthermore, taking into account grammatical approaches such as satellite versus verb-framed languages, and the phenomenon of verb-particle constructions as potential complex predicates may further enrich our understanding and grammatical description of the Ring languages. This may also allow for more fine-grained typological analyses of such constructions in future. The analysis of the causative - sə suffix as having a potential anti-passive function with support from previous work on the Manding languages by Creissels and the Bantu languages by Bostoen et al., encourages future research in Ring and Grassfields Bantu as to whether this proposal can be further supported by additional data collection and analysis.

As noted above, the cognitive aspects present in the development of shape-based semantic systems (Dimmendaal, 2011, Kiessling, 2018, Seifart 2005), for instance, point to the value of the Ring and Grassfields Bantu languages in providing insight into the cognitive influences that play a role in the realisation of a given grammatical system.

Bibliography

Agha-ah, C. B. 1993. The Noun Class System of Mmen. Yaoundé: University of Yaoundé. (Ed),

Aikhenvald, Alexandra Y. 2003. *Classifiers. A Typology of Noun Categorization Devices.* Oxford: Oxford University Press.

Aikhenvald, Alexandra Y., and Diana Green. 1998. "Palikur and the Typology of Classifiers." *Anthropological Linguistics* 40 (3): 429—480.

Akumbu, Pius W., and Evelyn Fogwe Chibaka. 2012. *A Pedagogic Grammar of Babanki.* Koln: Rudiger Koppe Verlag.

Allan, Barbara J., and Donna B. Gardener. 1977. "'Noun Incorporation in Isleta'." *Work Papers of the summer Institute of Linguistics* (University of North Dakota) 21: 45—69.

Allan, K. 1977. "Classifiers." *Language* 53 (2): 285—311. https://doi.org/10.1353/lan.1977.0043

—. 1980. "Nouns and Countability." *Language* 56 (3) 541-567. doi: 10.2307/414449

Alpher, Barry. 1991. *Yir -Yiront lexicon: sketch and dictionary of an Australian language.* Berlin: Mouton de Gruyter.

Asohsi, Melvice. 2015. *Structural and Typological Approaches to Obang Grammar*. Cologne: Rüdiger Köppe Verlag

Baker M. 2003. *Lexical Categories: Verbs, Nouns, and Adjectives*. Cambridge, UK: Cambridge Univ. Press. doi: https://doi.org/10.1017/CBO9780511615047

Baker, Mark and Croft, William. 2017. "Lexical Categories: Legacy, Lacuna, and Opportunity for Functionalists and Formalists." A*nnu. Rev. Linguist* 3:179–97. 10.1146/annurev-linguistics-011516-034134

Bangha, George. F. 2003. The Mmen noun phrase. Masters diss., The University of Yaounde 1.

Bastin, Y., and P. Piron. 1999. "Classifications lexicostatistics: bantou, bantou et bantoide. De l'intérêt des 'groupes flottants'." In *Bantu historical linguistics: theoretical and empirical perspectives*, eds, J.-M Hombert and L.M. Hyman, 149—164. Stanford: CSLI.

Bearth, Thomas. 2003. "Syntax." In *The Bantu Languages*, eds. Derek Nurse and Gerard Philippson, 121—142. New York: Routledge.

Behaghel, Otto. 1932. *Deutsche syntax: eine geschictliche Darstellung.* Vol. iv. Heidelberg: Carl Winter.

Bell, Alan. 1978. "Languages samples". In *Universals of human language,* vol. 1: *Method and Theory*, eds, Joseph H. Greenberg, Charles A. Ferguson and Edith A. Moravcsik, 123-125. Stanford: Stanford University Press.

Blake, B.J. 1994. *Case.* Cambridge: Cambridge University Press.

Bleek, W.H. I. 1862. *A comparative grammar of South African languages. Part 2: the concord. section 1: The noun.* Cape Town and London: J. C. Juta and Trubner & Co.

Bliese, Loren. 1976. "Afar" In *Non-Semitic Languages of Ethiopa* (Monograph No. 5 Occasional Papers Series, Committee on Ethiopian Studies), M. Lionel Bender, ed, 133-165. Michigan: African Studies Centre, Michigan State University.

Blench, Roger. 2015. "The Bantoid Languages." *Oxford Handbooks Online* (Oxford University Press) 1-48. doi: 10.1093/oxfordhb/9780199935345.013.17

Bolinger Dwight. 1980a. *Language: The Loaded Weapon*. London and New York: Longmans

Bostoen, Koen, and Leon Mundeke. 2011. "The causative/applicative syncretism in Mbuun (Bantu B87, DRC): Semantic split or phonemic merger?" *JALL* 32: 179—218. doi: 10.1515/JALL.2011.007

Bostoen, Koen, Sebastian Dom , and Guillaume Segerer. 2015. "The antipassive in Bantu." *Linguistics* 53 (4): 731-772. doi: 10.1515/ling-2015-0016

Bunt, Harry C. 1985. *Mass terms and model-theoretic semantics.* Cambridge: Cambridge University Press. doi: 10.2307/2274538

Butler, Christopher, S. 2012. "Syntactic functions in Functional Discourse Grammar and Role and Reference Grammar: an evaluation comparison." *Language Sciences* 34: 480—490. https://doi.org/10.1016/j.langsci.2012.03.002

Bybee, Joan L. 1985. *Morphology.* Amsterdam/Philadelphia: John Benjamins Publishing Company.

—. 2001. *Phonology and Language Use.* Cambridge: Cambridge University Press.

Cameroon index map of languages including Grassfields Bantu. 2018. https://www.ethnologue.com/map/CM_x. (Acessed December 18 2018)

Chomsky, Noam. 1957. *Syntactic structures*. The Hague: Mouton.

—. 1965. *Aspects of the theory of syntax.* Cambridge, MA: MIT Press.

—. 1993. Lectures in Government and Binding: The Pisa Lectures. Issue 9 of Studies in generative grammar. Berlin; New York; Walter de Gruyter.

—. 1995. *The Minimalist Program*. Cambridge, Massachusetts, London, English: MIT Press.

Claudi, U. 1997. "Some thoughts on the origins of gender marking." In *African linguistics at the crossroads*, by R.K. Herbert, 63-74. Cologne: Rudiger Koppe Verlag.

Comrie, Bernard. 1975. *A linguistic study of causative constructions.* Indiana University Linguistics Club: Bloomington.

—. 1976. 'The syntax of causative constructions: cross-language similarities and divergences." In *Syntax and semantics 6: the grammar of causative constructions*, ed. M. Shibatani, 261-312. New York: Academic Press.

—. 1981. *Language Universals & Linguistic Typology.* Chicago: The University of Chigago Press.

—. 1989. *Language Universals and Linguistic Typology 2nd ed. .* Chicago: The University of Chicago Press.

—. 1993. "Syntactic encoding of semantic aspects of meaning." In *Die Aufgaben der Syntax The Objectives of Syntax*, eds, J. Terry Jacobs, Arnim von Stechow, Wolfgang Sternefeld, Theo Vennemann, 905-914. Berling: Walter De Guyter & Co. doi: 10.1515/9783110095869.1.1.1

Contini-Morava, Ellen, and Kilarski Marcin. 2013. "Functions of nominal classification." *Language Sciences* 40: 263-299. https://doi.org/10.1016/j.langsci.2013.03.002

Corbett, G. 1991. *Gender.* Cambridge: Cambridge University Press.

Creider, Chet A. 1975. "Noun Classes in Proto-Bantu." *Anthropological Linguistics* 17 (3): 127—138

Creissels, Denis. 2016. "Evidence for a grammaticalization path 'antipassive marker > event nominalization marker' in Manding languages." Workshop at Syntax of the World's Languages 7, 'The diachrony of nominalization and nominalizers', Mexico, August 20, 2016

Croft, William. 1990. *Typology and Universals.* Cambridge: Cambridge University Press.

—. 1991. *Syntactic categories and grammatical relations: the cognitive organization of information.* Chicago. Chicago University Press.

—. 2000. 'Parts of speech as language universals and as language-particular categories'. In *Approaches to the Typology of Word Classes*, eds, Petra M. Vogel and Bernard Comrie, 65-102. Berlin, Boston: De Gruyter Mouton.

Denny, Peter, J., and Chet A. Creider. 1986. "The Semantics of Noun classes in Proto-Bantu." In *Noun Classes and Categorisation*, ed. Collete Craig, 217—239. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Dik, Simon C. 1997. *The Theory of Functional Grammar. Part 1: The structure of the clause. Part 2: Complex and derived constructions.* 2, ed. Kees Hengveld. Berlin: Mouton de Gruyter.

Dimmendaal, Gerrit J. 2011. *Historical Linguistics and the Comparative Study of African Languages.* Amsterdam/Philapdelphia: John Benjamins Publishing Company.

Dixon, R.M.W. 1994. *Ergativity.* Cambridge: Cambridge University Press.

—. 1997. *The Rise and Fall of Languages.* Cambridge: Cambridge University Press.

—. 2004. "Adjective Classes in Typological Perspective ." In *Adjective Classes. A Cross-linguistic Typology*, eds. R.M.W Dixon and Alexandra Y. Aikhenvald, 1—49. Oxford New York: Oxford University Press.

Dixon, R.MW., and Alexandra Y. Aikhenvald (eds). 2000. *Changing valency. Case studies in transitivity.* Cambridge: Cambridge University Press.

Dom, S., K. Bostoen, and G. Segerer. 2015. "Antipassive/associative polysemy in Cilubà (Bantu, L31a): a plurality of relations analysis." *Studies in Language* (John Benjamins Publishing) 39 (2): 354-385. https://doi.org/10.1075/sl.39.2.03dom

Dryer, Matthew S. 1988 "'Object-verb order and adjective-noun order: dispelling a myth'." *Lingua* 74 (special ssue): 185—217. https://doi.org/10.1016/0024-3841(88)90059-9

—. 1991. "SVO languages and the OV:VO typology." *JL* 443—82.

—.1992. The Greenbergian Word Order Correlations. *Language* 68: 81-138. DOI:10.1353/lan.1992.0028

—. 2007. "Word order". In *Language typology and syntactic description, vol. I: Grammatical categories and the lexicon*, ed. Timothy Shopen, 61–31. Cambridge: Cambridge University Press.

—. 2013. Order of Adverbial Subordinator and Clause In: Dryer, Matthew S. &Haspelmath, Martin (eds.) The World Atlas of Language Structures Online. Leipzig. Max Planck Institute for Evolutionary Anthropology. (available online at http://wals.info/chapter/1, Accessed on 2018-09-94.)

Dryer, Matthew S. & Haspelmath, Martin (eds.). 2013. The World Atlas of Language Structures Online. Leipzig. Max Planck Institute for Evolutionary Anthropology. (available online at http://wals.info/chapter/1, Accessed on 2018-09-94.)

Duranti, A. 1979. "Object clitic pronouns in Bantu and the topicality hierarchy." *SAL* 10:1: 31—45.

Enfield, N. J. 2004. "Adjectives in Lao." In *Adjective Classes. A Cross-linguistic Typology*, eds. R.M.W Dixon and Alexandra Y. Aikhenvald, 1—49. Oxford New York: Oxford University Press.

Fillmore, C. J. 1968. "The case for case." In *Universals in linguistic theory*, eds. E. Bach, and R. T. Harms, 1-88. New York, NY: Holt, Rinehart, and Winston.

Fillmore, Charles J., Paul Kay, and Mary Catherine O'Connor. 1988. "Regularity and Idiomaticity in Grammatical Constructions: The Case of Let Alone." *Language* 64 (3): 501-538. https://doi.org/10.2307/414531

Fonyuy Moye, Judith. 2003. Reduplication in Kom a morphosyntactic study. Masters diss., University of Yaounde 1.

Fortescue, Michael. 1984. *West Greenlandic.* Croom Helm Descriptive Grammars. London: Croom Helm.

Friedrich, Paul. 1970. "'Shape in grammar'." *Language* 42/6: 379-407. doi: 10.2307/412285

Güldemann, Tom. 2003. "Grammaticalisation." In *The Bantu Languages*, eds. Derek Nurse and Gerard Philippson, 182—194. London and New York: Routledge.

—. 2011. "Proto-Bantu and Proto-Niger-Congo: Macro-areal typology and linguistic reconstruction." In *Geographical Typology and Linguistics Areas*, eds, Osamu Hieda, Christa König and Hirosi Nakagawa, 109-141. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Givón, Talmy. 1979. *On understanding grammar.* Academic Press New York.

—. 1984. *A functional-typological introduction*. *Volume I.* Amsterdam/Philadelphia: John Benjamins.

—. 1985. "Iconicity, isomorphism and nonarbitrary coding in syntax." In *Iconicity in syntax*, ed. John Haiman, 187—220. Amsterdam: John Benjamins.

Göksel, A. and Kerslake, C. 2005. *Turkish: A comprehensive grammar.* London and New York: Routledge.

Goldberg, Adele. E. 2016. "Tuning in to the Verb-Particle Construction in English" In *Approaches to Complex Predicates*, eds, Léa Nash and Pollet Samvelian, 110—141. Leiden; Boston, Brill.

Greenberg, J.H. 1963 "'Some universals of grammar with particular reference to the order of meaningful elements' ." In *Universals of Language*, ed. J.H. Greenberg. Cambridge, MA: MIT Press.

—.1966. Universals of Language, 2nd ed. Oxford, England: M.I.T Press.

—. 1972. "Numeral classifiers and substantival number: Problems in the Genesis Type", *Working Papers in Languages Universals,* reprinted in J.H Greenberg 1990: 16—93. Stanford University Press.

Greenberg, Joseph, H. 1978, Charles A. Ferguson and Edith A. Moravcsik, eds. *Universals of human language,* vol. 1: *Method and Theory.* Stanford: Stanford University Press.

Grice, Paul. 1989. *Studies in the Way of Words.* Cambridge, Mass: Harvard University Press.

Guthrie's Bantu zones with Tervuren's zone J. Source: https://commons.wikimedia.org/wiki/File:Bantu_zones.png Attribution:I, Edricson [CC BY-SA 3.0 (http://creativecommons.org/licenses/by-sa/3.0/)]

Guthrie, M. 1967-71. *Comparative Bantu: an introduction to the comparative linguistics and prehistory of the Bantu languages.* Vols. 1-4. Farnborough: Gregg Press.

Haiman, John. 1983. "Iconic and economic motivation." *Language* 59: 781—819. https://doi.org/10.2307/413373

Hamm, Cameron. 2013. "The Bafanji noun phrase." *SIL, Cameroon.*

Haspelmath, M. 1992. “Grammaticalization theory and heads in morphology.” In *Morphology*, ed. M. Aronoff, 69—82. New York: State University of New Press.

—. 2012. “How to compare major word-classes across the world's languages.” *UCLA Working Papers in Linguistics, Theories of Everything* 17: 109—130.

Hawkins, John A. 1983. *Word order universals: quantitative analyses of linguistic structure.* New York: Academic Press.

Heath, Jeffrey. 1976. "Antipassivization A Functional Typology." Proceedings of the 2nd Annual Meeting of the Berkeley Linguistics Society: 202-211. http://dx.doi.org/10.3765/bls.v2i0.2278

Hengeveld, Kees. 1992a. “Parts of speech.” In *Layered structure and reference in a functional perspective (Pragmatics and Beyond New Series 23)*, eds, Michael Fortescue, Peter Harder, and Lars Kristoffersen, 29-55. Amsterdam: Benjamins.

—. 1992b “Non-verbal predication: theory, typology, diachrony.” Berlin: Mouton de Gruyter.

Hopper, Paul, and Sandra A. Thompson. 1980. “Transitivity in Grammar and Discourse.” *Language*: 251—299.

—. 1984. “The discourse basis for lexical categories in universal grammar.” *Language* 60 (4): 703—752.

Hulstaert, Gustaaf. 1965. Grammaire du lomongo: Deuxieme partie: morphologie. Tervuren:Musée royal de l'Afrique centrale

Hundius, Harald, and Ulrike Kölver . n.d. “Syntax and Semantics of Numeral Classifiers in Thai.” *Studies in Language* 7 (2): 164—214.

Hyman, Larry, M. ed. 1979. *Aghem Grammatical Structure. Southern California occasional papers in linguistics 7.* Los Angeles: Dept. of Linguistics. University of Southern California.

—. 1980a. "Babanki and the Ring Group" in L’Expansion Bantoue: Les Classes Nominales dans le Bantoue des Grassfields" Conference paper 4.-16.4.1977, Hyman, L.,Voorhoeve, J. eds. Paris: CNRS.

—. 1980b. "Reflections on the nasal classes in Bantu". In *Noun classes in Grassfields Bantu. Vol. 1 of Actes du Colloque “Expansion Bantoue"*, 179-210. eds. L.M. Hyman & Jan Voorhoeve. Paris: C.N.R.S.

—. 2005. Initial vowel and prefix tone in Kom: Related to the Bantu Augment? In *Studies in African Comparative Linguistics with Special Focus on Bantu and Mande: Essays in Honour of Y. Bastin and C.* Grégoire, eds. Koen Bostoen & Jacky Maniacky, 313—341. Köln: Rüdiger Köppe Verlag.

—. 2007. Focus Marking in Aghem: Syntax or Semantics? University of California Berkely. Unpublished.

Ikoro, S.M. 1994. “Numeral classifiers in Kana.” *Journal of African Languages and Linguistic s* 15 (1): 7-28. https://doi.org/10.1515/jall.1994.15.1.7

—. 1996. *The Kana Language.* Leiden: University of Leiden.

Ingle, Jane. 2013. "The Bamunka Noun Phrase." *SIL, Cameroon.*

Iwata, S. 1999. "On the status of an implicit argument in midles." *Journal of Linguistics* 35 (3):527—53. https://doi.org/10.1017/S0022226799007914

Jackendoff, Ray. 1991. "Parts and boundaries". *Cognition* 41 9-45. doi: https://doi.org/10.1016/0010-0277(91)90031-x

Johnson, David E. 1997. “On relational constraints on grammars.” In *Syntax and Semantics 8: Grammatical Relations*, by Peter Cole and and Jerrold M. Sadock, 151—178. New York: Academic Press.

Katamba, Francis. 2003. “Bantu nominal morphology.” In *The Bantu Languages*, eds. Derek Nurse and Gerard Philippson, 103—120. New York: Routledge.

Keenan, Edward, L., and Bernard Comrie. 1979. “Data on the noun phrase accessibility hierarchy.” *Language* 55: 333-51. https://doi.org/10.2307/412588

Kießling, Roland. 2011. Verbal serialisation in Isu (West-Ring) — a Grassfields Language of Cameroon. Köln: Rüdiger Köppe Verlag.

—. 2018. Niger-Congo numeral classifiers in a diachronic perspective in The Diachrony of Classification Systems by McGregor, William B. & Wichmann, Søren (eds) Current Issues in Linguistic Theory 342. https://doi.org/10.1075/cilt.342.03kie

King, Deborah. 2010. "Voice and valence altering operations in Falam Chin" Phd diss., The University of Texas at Arlington.

Klaiman, M.H. 1991. Grammatical voice. Cambridge, MA: MIT Press.

Kroeger, Paul R. 2005. *Analyzing Grammar. An Introduction.* New York: Cambridge University Press.

Kuo, J. Y. C., & M. D Sera. 2009. "Classifier effects on human categorization: The role of shape classifiers in Mandarin Chinese." *Journal of East Asian Linguistics*, *18*(1), 1—19. https://doi.org/10.1007/s10831-008-9036-6

Langacker RW. 1987b. "Nouns and verbs." *Language* 63: 53–94. http://dx.doi.org/10.2307/415384

—. 1999. *Grammar and Conceptualization.*Berlin; New York: Mouton de Gruyter.

—. 2008. *Cognitve Grammar. A Basic Introduction*. New York: Oxford University Press.

Lee, Hansol H. B. 1989. *Korean grammar.* Oxford: Oxford University Press.

Lehmann, Winifred P. 1973. “A structural principle of language and its implications.” *Language* 49: 47-66. https://doi.org/10.2307/412102

—. 1978. “Conclusion: toward an understanding of the profound unity underlying languages.” By Winifred P. Lehmann, 395-492. Austin: University of Texas Press.

Letuchiy, Alexander. 2010. “Lability and spontaneity.” In *Transitivity: Form, Meaning, Acquisition, and Processing*, by Patrick Brandt and Marco García García (eds)., 237—255. Amsterdam. Philadelphia.: John Benjamins Publishing Company.

—. 2017. "Arabic ‘labile verbs’ in form III Lability or something else?" In *Verb Valency Changes: Theoretical and Typological Perspectives.* Typological Studies in Language 120, eds. Albert Álvarez González and Ia Navarro. Published online. John Benjamins Publishing Company. doi 10.1075/tsl.120.10let

Lucy, John, A. 1992. *Grammatical categories and cognition: a case study of the linguistic relativity hypothesis (studies in the Social ad Cultural Foundations of Language 13).* Cambridge: Cambridge University Press.

—. 2000. “Systems of nominal classification: a concluding discussion.” In *Systems of nominal classification (Language, Culture and Cognition 4)*, Gunter Senft. Cambridge: Cambridge University Press.

Maho, Jouni. 2001. 'The Bantu area: clearing up a mess.' *Africa and Asia* 1: 40—49

Martin, Samuel E. and Young-Sook C. Lee. 1969. *Beginning Korean*. New Haven and London: Yale University Press.

Masullo, Pascul José. 1992. "Antipassive Constructions in Spanish", in *Romance Languages and Modern Linguistic Theory,* eds, Paul Hirschbühler and E.F.K. Koerner, Amsterdam/Philadelphia: John Benjamins Publishing Company, 253-275.

Matasović, Ranko, 2017. Agreement in Role and Reference Grammar: A Typology of Possible Targets. *Srocnost U Okviru Gramatike Uloga I Referenci: Tipologija Mogucih Ciljeva Srocnosti}*, doi 10.22210/suvlin.2017.084.02

Matthews, P.H. 1997. The Concise Oxford Dictionary of Linguistics. Oxford: Oxford University Press.

Mejías-Bikandi, Errapel. 1999. "Unaccusative and Antipassive Constructions in Basque and Spanish." *In Grammatical Analyses in Basque and Romance Languages. Current Issues in Linguistic Theory,* eds. Jon Franco, Alazne Landa and Juan Martín, 165-177. Amsterdam/Philadelphia: John Benjamins Publishing C

Meinhof, C. 1899. *Grundriss einer Lautlehre der Bantusprachen.* Lepzig: F. A. Brockhaus Revised edn. 1910, Berlin: Dietrich Reimer.

Miestamo, Matti. 2014. “Partitives and Negation: A Cross-Linguistic Survey.” *In Partitive Cases and Related Categories (Empirical Approaches to Language Typology 54)*, eds. Silvia Luraghi and Tuomas Huumo. Berlin: Mouton de Gruyter.

Milner, G.B. 1993. Samoan dictionary: Samoan-English, English-Samoan. Auckland, N.Z.: Polynesian Press

Möller, Mirjam. 2012. "The noun and Verb in Mmen. a Center Ring Grassfields Bantu language. *SIL, Cameroon.*

Mosel, Ulrike. 1991. “Transitivity and reflexivity in Samoan.” *Australian Journal of Linguistics* 11: 175—194.

Mosel, Ulrike and Even Hovdhaugen. 1992. *Samoan reference grammar.* Oslo: Univerisitetsforlaget AS. https://doi.org/10.1080/07268609108599461

Ndayiragije, Juvénal. 2006. "The ergativity parameter: A view from antipassive." In *Ergativity*, eds. Alana Johns, Diane Massam & Juvénal Ndayiragije, 271—292. Dordrecht: Springer.

Nolan, Brian. 2009. The Functions, Semantics and Syntax of the Adjective in Irish. In *Studies in Role and Reference* Grammar, eds. Lilián Guerrero, Sergio Ibáñez Cerda, and Valeria A. Belloro, 269-303. Mexico: Universidad Nacional Autónoma de México.

—. 2012. *The Structure of Modern Irish.* Sheffield & Bristol: Equinox Publishing Ltd.

Nurse, Derek, and Gerard Philippson. 2003. *The Bantu Languages.* London and New York : Routledge.

Yuh, P.N.K. 1986. "Noun Class System of Kom." Masters thesis, Yaoundé: The University of Yaoundé.

Pavey, Emma. 2010. *The Structure of Language.* Cambridge: Cambridge University Press.

Payne, Thomas Edward. 1997. *Describing morphosyntax: A guide for field linguists.* Cambridge: Cambridge University Press.

Perkins, Revere D. 1989. “Statisical techniques for determining language sample size.” *Studies in language* 13: 293-315. https://doi.org/10.1075/sl.13.2.04per

Perniss, Pamela, David Vinson, Frank Seifart, and Gabriella Vigliocco. 2012. “Speaking of shape: The effects of language-specific encoding on semantic representations.” *Language and Cognition* 4 (3): 223—242. https://doi.org/10.1515/langcog-2012-0012

Piron, P. 1995. “Identification lexicostatisique des groups bantoides stable.” *JWAL* 25 (2): 3—30.

Polinsky, Maria. 2013. Antipassive Constructions. In: Dryer, Matthew S. & Haspelmath, Martin (eds.) The World Atlas of Language Structures Online. Leipzig: Max Planck

Institute for Evolutionary Anthropology. (Available online at http://wals.info/chapter/108, Accessed on 2020-02-19.)

Postal, Paul. 1977. "Antipassive in French." *Linguisticae Investigationes*: 333-374. DOI: 10.1075/li.1.2.04pos

Pustejovksy, James. 1995. *The generative lexicon.* Cambridge MA: MIT Press.

Reh, M. 1985. *Die Krongo-Sprache (nìino mó-dì). Beschreibung, Texte, Wörterverzeichnis* (Kölner Beiträge zur Afrikanistik 12). Berlin: Reimer.

Rijkhoff, Jan. 1990a. "Explaining word order in the noun phrase." *Linguistics* 28: 5—42. https://doi.org/10.1515/ling.1990.28.1.5

—. 2000. "When can a language have adjectives?" In *Approaches to the Typology of Word Classes*, eds. P.M. Vogel and B. Comrie. Berlin New York: Mouton de Gruyter.

—. 2002. *The Noun Phrase.* Oxford: Oxford University Press.

—. 2003. "When Can a Language Have Nouns and Verbs." *Acta Linguistic Hafniensia* (35 (1)): 7-38.

—. 2008. "On flexible and rigid nouns." *Studies in Language* 32 (3): 727–752. doi 10.1075/sl.32.3.12rij

—. 2016. Crosslinguistic categories in morphosyntactictypology: Problems and prospects. *Linguistic Typology* 20—2, 333—363.

Rijkhoff, Jan, and Eva Van Lier. 2013. *Flexible word classes. Typological studies of underspecified parts of speech.* Oxford: Oxford University Press.

Ross, John Robert. 1972. "Act". In *Semantics of natural language*, eds. D. Davidson and G. Harman, 70-126. Dordrecht: Reidel.

Saltarelli, Mario. 1988. *Basque.* London: Croom-Helm.

Say, Sergey. 2005. Antipassive –sja verbs in Russian: Between inflection and derivation. In *Morphology and its demarcations. Selected papers from the 11th Morphology meeting*, *Vienna, February 2004*, eds. Wolfgang U. Dressler et al, 253-275. Amsterdam: John Benjamins. doi::10.1075/cilt.264.16say

Saul, Janice E. and Nancy Freiberger Wilson. 1980. *Nung grammar* (Summer Institute of Linguistics Publications in Linguistics 62). Dallas: Summer Institute of Linguistics.

Schachter, Paul. 1985. "Parts-of-speech systems." In *Language typology and syntactic description.* Vol 1, ed. Timothy Shopen, 3 -61. Cambridge: Cambridge University Press.

Schadeberg, Thilo C. 2003. "Historical Linguistics." In *The Bantu Languages*, eds. Derek Nurse and Gerard Philippson, 143—163. New York: Routledge.

Schultz, George. 1997. " Kom language grammar sketch Part 1." *SIL, Cameroon.*

Seifart, Frank. 2005. "The structure and use of shape-based noun classes in Miraña (North West Amazon)." Nijmegen: Max Planck Institute for Psycholinguistics. https://repository.ubn.ru.nl/handle/2066/26990

Shaub, Willi. 1985. *Babungo.* London: Croom Helm.

Sharman, J.C. 1960. "Nominal and Pronominal Prefixes in Bemba." *African Language Studies I*: 98-127

Siewierska, A. 1996. "Word Order and Alignment Type" *STUF: Sprachtypologie und Universalienforschung* 49: 149-76. DOI: 10.1524/stuf.1996.49.2.149

Smith, C. 1997. *The Parameter of Aspect.* 2nd. Dordrecht: Reidel.

Song, Jae Jung. 1996. *Causatives and causation: a universal-typological perspective.* Addison Wesley Longman: London.

—. 2001. *Linguistic Typology Morphology and Syntax.* Pearson Eduction Limited.

Stallcup, K. 1980. "La geographie linguistique des Grassfields. Vol 1". In *Les class nominales dans le bantou des Grassfields. L'expansion bantou*, eds. L.M. Hyman and J. Voorhoeve, 43-57. Paris: SELAF.

Stappers, L. 1967. "Het passief-suffix -u- in de Bantoe-talen." *AL 3:* 137—45. https://doi.org/10.3406/aflin.1967.875

Tamanji, Pius N. 2009. A Descriptive Grammar of Bafut. Cologne, Rùdiger Koppe Verlag, Germany.

Taylor, John R. 2002. *Cognitive Grammar.* Oxford ; New York: Oxford University Press.

Van Baarda, M. J. 1908. *Leiddraad, bij het bestudeeren van 't Galela'sch dialekt, op het Eiland Halmaheira*. [Manual for the study of the Galela dialect, on the island of Halmahera.] The Hague: Nijhoff.

Van Valin, Robert, D. 2005. *Exploring the Syntax-Semantics Interface.* New York: Cambridge University Press.

—. 2007. The Role and Reference Grammar Analysis of Three-Place Predicates. http://www.acsu.buffalo.edu/~rrgpage/rrg/vanvalin_papers/RRG-Analysis_Three-Place_Pred.pdf

—. 2018. A Summary of Role and Reference Grammar. http://www.romanistik.uni-freiburg.de/raible/Lehre/2006/Materialien/RRGsummary.pdf

Van Valin Jr., Robert D., and Randy J. LaPolla. 1997. *Syntax: Structure, meaning, and Function.* Cambridge: Cambridge University Press.

Vendler, Z. 1967. *Linguistics in Philosophy.* Ithaca: Cornell University Press.

Vennemann, T. 1974a. *'Analogy in generative grammar: the origin of word order'.* Bologna: II Mulino.

—. 1974b. 'Topics, subjects, and word order: from SXV to SVX via TVX'. In *Historical linguistics I: syntax, morphology, and internal and comparative reconstruction*, eds. J.M Anderson and C. Jones North-Holland: Amsterdam.

Watters, J.R. 2003. “Grassfields Bantu.” In *The Bantu Languages*, eds. Derek Nurse and Gerard Philippson, 225-256. New York: Routledge.

—. Watters, J. 1981. "A Phonology and Morphology of Ejagham—With Notes on Dialect Variation". PhD thesis, University of California, Los Angeles.

—. Watters, John Robert. 1979. "Focus in Aghem: A study of its formal correlates and typology. In *Aghem Grammatical Structure. Southern California occasional papers in linguistics 7,* ed. Larry M. Hyman, 137-197. Los Angeles: Dept. of Linguistics. University of Southern California.

Watters, J.R., and J. Leroy, eds. 1989. “Southern Bantoid.” In *The Niger-Congo Languages*, ed. J. Bendor-Samuel. Lanham: University Press of America.

Wierzbicka A. 1995. "Adjectives versus verbs: the iconicity of part-of-speech membership" In *Syntacic Iconicity and Linguistic Freezes: The Human Dimension*, ed. Marge E. Landsberg, 23–45. Berlin: Mouton de Gruyter

Welmers, W.E. 1973. *African Language Structures.* Berkeley: University of California Press.

Wilkins, David. 1996. "Natural tendencies in semantic change and the search for cognates" In *The comparative method reviewed: Regularity and irregularity in language change*, eds. Mark Durie and Malcolm Ross, 264-304. New York: Oxford University.

Williamson, K, and R.M. Blench. 2000. “Niger-Congo.” In *African Languages*, eds. B Heine and D, Nurse, 1—41. Cambridge: Cambridge University Press.

Zipf, George. 1935. *The psychobiology of language: an introduction to dynamic psychology.* Cabridge, Mass. MIT Press.

Appendix 1. Translated list of lexemes for the shape/configuration based reconstruction of Proto-Bantu noun class semantics.

Relevant groupings for current study from Denny and Creider (1986:232-236)

Class 5/6: non-extended (rounded, protruded, bunched)

concrete:

spot, freckle
breast
spider (bulbous body)
stone
hair on body (circular)
tear
axe (i.e., the head)
fish hook
knee
molar tooth
egg
fireplace (three hearthstones)
rubbish heap
sun
nose
ember
navel (often protruded)
banana (by extension from other fruits)
nape of neck (often protruded)
cooking stone
boil, carbuncle
stomach (protrusion)
buttock
cheek
base of tree trunk (rounded protrusion)
eye
tooth

concrete-problematic

palm-frond (differentiate from *-dada 3/4* palm tree)

bone (protrusion) wing (protrusion) ear (differentiate from *-tú* 3/4 head)

abstract:

voice

ten

inheritance

twin

Class 3/4 : extended (long)

concrete:

body

sandy island (usually elongated)

termite (particularly long body)

stream

leech

root

bark-fibre

string

lip

river

line of objects

back of body

leg

garden (plot) (typically long)

arrow

tail

vein; tendon

fig tree

finger

handle, haft

branch

trap (bent branch and noose)

tree

hamper (long)

knife

thorn

ladle

pestle

concrete-problematic:

forehead (length culturally valued)

bat

bellows

heart (differentiate from -*tima* 5/6 liver)

head (length culturally valued)

abstract:

work (cultivation)

load

spirit

footfall

year (temporal extension)

month (temporal extension),

moon daytime (temporal extension)

Class 9/10: non-extended, outline figure

concrete:

peg (for holding down the edge of some- thing)

pot for storage

open space

seed

white hair (ring shape)

ground, country

calabash bottle

gall-bladder

chief's house

drum

skin garment

outside (singular only)

path, clearing, open way

head pad (ring of grass)

eyebrow (surrounds the eye)

neck (openings to stomach and lungs)

tree hollow

fetish, charm (bundle)

heap, mound (of material carried in baskets and dumped)

back, rear (singular only)

hammer, axe (tool for penetrating) cooking pot

concrete-problematic:

vegetable

spark ('hole' in darkness)

abdomen

paddle (often concave)

star ('hole' in darkness)

kidney

abstract:

dream

cold wind

concrete:

rib, side of body

spider's web

hill

crust

palm of hand, slap

fingernail

horn

concrete-problematic:

tongue

piece of firewood

abstract:

bee-sting

journey

song (melodic undulation)

Appendix 2. Ring shape-based class members. Translations.

Babungo Schaub (1985: 81, 176, 177)

Class 3 / 4

ŋwáa - yíŋwáa	'body (ies)'
shûu - yíshûu	'mouth(s)'
shíntūŋ - yíshíntūŋ	'knife (ves) used for weaving bags'
lwâŋ - yìlwâŋ	'hammer(s)'
ghɨ́ - yìghɨ́	'loaf(ves)'
wí (sə̄) - yìwí (sə̄)	'gun(s)'

Class 5 / 6

yísɨ́ - sɨ́	'eye(s)'
yífə́ə - fə́ə	'cheek(s)'
yìmə́ŋ - mə́ŋ	'breast(s)'
yìwéy - wéy	'hailstone(s)'
yìghɔ́ŋ - ghɔ́ŋ	'egg(s)'

Class 9 / 10

fɨŋ - fɨŋsə̄	'kidney(s)'
gə̀ - gɔ́sə̄	'skin(s)'
nsí - nsísə̄	'ground(s)'
bàŋ - bàŋsə̄	'mountain(s)'
nyə̀' - nyō'sə̄	'stomach(s)'
mbí - mbísə̄	'world(s)'

Bamunka (Ingle, 2013:22)

Class 9 / 10

ŋgò'-hə̌ ŋgò'-hə̌	'stone(s)'
njaâ - njaá-ꜜhə́	'house(s)'
ndyí-hə́ - ndyǐ	'cloth(s)'

Mmen (Möller, 2012: 12-16)

Class 3/4 ~ 13, 3/6a and 3/13

e-lûŋ - e-lîŋ (3/4)	'bamboo(s)' (Plural also present in Class 13, te-lîŋ/lûŋ)
a-kɔ́yn – e-kɔ́yn (3/4)	'forearm(s) (Plural also present in Class 13, te-kɔ́yn)
e-wû̱s - m-wû̱s (3/6a)	'gun(s)'
e-wî̱yn - m-wî̱yn (3/6a)	'body (ies)'
e-kwî̱ - m-kwî̱ (3/6a)	'bed(s)'
e-tūnə̄ - te-tūnə̄ (3/13)	'ford(s)'
e-lwɔ̂ - te-lwɔ̂ (3/13)	'bridge(s)'

Class 5/6

e-tə́m ə-tə́m	'liver(s)'
e-sɔ́ŋ ə-sɔ́ŋ	'tooth (teeth)'
e-yíyn ə-yíyn	'breast(s)'
e-lím ə-lím	'yam(s)'
e-kwíŋ ə-kwíŋ	'bean(s)'

Class 9/10

mbà' - se-mbà'	'cloud(s)'
pfɨ́yn – se-pfɨ́yn	'mountain(s)'
ŋgɔ́ - se-ŋgɔ́	'termite hill(s)'
ndɔ̀ŋ - se-ndɔ̀ŋ	'sweet potatoes'

Babanki (Akumbu & Chibaka, 2012: 50-55)

Class 3/6 and 3/13

ə-fwin – a-fwin (3/6)	'leg(s)'
ə-lyə̀ŋ- tə-lyə̀ŋ (3/13)	'bamboo(s)'
ə-kwen - tə-kwen (3/13)	'bed(s)'
ə-sè - tə-sè (3/13)	grave(s)'
ə-chʉ̀ - tə- chʉ̀ (3/13)	'mouth(s)'

Class 5/6

ə-shɨ́ - a- shɨ́	'eye(s)'
ə-wum- a-wum	'egg(s)'

ə-zhwin – a-zhwin	‘breast(s)’
ə-sas- a-sas	‘buttock(s)’
ə-lwi – a-lwi	‘nostril(s)’
ə-lo’ – a-lo’	‘compound(s)’

Class 9/10

ǹji-sə (Cl.10)	‘cloth’
zhʉ̀ - zhʉ̀-sə	‘bee(s)’ (‘bee-sting’ in Denny &Creider, 1986:235)
ǹko - ǹko- sə	‘toilet(s)’

Aghem (Hyman, 1979:211-215)

Hyman’s word list contains only the singular form with plural noun class provided. If the plural form is unpredictable it is provided in brackets. Subscripts 1, 2, and 3 refer to the following underlying tone structures respectively: /H-L-Ḥ/, /H-H- L̥/, /H-H- Ḥ/. This pattern will be followed here.

Class 3 / 4

ówé$_1$	‘body’
ólɨ̂ŋ	‘bamboo’ (Plural also in class 10)
ózhwí'í	‘elephant grass’ (class 3 only)
ókɔ́ʔ$_2$	‘ladder’

Class 5 / 6

éghé$_2$	‘breast’
ésɨ́$_2$	‘eye’
éghóm$_1$	‘egg’
éñɨ́$_2$	‘knee’
étɔ́ŋ$_1$	‘navel’
éwí$_2$	‘nose’
étíaʒ	‘stone’

Class 9/10

ndzàm	‘axe’
ŋgŭo	‘wine calabash’
fù - (tɨ́fû)	‘hoe’
ndúghó	‘house’

tǫ̀ʔ - (tɨ̀tǫ̀ʔ)	‘house (juju’s)
jì(~dzɨ̀) – (tɨ̀jíˈí)	‘road’
ndzɨ́	‘burial cloth’

Kom (Yuh, P.N.K, 1986: 26-57, Fonyuye-Moye, 2003: 68, 69) Note – some tone marking in the former reference is unclear. Thus, the tone markings in some examples below may need to be reanalysed/clarified.

Class 3/4, 3/6, and 3/13

ə-wúyn - ī-wúyn	‘body(ies)’
ə-lweŋ - ī-ləŋ	‘bamboo(s)’
ə-cvə̂ - ā-cvə̂ (3/6)	‘mouth(s)’
ə-tɨ́f (3)	‘gums’
ə-lɨ́ɔ̀ (3)	‘bridge’
ɨ-koe – a-koe (3/6)	‘arms’

Class 5 / 6

ɨ́-wú (5)	‘rock’
í-búʔ (5)	‘bundle’
ī-tɔŋ - ā-tɔŋ	‘naval(s)’
ī-sɨ́ - ā-sɨ́	‘eye(s)’
ī-wum - ā-wum	‘egg(s)’
ī-sə̂ʔ - ā-sə̂ʔ	‘throat(s)’
ī-kə̂ʔ - ā- kə̂ʔ	‘face(s)’
ī-dɨ́ə̄l - ā-sɨ́	‘chin(s)’

Class 9 / 10

ŋ̄-gɛ̀ - ŋ̄-gɛ-s	‘nail(s)’
n̄-dzàm - n̄-dzàm-sə́	‘axe(s)’
ń-cùm - n̄-cúmsə́	‘drum(s)’
ŋ̄-kə̀m - ŋ̄-kə́m-sə́	‘basket(s)’
ŋ̄-kə̀mì - ŋ̄-kə́mi-sə	‘calabash(es)’