

**THE SYNTAX AND PRAGMATICS
OF THE GICHUKA SENTENCE: A CHALLENGE TO THE
MINIMALIST PROGRAM ANALYSIS**

BY

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DECLARATION

This is my original work and has not been presented for a degree in any other university.

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This thesis has been submitted for examination with our approval as university supervisors.

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This thesis is a special dedication to the following:

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My two sons, Bratton Tesfa and Clarin Addis.

These are a shadow of things to come; reality, however, is found in
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ABBREVIATIONS AND ACRONYMS

ASP	aspect
ASSOC	associate
ben	benefactive
CAUS	causative
NC	noun class
cond	conditional
EMP	emphatic
foc	focus
fut	future tense
fv	final vowel
IMP	imperfective aspect
inf	infinitive
loc	locative
mod	modality
neg	negative
NOM	nominalization morpheme
obj	object
PERF	perfective aspect
poss	possessive
pst	past tense
rec	reciprocal
ref	reflexive
S1	sentence 1
S2	sentence 2
S3	sentence 3
S4	sentence 4
S5	sentence 5
S6	sentence 6
S7	sentence 7
tns	tense
1SG	first person singular
1PL	first person plural
2SG	second person singular
2PL	second person plural
3SG	third person singular
3PL	third person plural

ABSTRACT

This study is an analysis of the syntax and pragmatics of Gichuka sentences within the framework of the Minimalist Program, as proposed by Chomsky (1995a), and the Relevance theory as proposed by Sperber and Wilson (1986).

The study was motivated by two main gaps: a) not much research has been done on the syntax and pragmatics of Gichuka sentence in general and the mapping of the morpho-syntactic units such as pronominals, lexical NPs and quantified expressions to the truth conditional meaning of sentences in particular; and b) though a number of studies have been done on the morpho-syntax of verbs and NPs of languages related to Gichuka, the majority of them focused on the syntactic structure without linking it to meaning. This is precisely what the present study set out to do.

This this study found out that the logical form level of representation, as suggested within the Minimalist Program, was inadequately specified to provide an account of the truth conditional meaning of sentences in Gichuka and that it could not independently provide an adequate account of the form-meaning correlations for Gichuka sentences.

To address these inadequacies, the study proposes a modification in Chomsky's (1995) computational system by motivating a syntax—pragmatics approach to account for the derivation of truth conditional meaning for sentences, which involves the process of saturation after spell-out, and the process of enrichment in the lexicon.

INTRODUCTION

1.1 Background to the language

Gichuka, a language spoken in Eastern Kenya, is a Bantu language within the Niger-Congo family; it is spoken by the Ameru people living on the North Eastern slopes of Mount Kenya (Fadiman, 1973:9). Specifically, Gichuka is spoken in the Tharaka-Nithi county of Kenya, which has a population of 365,330 persons.¹ However, the speakers of Gichuka are actually fewer than this number since other languages or dialects of Kimeru are spoken in the Tharaka-Nithi county. The language is mainly spoken by people who live in the Nithi constituency bordering the county of Embu to the West and the Tharaka constituency to the East. During the pre-colonial period other present non-Gichuka speaking communities such as the Igoji, the Tigania and the Imenti were conceived of as being part of the Ameru people, while speakers of Gichuka were actually not considered as part of Ameru people (Fadiman, 1973:ibid.). It was later that the colonial administration incorporated speakers of Gichuka and Tharaka into the Ameru people. From this fact, I conclude that speakers of Gichuka are not part of Meru, as the argument above suggests, and that their being associated with the Ameru was an administrative decision rather than a linguistic one.

¹ Kenya Bureau of Statistics (2010). The 2009 Population and Housing Census.

There are wide spread differences in regard to the status of Gichuka, the issue being whether it is a language in its own right or a dialect of another language. It is also not clear from the linguistic literature whether Gichuka is a language of its own or a dialect of Kimeru. While some differences between Gichuka and Kimeru are those related to political factors, there are others that are based on linguistic factors. In order to avoid this line of controversy, I will assume that Gichuka is a distinct language and not a dialect of any other language.

1.2 Background to the study

A comprehensive theory of language representation must account for subpersonal systems such as speaker's intentions, choices and background knowledge, that is, the elements of context that underlie sentence interpretation as suggested by Sperber and Wilson 1986 (chapters 2 and 3). For Chomsky (1995a, chapter 1 and 2) a linguistic theory does not concern itself with these pragmatic facts which he actually assigns to performance, which he contrasts to competence. For him, competence refers to the tacit knowledge of language by native speakers and hearers while performance refers to the use of the tacit knowledge in concrete language situations (1995a:14). This knowledge is responsible for the mapping of sound-meaning relations for linguistic expressions. For Chomsky, it is the principles of the logical form such as the binding theory, the theta-theory, the Empty Category Principle, the Projection

Principle, the checking theory, movement operations, e.t.c, which are also reflection of the intrinsic properties of the mind that constrain sound-meaning relations in sentences. According to Chomsky, these principles hold at the logical form interface and are responsible for the constraining the representation of the meaning of linguistic expressions (1995a:21).

Chomsky argues that grammatical categories like Case and ϕ -features of NPs and verbs are not determined by their positions in a clausal configuration (1995a:237). Although Chomsky believes in the formal representation of linguistic expressions, he admits that “a presupposed structure [or] some representations of the intentions of the speaker or (possibly) shared assumptions in some interchange” exists. (1995a: *ibid*). However, he does not discuss the nature of the presupposed structure in any further details. What can be stated at this point is that the speaker’s choices and intentions fail to be accounted for within Chomsky’s Minimalist Program. The formulation of the logical form as a level of linguistic representation that accounts for sentence meaning falls short of both observational and descriptive adequacy in accounting for the linguistic meaning of linguistic expressions which according to Strawson refers to the core “meaning which is explicable either in terms of truth conditions or in terms of some related notions” (1971:178). It is at this point that Chomsky’s (1995a) Minimalist Program encounters important limitations, in that it fails to do a number of things: a) to offer a systematic way through which the native speaker’s intended meanings are accounted for; b) to account for the way in

which the representation of the native speaker's thought constrains the meaning of linguistic expressions; c) to explore the way in which the rules of syntax interact with the context of a sentence to assign it a truth conditional meaning; and d) to account for the contextual information that resolves ambiguities in syntactic structures.²

Let me illustrate a few of the problems listed by the examples in the following paragraphs. Sentence (1) below is semantically ambiguous between (1a) and (1b) and thus requires reference to the context to assign it the truth conditional meaning.

- | | | | | |
|------|-----------------------------------|---------------------|----------------|-------------|
| (1) | <i>Mugure</i> | <i>a-a-gur-ir-e</i> | <i>Murithi</i> | <i>kaua</i> |
| | Mugure | 3SG-tns-buy-PERF-fv | Murithi | coffee |
| (1a) | Mugure bought Murithi coffee | | | |
| (1b) | Mugure bought coffee from Murithi | | | |

Notice that in (1), there is no information from the logical form of the sentence that determines whether the NP *kaua* 'coffee' refers to the coffee plant or to the beverage made from coffee. Additionally, the logical form of (1) contains no information that defines the relationship between the NP *Murithi* and the NP *kaua*. In the first meaning, that is, (1a), the NP *Murithi* is construed semantically as the beneficiary while *kaua* 'coffee' is the patient. In the second meaning, that is, (1b), the NP *Murithi* is construed semantically as a location while *kaua* 'coffee' is construed as the patient. The specification of the semantic role assigned by the

² See also Johnson – Laird (2010) and Elugardo and Stainton (2001) for more arguments against the logical form in general.

verb *gura* ‘buy’ to the NP *Murithi* is as well as the truth conditional meaning of the entire sentence is determined by reference to the context in which it is produced.

In addition, I observed that the rule-bound logical form representation of sentences provides less information than required in specifying sentence meaning and thus fails to make accurate predictions on the actual meaning of the sentence as understood by a competent native speaker/hearer as can be shown with sentence (2).³

- | | | | |
|-----|-------------------------------|------------------------|---------------|
| (2) | <i>Mu-arimo</i> | <i>a-a-tindik-ir-e</i> | <i>ng-ari</i> |
| | NC1-teacher | 3SG-tns-push-PERF-fv | NC4-car |
| | The/a teachers pushed the car | | |

The logical form of (2) fails to account for how the hearer decides whether the subject NP, that is, *mu-alimo* ‘teacher’ is intended to be [+definite] or [–definite] given that in Gichuka there are no overt articles in the logical form to mark noun phrases as [+definite] or [–definite]. This undermines the predictions of the logical form that the meaning of a sentence is specified only by reference to the syntactic categories and rules of the sentence. Additionally, Chomsky (1995) argues that at the level of the logical form, all languages are the same (Chomsky 1995:21). However, a closer observation of the [+definite] or [–definite] descriptions in languages shows that in languages like Gichuka and Swahili,

³ Since this study is morpho-syntactic, semantic as well as pragmatic in its analysis, I adopt a simple semantic noun class system suggested in Gecaga (1953) whereby nouns are classified on the basis of their semantic features as opposed to only their nominal and pronominal prefixes.

there is no element in the logical form that specifies that the noun phrase meets the descriptive content of either [+definite] or [–definite] whereas in languages like English, German and French the overt lexical markers are used to mark definite and indefinite descriptions.⁴

In addition, Chomsky’s logical form account of the meaning of genitive and quantified expressions further encounters limitations as can be seen in sentences (3–4).

(3) *Mugure a-gur-ir-e m-buku y-a*
Murithi
 Mugure 3SG-buy-PERF-fv NC4-book NC4–ASSOC
 Murithi
 Mugure bought Murithi’s book

(4) *Wa mu-ana ni-a-ring-ir-e mu-bira*
 Every NC1-child foc-3SG-kick-PERF-fv NC2-ball
 Every child kicked the ball

In (3), the relationship between the NP *mbuku* ‘book’ and the NP *Murithi* is underspecified at the level of the logical form representation; it only specifies that the two NPs exist in a relationship of possession. However, the nature of this relationship is not adequately specified, that is, whether the intended meaning is ‘the book written by Murithi, or the one bought by Murithi or the one sold by Murithi’ is not determined by the logical form rules.⁵ To arrive at

⁴ For a thorough discussion of definite and indefinite description see (Pavey, 2008). Pavey defines definiteness in terms of “the existence or identifiability of the referent of the noun phrase, or its uniqueness or inclusiveness (2008:306).”

⁵ See Sperber and Wilson (1986:188) for a similar argument for under-determination of the meaning of the possessive expressions in English.

the intended meaning of (3), the hearer contextually enriches each of the meaning of the sentence and fixes the intended meaning based on the available contextual information.⁶

In (4), the meaning of the sentence is assumed to be specified by logical form representations in (5) and (6).

- (5) $\forall x: ((x \text{ is a student}) (x \text{ kicked the ball}))$
- (6) $(\forall x: x \text{ is student}) (x \text{ kicked the ball})$

In (5), the subject of the predicate has scope over the rest of the elements of the sentence whereas in (6) the subject of the predicate has scope over a restricted set of elements in the domain of the discourse. Thus, according to the formulation of the logical form in the Minimalist Program, the assignment of the truth conditions or sentence meaning is based on determination of the scope over which the subject of the sentence exercises over the rest of the elements of the sentence.⁷ However, a closer analysis of the sentence raises fundamental questions. Specifically, the logical form predicts that the speaker of (5) assumes that ‘all children that there are in the world kicked the ball’ – an interpretation that is unlikely in most contexts. Thus, the set of possible scope of the universal

⁶ See Sperber and Wilson (1986:201) for a complete technical presentation of the criterion of consistency with the principle of relevance.

⁷ For a thorough discussion of the syntax of scope, see (Huang 1995, section 2 and Hornstein 1995, chapter 8). Within the Minimalist Program, the determination of the meaning of quantifiers is based on the operation move which determines the scope over which the subject NP takes over the rest of the sentence.

quantifier is specified by the context of the sentence, rather than the rules that are internal to the logical form representation.

Sentences (1–4) above clearly suggest that Chomsky’s logical form, as conceptualized within the Minimalist Program falls short of both observational and descriptive adequacy. At this point, I predict that its conceptualization will not be able to account for the meaning of anaphoric constructions, elliptical constructions and sentences with unarticulated constituents.

1.3 Statement of the problem

As stated above, the interaction of context and syntax in sentence meaning has been significantly left unexplored in Chomsky’s generative grammar. In general linguistic literature, the majority of past studies take either a purely generative (formalist) approach (see for instance, Chomsky 1981, 1995a, 1995b, 1995c, Hornstein 1995 and Huang 1995) while others take a purely functionalist approach and hence, they ignore the design of the language faculty and by doing this also deny the existence of a systematic relationship between syntax and context (Levinson, 1983, 1987). This is a significant omission since a systematic relationship between syntax and context in specifying the sentence meaning can be established. Therefore, the present study sets out to investigate how a systematic relationship between syntax and context can be established. By doing so, the present study demonstrates the inadequacies of Chomsky’s logical form configurations in specifying sentence meaning. Using insights from

the relevance-theoretic pragmatics, the study aims to offer suggestions for the modification of Chomsky's logical form account in an attempt to offer an approach that integrates the competence model (proposed by Chomsky, 1995a,b,c) with a model of sentence interpretation.

1.4 Objectives of the study

The general aim of the present study is to establish a systematic relationship between syntax and context in specifying the meaning of sentences.

The specific objectives are the following:

1. To examine the extent to which the truth conditional meaning of sentences with (bound and free) pronominals is spelled out at the logical form
2. To investigate the extent to which the truth conditional meaning of sentences with lexically represented NPs is spelled out at the level of logical form
3. To verify the extent to which the truth conditional meaning of sentences with quantified expressions is determined by the context in which the sentences occur
4. To verify whether sentences with unarticulated constituents are represented with their complete meaning at the logical form

5. To suggest a modification of the Minimalist Program in order to propose an approach that integrates both the competence model and the model of sentence interpretation.

1.5 Justification of the study

This study aims at bringing in a new perspective in the understanding of the complex relations between the context and the syntax. It forms an initial step towards incorporating a theory of sentence interpretation into the theory of linguistic competence. It is an attempt towards reducing the gap that characterizes the system of knowledge of language and the use of the knowledge of language. The use of Gichuka as the language of analysis contributes useful insights in relation to its syntax and pragmatics. So, the study will be useful for other researchers interested in investigating the language on these areas and will broaden the understanding of the organizational levels of human language in general.

1.6 Scope and limitations

The present study will analyze Gichuka simple sentences, complex sentences and short conversations. Grammatical categories such as tense, aspect, mood and case will not be dealt with. In addition, the study does not endeavor to offer a complete presentation of the Minimalist Program and relevance theory. Instead, it is restricted only to those principles/modules of the two theories that are relevant for the analysis of the data. From the Minimalist

Program, the study deals with the lexicon and the logical form, while from the relevance theory, it deals with the comprehension strategy, conceptual addresses, the principle of relevance, and the role of context in sentence understanding.

1.7 Definition of key terms

Logical form refers to level of representation that specifies the linguistic meaning of the sentences and it is uniform for all languages in the sense that “any thought expressible in human language is representable in it (Chomsky, 1995a:21).

Phonetic form concerns the level in which all the properties that are relevant to phonetic interpretation of linguistic expressions are specified

A proposition is an assumption derived from an utterance of a sentence that gives the utterance the property of being either true or false. Lycan defines propositions as “objects of mental states that are fundamental bearers of truth or falsity (2000:81). For Sperber and Wilson, a proposition is a mental representation that constitutes the individual’s encyclopaedic knowledge as well as his overall representation of the world (1986:73). Recanati defines propositions in terms of their relations to truth conditions. According to him, a proposition is the “satisfaction condition the utterance presents itself as having” (1993:18).

A propositional form is a conceptual representation of a complete thought that coincides with the speaker's intended meaning.

An explicature is a propositional form that is derived as a result of development of the logical forms (Sperber and Wilson, 1986:182).

An implicature is a propositional form that is communicated but it is not traceable to the logical form of the sentence that expresses it (ibid.)

Linguistic competence refers to the knowledge of language that enables the native speakers to speak and understand the language (Chomsky 1995a:14). On the other hand, linguistic performance concerns the use of competence in actual language situations

Unarticulated constituents refer to constituents that are not associated with a particular morpheme at the at the logical form level of representation but are represented at the conceptual level of representation in order for a sentence to have a truth evaluable proposition (Recanati 1993:241)

Saturation is refers to the process by which the presence of a linguistic expression in a sentence activates the process of completion and value assignment through which the semantic content of an expression is determined (Recanati, 2007:10).

Modulation refers to a contextual process that affects the content without being triggered by a linguistic property of the expression whose content is affected (ibid.).

1.8 Literature review

The attempt to define the relationship between the logical form representation and the propositional form representation has been in the literature since 1990s. The majority of the past studies have taken either a purely generative approach in relation to meaning representation and left out aspects of context that intervene in meaning specification for sentences (see Chomsky 1995a,b,c, Lasnik 2002, Lasnik and Saito 1992, etc); others have taken a purely functionalist approach and left out or do little to explicate matters related to the underlying linguistic competence (in Chomsky's sense) of the native speaker (see Rouchota, 1998, Leonetti, 1998, Papafragou, 1998, Ochs and Schieffelin, 1983, etc.).

For generative linguists, the logical form coincides with conceptual intentional interfaces that specify the meaning of the sentences (Chomsky, 1995a:21). For functionalists such as Ochs and Schieffelin (1983), it is the context that determines the meaning of the sentences. Thus in both views the interaction of the context and grammatical rules in specifying sentence meaning is left unexplored.

This section begins with a review of the pre-minimalist generative frameworks that have undergone various refinements, leading to the Minimalist Program for linguistic analysis. The literature reviewed focuses on the historical progression of the transformational grammar from Syntactic Structures (Chomsky, 1957) to the Minimalist Program (Chomsky, 1995a). Further, the

section reviews past studies that are based on applications of theoretical tools through which the present study aims to analyze the data that will be presented in the subsequent chapters. For the purpose of this study, the section also reviews studies that have attempted to investigate of the properties of logical form after the concept found its way into generative grammar in the 1970s (Chomsky, 1977). Further, the section reviews the literature on the Gichuka syntax and its closely related Eastern Bantu languages and finally it reviews the past studies on relevance theory.

1.8.1 Historical developments of generative grammar

Chomsky's (1957) *Syntactic Structures* was an attempt at a radical departure of linguistic investigation from studying the sentences of a particular language as the object of linguistic enquiry to investigating general rules that account for sentences of all natural languages. Chomsky (1957) developed a set of phrase structure rules that determined the structure of sentences. The achievement of this development was that the phrase structure (re-write) rules could account for a wider range of linguistic phenomena than those that could be accounted for by the finite state model of linguistic analysis. Finite models were those models that relied on developing grammatical rules on the basis of corpus data. The achievement of Chomsky's (1957) theory was that it could account for grammatical sentences as well as ungrammatical sentences using a more general set of theoretical tools. However, the phrase structure grammar

was later found to be inadequate since it could not account for data from some of the world languages and the fact that it generated semantically deviant sentences. While Chomsky's study provides impetus to the present study by providing the basic foundations of Chomskyan thinking, it fails in the sense that much of the earlier tools have since been discarded with time and thus may not be adequate in accounting for most of the data to be presented in the present study.

Chomsky's *Syntactic Structures* was followed by further refinements to the theory of Universal Grammar in the *Aspects of the Theory of Syntax* (Chomsky, 1965). This model of grammar was motivated by the need for a shift in linguistic inquiry from an investigation of the rules of the language based on corpus data to the investigation of the tacit knowledge of language by the native speakers/hearers. This shift of the object of linguistic inquiry was motivated by Chomsky's own distinction between what he termed as the linguistic competence and the linguistic performance (Chomsky, 1965). According to Chomsky, the former refers to the implicit ability to understand indefinite number of sentences while the latter refers to the use of the knowledge of language in concrete situations (Chomsky, 1995a:15). Therefore, within this framework, the focus of linguistic inquiry was fundamental to linguistic competence, not performance. This is the methodological distinction that Chomsky has pursued in his linguistic investigations to the present. Within the

Aspects of the Theory of Syntax, the grammar constitutes the syntactic component, the phonological component and the semantic component.

For Chomsky, the syntactic component constitutes the base and transformation component and contains all information that is necessary for the interpretation of sentences (1965:15). Additionally, the syntactic component must also specify the deep structure and the surface structure representations of sentences. The base component contains the lexicon and the base rules. The lexicon specifies the lexical items with their idiosyncratic properties (Chomsky 1965, 1977) while the base rules generate deep structure representations. The transformational component generates the surface structure from the deep structure representations which are then submitted to the phonological and semantic components for relevant interpretations. In the Standard theory, it was the deep structure representation contained all the information that were relevant to the interpretation of the sentence meaning. In addition, it was assumed that whereas the phonological component assigns the phonetic interpretation, the semantic component assigns semantic information to sentences (Chomsky, 1965, 1972, 1977 and 1995a).

Further investigations on the Standard Theory revealed that it was not adequate for accounting for sound-meaning relations in sentences and this necessitated revisions. The refinement of the Standard Theory led the emergence of the Extended Standard theory (Chomsky, 1972). One of the standard assumptions of the Extended Standard Theory was that the surface structure

representation could also be closely linked with certain aspects of sentence meaning such as focus and presuppositions (Chomsky, 1972:138). This observation had escaped the notice of the Standard Theory and therefore, one of the radical distinctions between the Standard Theory and the Extended Standard Theory was that whereas the former held that only deep structures were relevant to sentence meaning, the latter maintained that both the deep structure and the surface structure levels of representation were relevant to certain aspects of meaning (Chomsky, 1972 and 1977). Chomsky (1977) suggested that grammatical rules alone faced important limitations in accounting for the meaning of sentences and proposes that there were certain aspects of meaning that could be accounted for by semantic components without necessarily being fully constrained by grammar. He therefore proposed that aspects of sentence meaning dealing with quantifiers, focus, coreference and thematic relations could be more adequately accounted for within the logical form representations.

The inadequacies of the Extended Standard Theory in accounting for sound-meaning relations led to its modification. This brought about the emergence of the Government and Binding theory – a version of the Principles and Parameters theory (Chomsky, 1981, 1982). One of the fundamental assumptions of the Government and Binding is that there is the universal grammar and the particular grammar. The latter comprises a set of parameters that are adjusted for the purpose of attaining the former. According to Chomsky (1981) humans are naturally pre-wired with the capacity to acquire the

principles of the universal grammar. While the limited evidence supplied to them via the Primary Linguistic Data (henceforth, PLD) from the linguistic environment is insufficient for them to acquire the principles of universal grammar, it nonetheless helps in setting the parameters for a particular grammar.

Within the Government and Binding assumptions, the theory of the universal grammar specifies the lexicon, the D-structure, the S-structure, the phonetic form and the logical form for sentences so that each of the derivations generated by the principles of the universal grammar must be represented at all the four levels of representation, that is, the D-structure, the S-structure, the phonetic form and the logical form. Accordingly, Chomsky (1981) suggests various modules that interact at various levels during derivation of a sentence from the lexicon to the interface levels. For instance, the bounding theory deals with locality conditions that constrain movement of constituents within sentences, the government theory constrains the relationship between the heads and their complements while the theta theory enter into the determination of the sentence meaning via the mediation the logical form (see also Hornstein 1995, Huang, 1995 and May, 1985). The binding module constrains interpretation of sentences containing anaphors, pronouns and referring expressions while the control module constrains the interpretation of the phonetically null pronominal elements. In addition, the case module deals with the assignment of case to nouns.

In an effort to simplify grammar, Chomsky's (1981) Government and Binding theory underwent a radical reanalysis leading to the elimination of various principles and modules from the internal syntax and suggesting that all of them must now hold at the interface. This refinement of the Principles and Parameters theory was the focus of the Minimalist Program (Chomsky, 1995).

The reduction of the four levels of representation in the *Government and Binding theory* (the D-structure, the S-structure, the phonetic form and the logical form) to the two levels of interpretation, that is, the phonetic form and the logical form meant that submodules such as the theta theory, binding theory and control theory, and so on, that defined the interpretive role of the semantic component of grammar must now hold at the logical form level of interpretation. This had the consequences that part of the interpretive burden of grammar had shifted from the computational system (internal syntax) to the logical form interface. Thus, the interpretive role of the logical form in mapping form to meaning in sentence interpretation required an intensive readjustment.

Chomsky (2000, 2001) reformulates the Minimalist ideas in terms of the Phase theory. According to him, derivations proceed from one phase to the next with each phase manifesting detectable phonetic and semantic properties. Within the framework of the Phase theory, syntactic computation must derive structures that are legible both at the phonetic form and logical form since phases are assumed to bear propositional properties at the interface level. The Phase theory sees phonetic form and logical form not as constant levels of

representation for sentence meaning, but levels where for each phase so far created, it is submitted for phonetic and semantic interpretation. Chomsky (2012) suggests that projections are required for interpretation at the interface level. He further suggests that the output of the computational system is transferred for interpretation to two interfaces: the sensorimotor system for externalization and the conceptual-intentional system for thought. Though Chomsky (2012) admits that the computational system yields structures that are appropriate for semantic interpretation but inappropriate for human communication, his study fails to address how contextual information interacts with structures generated by the computation system to yield propositional forms that are required for human communication.

While the studies on the development of the transformational generative grammar provide a significant impetus to the present study, they offer little or no insight in regard to the relationship between the structure of the sentence and the truth conditional (or speaker's intended) meaning since it is evident that to this far Chomsky has not addressed intricate issues regarding the interaction of syntax, semantics and context and in the wider sense pragmatics in understanding the sentence meaning. The failure to address the complex relations of the interaction of syntax and pragmatics in the analysis of the sentence meaning therefore remains one of the key pursuits of the present study.

1.8.2 Literature on the inadequacies of Chomsky's logical form

Chomsky's Minimalist Program reduces the levels of representation to the phonetic form and the logical form. While the former characterizes the articulatory-perceptual representations, the latter coincides with the semantic-conceptual representations thus comprising all the features that are relevant for understanding of sentence meaning (Chomsky 1995a:2 and Huang 1995:127–9). Chomsky further suggests the following about the logical form level of interpretation: a) The logical form level of representation specifies the aspects of meaning that are linguistically determined (1995a:21); and b) the logical form constitutes a representation of the native speaker's thoughts required by language users in understanding sentences and that it is uniform and universal for all languages (1995a: *ibid*).

The divergence between the logical form representation of the meaning and the conceptual representation of meaning has been discussed in the literature (Sperber and Wilson 1986, Carston 2002, Recanati 2007, Stanley 2000). However, the majority of these studies emphasize on clarifying the extent of the gap between the two meaning representations, that is, the semantic (logical form) meaning which corresponds to the conceptual representation of meaning on the one hand and the propositional form representation on the other which should represent the truth conditional meaning of sentences.

For instance, Levinson (1987) examines the syntax and pragmatics of anaphora and argues that while generative tradition has pushed the

interpretation of anaphora to syntax despite the fact that the interpretation of anaphora falls within the pragmatic domain.⁸ Using data from Guugu Yimidhirr, he investigates the relationship between zero-anaphora and pronominal anaphora and motivates an account of favoured interpretation which demonstrates that there are pragmatic principles that account for zero anaphors thereby undermining Chomsky's (1981) account in which the syntactic computational system is portrayed as the adequate account for the interpretation of the anaphors. In the study, Levinson investigates how the native speakers of Guugu Yimidhirr track down the referents in the light of random deletion of surface structure noun phrases in grammatical constructions. He maintains that the principle of favoured interpretation is involved in the interpretation of sentences with bound pronominals. While his study provides insights to the present study in its detailed analysis of interpretation of anaphors, his framework of analysis is largely dependent on Grice's (1975) theory of inferential communication which according to Wilson (2000:415) lacks an explicit account of sentence meaning.

⁸ A different account of interpretation of anaphora is offered in Bresnan and Mchombo (1987). Bresnan and Mchombo investigate the agreement systems within the framework of Lexical-Functional grammar. They argue that verbal affixes in Chichewa mark both grammatical agreement as well as anaphoric agreement. For grammatical agreement, they argue that the NP bears an argument relation with the verb while in anaphoric agreement the verbal affix is interpreted as "an incorporated pronominal argument of the verb, and the coreferential NP has a non argument function" (Bresnan and Mchombo, 1987: 741).

Barton's (1990) study attempts to account for the meaning of nonsentential (independent) constituents by merging the *Government and Binding* (henceforth, GB) *theory* with the Gricean pragmatics (Grice, 1975). He argues that the operation *ellipsis* advanced in the GB theory fails to adequately account for nonsentential constituents and argues that the major part of interpretation of nonsentential constituents takes place within the pragmatic context rather than in the logical form component of grammar (Barton 1990: xi). In addition, his theory of interpretation of nonsentential constituents involves two interacting models: the Chomskyan competence model and the inferential communication model of utterance interpretation (due to Grice 1975). While Barton's (1990) study is significant for the present study in that it attempts to characterize the point of interface between the generative grammar and the inferential communication theories, it only partially accounts for nonsententials and fails to provide an adequate account for how pragmatics intervenes in accounting for semantic interpretation for other constituents of sentences in general.

Huang (1995) investigates the interface of syntax and pragmatics within the framework of Principles and Parameters theory. In his investigation, he examines the role of logical forms in mediating between the sentence structure and truth conditions. His study mainly focuses on quantificational sentences, pronoun interpretation and *wh-* movement in English, Chinese and Japanese. In his attempt to account for data from these languages, Huang motivates the

Quantifier Raising rule (originally due to May, 1985) to account for the way in which quantified noun phrases are assigned semantic interpretation via the mediation of the logical form. According to him, these expressions provide evidence for the existence of the Quantifier Raising rule since quantified expressions are assigned semantic interpretation in ways that are different from kernel sentences. While Huang's study provide significant impetus to the present study, especially in the analysis and assignment of semantic interpretation to quantified expressions as well as in interpretation of pronouns, it fails to adequately account for the truth conditional meaning that these sentences acquire in concrete situations. Notice that later investigations within the generative grammar have rejected the Quantifier Raising rule given the considerations of the economy conditions (e.g., Chomsky, 1995a).

Marantz (1995) traces the development that saw the progression of the generative grammar from the GB theory of Chomsky (1981) to the Minimalist Program (Chomsky, 1995a). He discusses the latter as an approach to wellformedness as well as an approach to language representation. In his study, he traces the changes that saw the reduction of the GB theory's four levels of representation to the two basic levels of representation in the Minimalist Program, that is, the level of logical form and that of the phonetic form. In addition, he investigates the principles of economy of derivation that constrain the steps through which a derivation undergoes as it moves from lexicon to interface. He concludes his study with the claim that there has been a growing

tendency in linguistics to confine the syntax to the background as the focus now seems to be directed to the logical form and the phonetic form. He calls this point in linguistic investigation the *end of syntax* and argues that this has the positive consequence of forcing syntacticians to renew their interface (logical form and phonetic form) credentials by paying serious attention to the relevant work in phonology and semantics (1995:381). Though his study is significant to the present study in the sense that it demonstrates a shift of focus from the internal syntax to the syntax—semantic interface, it fails to account for the interaction of syntax and pragmatics and thus offers no fundamental insights to the role that context play in accounting for sentence meaning.

Hornstein (1995) investigates the properties of the logical form within the GB theory and the Minimalist Program. In his study, he compares the differences between the two frameworks as well as the basic assumptions that make them different. According to him, it is at the logical form level where output conditions are checked (1995:4). In his investigation, Hornstein examines the structure and interpretation of quantified expressions, kernel sentences, the checking of the Empty Category Principle at logical form, antecedent contained deletions, linking and binding at logical form and quantifier scope for English sentences. While his study is important for the present study, it fails to examine the possibility of the pragmatic input in determining the truth conditional meaning for the data that is presented in the study.

Carston (2000) outlines the relationship between the generative grammar and the (relevance-theoretic) pragmatics. For her part, Carston points out the similarities between the Minimalist Program and the Relevance Theory. For instance, she suggests that both frameworks assume conditions on economy of representation while they differ in the sense that while the former considers wellformedness by comparing the steps needed in deriving a particular syntactic representation (logical form), the latter selects a derivation that is consistent with the principle of relevance without the hearer having to engage in search for a more appropriate interpretation in an effort to find the right interpretation for sentences. Though Carston's study is significant for the present study, it fails to address the gap that characterizes the logical form representation and the propositional form in utterance production and understanding.

Stanley defends the thesis that context dependent truth conditional features are traceable within the logical form of the sentence (2000:391). In addition, his study argues that if all the effects of extra-linguistic context on truth conditions of an assertion can be traced within the logical form, then the effects of the context on truth conditional meaning of sentences are restricted to assigning the semantic values to the elements of the sentence (2000: 396). However, the suggestion on constraining the effects of context on the logical form is refuted by Sperber and Wilson (1986). For Sperber and Wilson (1986) the logical form of a sentence provides fragmentary representations of thoughts

which are not truth-evaluable and thus require inferential processes to give them a fully propositional truth evaluable output.

Though Stanley's study downplays the effects of context on truth conditions by leaving such effects to the domain of semantics, he acknowledges the role of context on grammar by the notation that 'Utterance + X [where x is context] = logical form (2000:399). The above notation suggests that in cases of lexical or structural ambiguity context plays a role in guiding the hearer to decide which logical form has been uttered. In addition, Stanley (2000: *ibid*) proposes that context plays a role in determining truth conditions by the notation that 'logical form + meaning assignment + X [where x is context] = truth conditions'. Though Stanley limits interpretation of sentences to the logical form configuration for sentence, he fails to provide a systematic account of how the interaction of context and syntax enter into determination of the fully propositional forms that represent the complete thought of the speaker/hearer.

Elugardo and Stainton (2001) advance an argument against the vernacularism view of language representation. Vernacularism, according to Elugardo and Stainton, is the view that logical forms are fundamentally assigned to expressions of natural language, and are only assigned derivatively to anything else: e.g. propositions, mental states (Elugardo and Stainton, 2001:394). For Elugardo and Stainton, the logical form is the underlying level of representation by which a sentence is assigned truth conditions. Their argument against vernacularism is based on the assumption that it is not just the natural

language sentences that bear logical forms; but also propositions and mental representations bear constituents and that these constituents are amenable to the logical form structure. So they argue that on the contrary, the vernacularism maintains that apart from the natural language sentences, all other representations bear the logical forms derivatively, that is they acquire logical forms through the sentences that they represent (E and S, 2001:ibid.).

For Elugardo and Stainton (2001:401), vernacularism fails because objects and properties can exist in the mind of language users in virtue of being in the environment of the language interlocutors, and not solely by virtue of satisfying some natural language description running through the mind of the speaker. In their analysis of nonsententials, they demonstrate that such structures, when uttered in appropriate contexts, communicate propositions and that these propositions bear truth conditions as long as the hearer recognizes the uttered implications (Elugardo and Stainton, 2001: ibid.). Though the study is significant in the analysis of ellipses and non sentential constituents, it makes no mention of how the resolution of the truth conditional meaning of sentences with a variety of other NP constituents in argument positions is attained.

Carston (2002) defends the thesis that the relevance-theoretic pragmatics deals with sub-personal systems that are amenable to scientific enquiry. Her postulation constitutes a response to Chomsky's (1995a) claim that a theory of interpretation is not subject to scientific investigation since it involves investigations at the level of personal systems. Following Sperber and Wilson

(2002), Sperber (1994, 1996) she argues that the relevance theory is a sub-personal theory just like the Minimalist Program in the sense that the notion of comprehension as held in the relevance theory is a mental module that is fast, automatic as well as domain specific (2002:7). In her defense of the relevance theory as a sub-personal theory against Chomsky's (1995a) skeptic evaluation of theories of pragmatic interpretation, she shows the relationship between referential semantics, i.e., 'real world' referential semantics and semantic representation, i.e., a representation that involves rule-bound mapping of phonetic representation to semantic representation. In doing so, her study proposes that a mental representation that is fully propositional constitutes features of a semantics of the out there in the world sort (2002:9). More so, her study explores the relationship between linguistic meaning and speakers meaning and concludes that linguistic meaning underdetermines what is meant; what is said underdetermines what is meant and finally that linguistic meaning underdetermines what is said (2002:19). While her study explores the extent of the gap between linguistic meaning (semantic representation) and speakers intended meaning, it fails to provide an empirical account that resolves the gap between the logical form representation and the representations of thought in the speaker/hearer.

Pavey (2008) examines the interpretation and coding of referents in English noun phrases within the framework of Role and Reference grammar. Her analysis uses the notions of identifiability, specificity and referentiality of

the referent.⁹ Using data from English, she demonstrates that the noun phrases can be placed into a scale that ranges from pragmatic to semantic predication that is driven by syntactic properties and the context of the sentence. In addition, she examines the assignment of referents to the surface structure noun phrases of the sentences within the context of communication. In pursuit of this, she examines the role of the sentence constituent structure in communication. Though Pavey's study is provides significant impetus in relation to reference assignment for NPs, her analysis of definiteness is only limited to languages with overt articles and thus offers no insights to null article languages such as Gichuka, Kikuyu and Kiswahili and most of other Bantu languages.

Aspeita (2011), defends the thesis that speech acts are primary bearers of the logical forms of the propositions they yield and refutes E and S's (2001) and Stainton's (2006) argument that proposition expressed by nonsentential structures does not derive its logical form from nonsententials since the latter lack a proper syntactic structure it requires to directly generate the logical form. In contrast to E and S (2001), she argues that speech acts have a proper syntactic structure and that the propositions they express derive their logical form derivatively from them. According to her, the constituents of what is uttered in the speech acts and other elements that determine the functions and arguments that yield the proposition of the speech act constitute the syntax of the speech

⁹ The notions of *identifiability*, *specificity* and *referentiality* as used in Pavey (2008), are due to (Declerck, 1988).

act and thus these elements yield the logical form of the speech act. In this case, Aspeita argues that speech acts have a rich syntax to yield the logical forms that are assigned to their associated propositional forms. In order to justify her new conception of the syntax of speech acts, Aspeita (2011:57) extends the notion of syntactic constituent to cover any element of a speech act that contributes to communicating the proposition conveyed in such an act, thereby ignoring the usual distinctions between syntax, semantics and pragmatics. While her argument against vernacularism provides significant impetus to the present study by providing insights on organization of syntax and meaning of subsentential and elliptical structures, her attempt at ignoring syntax, semantic and pragmatic distinctions leaves a major gap in linguistic analysis.

1.8.3 Literature on Gichuka syntax

I have so far not come across a study specifically focusing on Gichuka syntax, semantics or pragmatics except for Ndwiga's (2008) study which examines the presence of the empty categories in the syntax of Gichuka within the framework of the Government and Binding theory (Chomsky 1981). The majority of studies focus on related languages such as the Gikuyu, Kimeru and Kiembu, and so on. While some of these studies provide important historical background related to the language (see for instance, Fadiman 1973, Guthrie 1967, Marete 1981, chapter 1) others provide a purely syntactic approach to other languages related to Gichuka. For instance, Marete (1981) and Nkubitu (1993)

provide a syntactic analysis of sentences in Kimeru while Nyaga (1998) analyzes Kiambu simple sentences within the Government and Binding perspective. On the other hand, Gathenji (1981), Mwangi (1992) and Gachomo (2004) delve into the syntactic analyses of Gikuyu simple and complex sentences while Thandi (1981) focuses on pronominalization in Kiswahili within the Binding framework. While these studies will provide significant insights on syntactic representation of Gichuka and related languages to the present study, they fail to offer insights with regard to the syntax—pragmatics interface in the sense that they fail to show how context intervenes in semantic interpretation of the sentences they analyze.

1.9 Hypotheses

The study will be guided by the following hypotheses:

1. The truth conditional meaning of a sentence with a (free or bound) pronominal is underspecified at the logical form and thus requires reference to context in order for it to be fully specified
2. The truth conditional meaning of sentences with lexically represented NPs is determined via reference to the context in which a sentence is produced
3. Context constrains the truth conditional meaning of sentences with quantified expressions
4. Inferential processes interact with syntax in determining the truth conditional meaning of sentences with unarticulated constituents

5. A systematic interaction of the context and grammar exists in specifying the meaning of the sentences exists.

1.10 Methodology

1.10.1 The nature of the data

The research used both simple and complex sentences in Gichuka. The study was particularly interested in the assignment of reference to anaphors, pronominals, nominal expressions, the identification of the scope of restriction in sentences for the interpretation of quantified expressions and the recovery of unarticulated constituents in sentences. A combination of data in form of questions and answers and simple sentences was found useful for the specification of meaning of context-dependent expressions such as elliptical constructions and unarticulated constituents.

1.10.2 The data collection procedure

Data was collected from the native speakers of Gichuka. These were asked to narrate to the researcher animal stories, scientific and historical narratives. More data was collected from conversations with native speakers as well as from natural communication settings among the native speakers of Gichuka. Both stories and the conversations were recorded by audio recording devices, uploaded on computer and later transcribed. The researcher then selected sentences from narratives and conversations and transcribed them. He then selected sentences from narratives and conversations and asked the

informants to explain the meaning(s) that sentences containing anaphors, pronominals, lexical NPs, quantified NPs, elliptical structures, nonsentential constituents and unarticulated constituents yielded either in actual speech or language use situations. In the analysis, the researcher mainly focused on those sentences that were unmarked in terms of the style and only used marked sentences to clarify issues of relevance and identified them as marked in the study.

The researcher, being a native speaker of Gichuka, also generated Gichuka simple sentences, complex sentences and short conversations. Additional data was collected from written texts such as textbooks and personal letters in Gichuka. All this data was verified through the intuitions of twenty native speakers of the language, with whom the researcher held semi-structured interviews in order to get their views regarding the meaning of sentences. These informants were mainly elderly monolingual native speakers of Gichuka with a significant command of Gichuka and those with little or no exposure to other languages. Data was mainly collected from the following locations: Chera, Kathathani, Kamuguongo, Nyaga Kairo, Nkwego, Nturia, Kiamuchii and Matuntuni.

1.10.3 Data analysis

The researcher analyzed the sentences using the specific concepts of the Minimalist Program. This involved representing the logical forms of the

sentences as well as specifying their meaning as per the rules of the logical form. The next step involved representing the propositional forms for sentences to specifying the meaning of these sentences as understood by native speakers. The study further demonstrated the meaning gap between the meaning specified by the rules of the logical form and the propositional (truth conditional) meaning of the sentences specified by the context during sentence interpretation. Finally, the study addressed this gap through insights from the framework of relevance-theoretic pragmatics where the role of context in sentence comprehension and communication has been extensively studied.

1.11 Summary to chapter one

This chapter describes the background of Gichuka where historical discussion relating to its speakers is presented. Next, the chapter presents the background of the study, the research problem, the objectives of the study, justification of the study, scope and limitations, review of the literature and the hypotheses advanced in the study. The chapter ends with a presentation of the data design, collection and analysis.

1.12 The structure of the study

This study is structured as follows. Chapter one is the introduction to the study. Chapter two presents the theoretical framework for the study. Here, basic assumptions and theoretical devices of both the Minimalist Program and the

relevance theory are discussed. Chapter three discusses the interpretation of the sentences with anaphors and pronominals in Gichuka. Chapter four presents the syntactic and semantic representations of sentences with lexically represented NPs in Gichuka. Chapter five analyzes the structure and meaning of sentences with quantified expressions, elliptical structures, and unarticulated constituents. Here, the linguistically determined aspects of sentence meaning, that is, their semantic representation, is presented in the light of the meaning that these sentences have by virtue of the context in which they are produced and understood by the native speakers and hearers. Chapter six presents syntax-pragmatic solutions to the inadequacies of the logical form encountered in the previous chapters. The focus is on the derivation of propositional forms through saturation and enrichment. The chapter ends with a proposal for a syntax—pragmatics account for the truth conditional meaning of sentences in Gichuka. Chapter seven is the conclusion. It provides a detailed summary of the research findings and relates them to the objectives of the study. This chapter ends with a set of recommendations for further research areas in the language under consideration.

CHAPTER TWO

THEORETICAL FRAMEWORK

The present study will draw upon two theoretical frameworks: the Minimalist Program (as expounded by Chomsky, 1995a) and the Relevance Theory (as expounded by Sperber and Wilson, 1986). This chapter will first outline the architecture of the Minimalist Program as well as its basic assumptions about the nature of language. It will then provide an outline of the basic tenets of the Relevance theory. Since it is not the aim of the chapter to present a complete technical description of the two theoretical frameworks, only their major theoretical concepts that are relevant to the data under analysis will be presented. The main theoretical concepts of the Minimalist Program that will be presented are: the binding theory, the NP movement, pro-drop phenomena, the principle of economy of derivations, and the logical form. In relation to the relevance theory, the chapter will present the principle of relevance, the comprehension strategy, the mental contexts, the criterion of consistency with the principle of relevance, the conceptual addresses (the lexical entries, the logical entries, and the encyclopaedic entries).

2.1 The Minimalist Program

The Minimalist Program brought a fundamental reduction in the principles and modules that applied at different points in the derivation of sentences from the lexicon to the interface levels of representation. This led to a

reduction in the burden of syntax, as most of the principles of grammar were assumed to hold at the interface levels. This section, first outlines the goals that motivated the emergence of the Minimalist Program for linguistic inquiry and then the basic assumptions and modules of the Program that will be referred to in the analysis of the data.

2.1.1 The goals of the Minimalist Program

Chomsky's Minimalist Program seeks to answer two fundamental questions of language representation:

- (1) What conditions of the human language faculty are imposed by considerations of virtual conceptual necessity?
- (2) To what extent is the language faculty determined by these conditions, that is, how much special structure does it have beyond them?

(Chomsky, 1995b:385)

Chomsky suggests that the answer to (1) involves the investigation of the relationship between the structure of the language and the cognitive systems of mind or brain (1995b:385–6). The answer to (2) involves the characterization of the extent to which the cognitive systems determine the structure of the human language. Chomsky (1995a, b) maintains that there is a relationship between language and cognitive systems and that the latter determine the structure of the language.¹⁰

¹⁰Chomsky (1995a, chapter 1) clarifies the notions of faculty of language, language and universal grammar. The faculty of language interfaces with the genetically-determined implicit ability to acquire language. He calls this the initial state and argues that it is uniform for all languages and

2.1.2 Basic assumptions of the Minimalist Program

According to Chomsky (1995a) humans are genetically pre-wired with a language faculty that consists of a generative procedure which generates structural descriptions (henceforth, SDs) which are general principles of syntactic computation and form-meaning mapping. These SDs are then linked to the output conditions where they are assigned phonetic and semantic representations. Within the Minimalist framework, a language is viewed as “nothing other than a formal object that satisfies interface conditions in the optimal way” Chomsky, 1995a:171).¹¹ Chomsky further observes that language is embedded in performance systems that are responsible for articulating, interpreting, referring, enquiring, and so on (p. 168). In his view, issues related to the above linguistic functions or parameters of the performance systems fall outside the scope of internal syntax and are therefore not subject to scientific inquiry. This view has received much criticism in the literature since it denies the existence of the level of organization of sentence (information structure) as

its properties are determined by the principles of universal grammar (1995a: 20–22). On the other hand, Chomsky suggests that the knowledge of a particular language stored in the mind of a particular speaker or hearer is the linguistic competence, which is defined as the properties of the steady state that an individual attains; that is his or her ability to speak and understand an infinite number of sentences using a finite set of rules of a particular language. In this way, Chomsky (1995a: 15) views the language as “a finitely specified generative procedure that enumerates an infinite set of SDs.”

¹¹ This is known as the Strong Minimalist Thesis. See Chomsky (1995a:171–175) and Radford (1998) for a further discussion of the thesis.

one of the components of grammar (see, for instance, Lambrecht, 1994 and Carston, 2002, especially Chapter 1).

According to Chomsky, there are no levels of linguistic representation other than the phonetic form and the logical form which, according to him, are the only conceptually relevant levels (1995b:9).¹² If a syntactic structure satisfies the interface conditions both at the phonetic form and logical form, it satisfies the conditions of *Full Interpretation*. Therefore, conditions relating lexical properties and interface conditions, such as the Projection Principle have been dispensed with within the Minimalist formulations. The elimination of such conditions, alongside others such as the theta-criterion and the D-structure level of syntactic representation from the computational system, reduces the burden of the system since the interpretation of sentences is now placed within the locus of the logical form.¹³

¹² See Chomsky (1995a:9) for a further discussion of the notion of virtual conceptual necessity. Chomsky argues that while differences in languages result from the morphological features of the lexicon and conditions imposed by the phonetic form, the computational system is virtually unique or optimal and relatively uniform for all human languages. He concludes that these variations are “a repository of departures” from virtual conceptual necessity (ibid.).

¹³ This elimination of a D-structure level of representation with its complications leaves a straightforward relation between the lexical items and the logical form and phonological form. The consequence of this radical change is that there is no point in the derivation from lexicon to interface where there are empty phrase structures awaiting lexical insertion (Zwart, 1997:220).

2.1.3 The lexicon and the computational system

One of the standard assumptions of the Minimalist Program for linguistic theory is that language consists of a lexicon and a computational system. The Program is grounded in the framework of cognitive science and its object of analysis is words and sentences. The lexicon specifies the set of lexical items that enter into the computational system while the latter applies a set of rules on these lexical items to generate derivations and structural descriptions. While the lexicon comprises the lexical and morpho-syntactic properties of the lexical categories (Schroeder, 2002:23), the computational system combines the lexical items into larger syntactic objects by virtue of the operation *internal merge*.

2.1.4 Conditions on the economy of derivations

The generative procedure is constrained by the principles of economy which regulate the computations that the language system generates. The economy conditions constrain derivations in terms of grammaticality through principles such as the *shortest move*, *procrastinate* and *greed*. Chomsky suggests that the faculty of language generates three sets of computations: the set D of derivations, a subset D_C of convergent derivations of D , and the subset of D_A of admissible derivations of D_A (1995a:220). Whereas the principle of *Full Interpretation* constrains the derivation of D_C , the economy conditions constrain the derivation of D_A . In this sense, it is assumed that a derivation may converge and is then ruled out in terms of economy considerations. Thus, admissible

derivations will always be convergent (ibid.). In other words, economy considerations constitute a constraint on the principle of *Full Interpretation*. For a derivation to satisfy *Full Interpretation* it must meet economy conditions.¹⁴ In addition, the economy conditions stipulate that logical form (covert) movement is cheaper than overt movement. This is the principle of *procrastinate*. The Minimalist Program assumes that economy conditions require that operations are driven by necessity: they are *last resort*, that is, applied if they must (1995a:199). Thus, any operation that is not necessary for the derivation to converge is disallowed on considerations of *last resort*. Both *procrastinate* and *last resort* fall within the conditions on the economy of derivations.

With the economy conditions, Chomsky adopts the view that any step in the derivation must be necessary for that derivation to converge at the interface level. The implication for this is that any step which is applied in a derivation and is not necessary for convergence violates the economy of derivation conditions and is therefore disallowed. The principle of *last resort* is self-serving since it requires that an element is moved only if its morphological properties are not otherwise satisfied. In other words, movement applies to an element, say *k*, if *k* has a feature *f* that requires to be checked for convergence. Movement is therefore motivated by the checking requirements.

¹⁴ Note that in some sentences, the violation of *procrastinate* is allowed by virtue of the *last resort* principle. For a thorough discussion of the *last resort* see Chomsky (1995a, especially chapter 3 and 4) and Zwart (1997).

For its part, *greed* requires that a constituent move to satisfy its own morphological requirements. Thus, by virtue of *greed* a constituent cannot move to satisfy the morphological properties of another constituent. For instance, an NP will raise to check its own features. Similarly, a verb will raise to check its own features, but not to check the features of its complements, lest this violation of *greed* results in a crash.

2.1.5 The structure of the computational system

The computational system coincides with the levels that are involved in the derivation of a syntactic structure from the point where the lexical items are selected from the lexicon up to the point where the resulting derivation is submitted to the phonetic form and the logical form. According to Chomsky (1995a) the computational system involves the following major operations: *numeration, select, merge, structure building, checking, move, and spell-out.*

2.1.5.1 Numeration

Numeration takes the lexical items from the lexicon and submits them to the phonetic form and logical form. It concerns the items of the lexicon and the number of times each of these lexical items is selected from the lexicon and mapped onto a derivation. Each time a lexical item is selected from the lexicon reduces its index by 1 (Chomsky, 1995a:225). The computational system applies the *numeration* to a set of lexical choices to form structural descriptions. The

process applies until the indices of the numeration for these lexical items are reduced to zero (ibid.).

2.1.5.2 Select

The operation *select* selects lexical items from the *numeration* and introduces them to the derivation. In order for the resulting derivation to converge at the logical form level of interpretation, the operation *select* must exhaust the initial *numeration*. At the logical form interface, a derivation converges if it contains only a single syntactic object. The computational system must generate single syntactic objects if they must receive *Full Interpretation* at the logical form. Notice that for a derivation to appear at logical form with single syntactic objects, the operation *select* must apply on it enough times to exhaust all the lexical items that must enter into the *numeration* (p. 226).

2.1.5.3 Structure building

Within the Minimalist Program, fundamental relations between lexical elements are expressed on the basis of the selection of lexical items from the lexicon. Therefore, local relations are expressed in terms of specifier–head relations and head–complement relations. The computational system selects lexical items from the lexicon and presents them in terms of these relations. The derivations satisfy interface conditions if they converge both at the phonetic form and logical form level of representation. *Satisfy* selects the lexical items and presents them in terms of the specifier–head relations and head–complement

relations (p. 187). Once this operation is completed, nothing can be added to the derivation on its way from *spell—out* to the logical form. *Satisfy* must ensure that the requirements of the specifier—head relations and head—complement relations are met before *spell—out* and that items required for interpretation by logical form rules are available for the computation.

In addition, the structure building operation envisaged in the Minimalist Program differs from that of the earlier frameworks (e.g., Chomsky 1981) in that it eliminates matters of lexical properties (and related principles like the Projection Principle, the Extended Projection Principle and the theta-criterion) from the computational system, leaving it independent of such properties. According to Chomsky, the semantic and formal features of lexical items are accessible for interpretation at the interface since the D—structure level is eliminated by the existence of a straightforward relation between the lexical items and the interface. At the logical form level, lexical items as well as their larger units like NPs and VPs are also accessible to the computational system.

2.1.5.4 Merge

The operation *merge* proposed in Chomsky (1995a) takes different syntactic structures and combines them into one in order for the derivation to receive *Full Interpretation*. If *merge* does not apply exhaustively, a derivation cannot converge at interface. Within the Minimalist Program, structure building begins with the mapping of the lexical items from the lexicon into the derivation.

From here, “the derivation proceeds with the most deeply embedded syntactic object created, and then being combined with its complement to form a larger syntactic unit (Lasnik 2002: 432). The derived structure is then submitted to interface systems for semantic and phonetic interpretation.

Further, *merge* implies that the lexical items must be combined into a single syntactic structure; otherwise they will not be interpreted at the phonetic form and the logical form. The rules of the logical form only “see” single syntactic objects and thus any structure going beyond the *spell-out* must be fully combined into a single syntactic object. Once a syntactic structure has been submitted to the logical form, nothing can be added to it since it is no longer amenable to the computational rules. If *merge* does not apply exhaustively, a derivation cannot converge at interface. *Merge* therefore operates on derivations forming larger syntactic units from smaller syntactic units that have already been formed.

There exists a close relationship between the operations *agree*, *move* and *merge*. For instance, Sigurdsson (2006:201) views *agree* as a precondition of *merge* and an integrated part of it. According to Sigurdsson, for an *agree* relation to hold between two elements, one of them has to have a feature f_x which matches with the other element. Sigurdsson also brings out the concept of *move* as being a necessity for rescuing the structure from violating interface conditions. He points out that *move* is forced by an inactive intervener τ_x between F and f_x , which, if not crossed by f_x , would block matching, $F \leftrightarrow f_x$ (ibid.). Thus, according

to Sigurdsson, the operation *move* is necessitated by the matching requirement at the interface levels.

2.1.5.5 Checking theory

The computational system has the *checking* operation. *Checking* is motivated by the assumption that certain morpho-syntactic features must be checked in the checking domain of the head while others remain visible at logical form even after they are checked e.g., the case features of a noun, which cannot be accessed after checking (Chomsky 1995a:279).

Lexical categories such as nouns, verbs and adjectives are drawn from the lexicon with their full inflections for agreement, tense and case. Chomsky formulates checking theory in terms of the following principle: “Interpretable features cannot be deleted (a fortiori, erased) and therefore remain accessible to the computation and visible at logical form” (p. 199). According to Chomsky, a verb’s *case* features can either be listed in its lexical entry or determined by the entry during the *numeration*. He suggests that “the V or T checks the *case* of the DP in the Spec not that the DP checks the head; and the ϕ -features of the head are determined by those of the DP in spec” (Chomsky 1995a:258-9). For him, it is for the verb to agree with the subject; it is not for the subject to agree with the verb. Within the checking theory, nouns adjoin to the functional categories (T and AGR) to check *case* and person, number and gender features requiring them to check them at the spec of these categories.

2.1.5.6 Move

Move is constrained by the locality principle which requires that the target of the movement lands to the first potential landing site. For instance, the locality conditions require that the NP moves from its position and land on the first potential A—position within the sentence as required by the *shortest move* principle of economy that stipulates that a shorter *move* is more preferred to the longer one (Chomsky, 1995a:182). Should the potential position be occupied by another NP, then any movement beyond this first potential position is disallowed and, as a consequence, the derivation will crash. For wh-constituents, the operation *move* moves the wh-constituent from an A—bar position to the first potential A—bar position of the Spec of the CP (Marantz, 1995a:352 and Rizzi, 1990).¹⁵

A standard assumption of the generative tradition is that once an element has been moved, it must leave a trace which is c—commanded by it (Chomsky, 1981). The chain that is formed between the moved element and the trace has to fulfill the uniformity condition that requires that “a chain is uniform with regard to phrase structure status” Chomsky (1995a:253). Additionally, *move* is

¹⁵ According to Rizzi (1990) a head cannot skip a potential head position that falls between its extraction site and its landing site, that is, the principle of relativized minimality cannot allow a wh-constituent to skip a possible first landing site for the to another position within the same sentence. Marantz also assumes the relativized minimality principle and points that A-bar movement of wh-constituent must not skip over A-bar specifier position. According to Marantz (1995) this would cause the derivation to crash.

constrained by the *last resort* condition which requires that move is driven by morphological necessity of the language. In addition, the *Minimal Link Condition* also imposes a constraint on the operation *move* since it requires that *move* make the shortest possible move. According to Chomsky (1995a) move carries along with it FF (LI), that is, other formal features of the lexical item. If a feature such as the *case* of an NP is unchecked it enters a checking relation for checking. For instance, a lexical item such as an NP that has unchecked case feature must enter a checking relation either to check the feature of the target or for it to be checked at the logical form representation level.

2.1.5.7 Spell-out

Spell-out “strips” away from a derivation those elements that are relevant to the phonetic form, leaving the derivation with only elements that are relevant to the logical form so that the phonetic form relevant elements do not appear at logical form and cause a derivation to crash (Chomsky, 1995a:229). This operation interfaces with the point in the derivation of the sentence from lexicon to interface where the derivation splits and is submitted to the phonetic form and logical form. It determines whether the operations involved in the derivations are covert or overt. It is the latter operations that determine the pronunciation of the sentence. All the operations that occur after *spell-out*, towards the logical form are covert and do not yield differences in the phonological properties of sentences.

The principle of *procrastinate* stipulates that those operations that occur after spell-out are preferred to those that occur before *spell-out* since the latter are cheaper than the former. However, Chomsky notes that there are circumstances that allow the violation of *procrastinate* by virtue of convergence, that is, sentences are allowed to violate *procrastinate* in order to converge at phonetic form and logical form by virtue of the *last resort*. Formal features of lexical items such as \pm nominal, \pm plural enter the covert component and are thus accessible for the computation to logical form. *Spell-out* switches the structural descriptions to their phonetic form so that if the derivation is a single phrase, it converges at the phonetic form level and if it is not a single phrase it crashes at phonetic form. Only objects that converge at the phonetic form can be interpreted at that level. This means that phonetic form rules interpret syntactic objects that appear as single constituents. Similarly, only objects that converge at the logical form can be interpreted at the logical form level of interpretation. When a derivation converges both at the phonetic form and logical form, it satisfies the conditions of *Full Interpretation*.

2.1.6 The logical form

The notion of the logical form entered transformational syntax in the 1970s. A standard claim within the Minimalist Program is that there are no levels of linguistic structure except the phonetic form and the logical form (Chomsky, 1995a:168). If a syntactic structure satisfies the interface conditions both at

phonetic form and the logical form, it satisfies the conditions of *Full Interpretation*. On the other hand, if a derivation crashes at one of these levels it does not meet the conditions of *Full Interpretation*. The assumption is that only the phonetic form and the logical form are conceptually necessary. Within this radical view of syntax, Chomsky (1995a) eliminates the D–structure level of syntactic representation from internal syntax – a level that he had proposed in earlier proposals of his syntactic theory (Chomsky 1965, 1981). In the earlier frameworks (see for instance, Chomsky, 1981), the projection principle constrained the projection of the lexical items at the D-structure level of representation. Thus, by eliminating the D–structure representation, the projection principle and theta-theory are dispensed with within the internal syntax. Principles such as the projection principle and theta-criterion are now assumed to hold at the logical form level of representation. Chomsky additionally argues that concepts such as

topic and focus and the theme–rheme structures, figure–ground properties, effects of adjacency and linearity... seem to involve some additional level or levels internal to the phonological component, post morphology but pre–phonetic, accessed at the interface along with PF (Phonetic form) and LF (Logical form) (1995a: 220).

He further suggests that modules of grammar such as case theory, theta-theory, binding theory, and so on, hold at the logical form which according to him is understood as a mode of interpretation at the interface level (1995a:170–1). This assumption reduces the burden of the computational system by eliminating

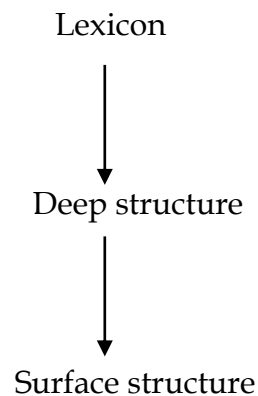
these modules from it and leaving the burden of the semantic interpretation to the logical form.

One of the strongest claims within the Minimalist Program is that a linguistic expression is nothing “other than a formal object that satisfies interface conditions in an optimal way” (Chomsky, 1995a:171).¹⁶ Thus within the limits allowed by the Minimalist proposals, all structural descriptions must of necessity satisfy the requirements of the logical form and the phonetic form if they are to be considered syntactic structures of a language. When a structural description satisfies the logical form conditions it converges at the interface; when it fails to meet interface conditions it crashes at the interface thereby yielding a deviant interpretation either phonetically, semantically or both.

Chomsky views the logical form as the locus of semantic interpretation. This is in contrast with the earlier generative enterprises (e.g., Chomsky, 1965) where the locus of semantic interpretation was left within the domain of the deep structure level of representation. Within the earlier generative enterprises, transformations never interfered with the meaning of the sentence but only changed their surface structure form (Chomsky, 1965). On this assumption, all grammatical transformations were meaning preserving since they had no relevance for the deep structure representation of sentences. In a generative sense, transformations were post-deep structure operations, that is, the

¹⁶ This is known as the Strong Minimalist Thesis (Chomsky, 1995a:171).

transformational rules did not “see” the semantic properties of sentences and thus preserved the meaning as specified by the deep structure. Within this enterprise, the semantic representation of the sentence was arrived through the format below.



In the early 1970s there was a growing realization within Chomskyan tradition that the deep structure level of representation had failed to adequately account for sentence meaning. The postulation of the trace theory in 1970s led to a new thinking which pursued the thesis that sub-categorization features of a predicate played a critical role in the structure and meaning of sentences. The idea was that grammatical transformations did not contribute any change to the subcategorization features of the verb, that is, they lacked any implications for the theta positions that the verb made available for noun phrases and complements. This meant that should a verb's internal or external noun phrase move via transformations, the trace needed to be left at the NP extraction site to ensure that the theta properties of the verb were preserved. In this sense, the grammatical transformations were conceived of as theta preserving. This led to

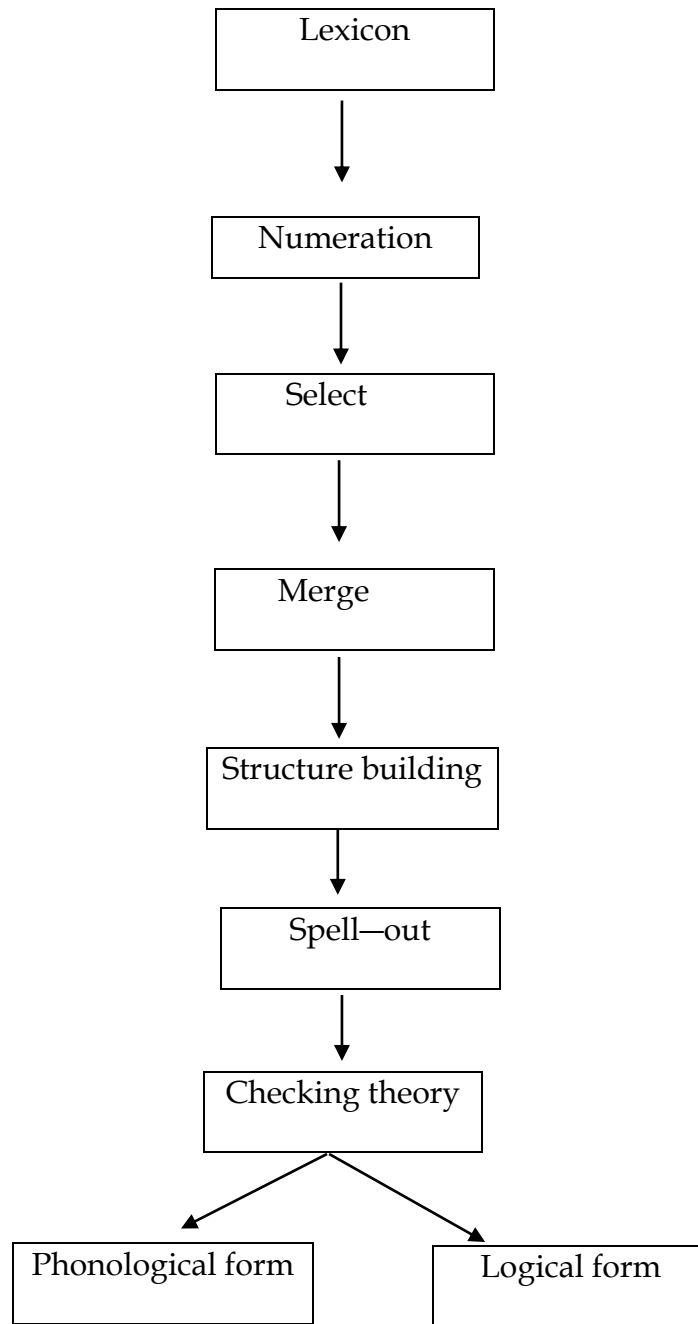
positing an s-structure level of representation in principles and parameters theory (Chomsky 1981).

Later it was realized in the Principles and Parameters theory that the D-structure level of representation could not account for certain aspects that involved sentence meaning. This again motivated the postulation of the logical form level of representation that demonstrated significant similarities with the s-structure though the latter was more abstract than the former. From Chomsky (1981) onwards, the level of logical form representation has been suggested as the locus of sentence meaning (See Chomsky, 1982, 1986, 1995a, Hornstein 1995 and Huang 1995). According to Chomsky (1995a:202) the logical form is the conceptual intentional interface and thus interfaces between grammar and meaning.

While the logical form cannot be equated with the semantic structure for sentences, it provides all the information that is relevant to the semantic interpretation of sentences by supplying all the legitimate elements, that is, "elements that have uniform, language independent interpretation at the interface ... in order for them to satisfy the condition of *Full Interpretation*" Chomsky (1995a:194). In this sense, the logical form thus bears the interpretative load in the Minimalist Program. In other words, sentences bear their meaning by virtue of their logical form representation at a more abstract level of representation. While the earlier generative enterprises viewed the logical form as the final output condition that applied once all the other grammatical

operations and principles had been fulfilled (see especially Chomsky, 1981), one fundamental point of departure within the Minimalist Program is that all grammatical conditions of well-formedness such as case theory, theta-theory, binding theory and subadjacency must now hold at the logical form level of interpretation. This means that for a sentence to bear a non-deviant meaning at the logical form level of representation, all conditions of well formedness must apply at this level.

For Chomsky (1977:5), those aspects of sentence meaning that are strictly determined by grammar fall the domain of the logical form interpretation. This is a departure from the earlier generative enterprises which held that the interpretative rules of grammar were within the deep structure level of representation which were then submitted to the s-structure level of representation and ultimately to the logical form level of representation (Chomsky, 1965 and 1981). In its simplest form, the modular structure of the Minimalist Program is as represented in the diagram below.



2.2 Relevance theory

Relevance theory is grounded on the principles of human cognition. Just like the Minimalist Program, the theory is grounded on the framework of cognitive science. It differs from the Minimalist Program in the sense that while the latter focuses on words and sentences as its object of analysis, the former

focuses on words and sentences in context. According to the theory, all cognitive process such as language production, understanding and communication are geared towards achieving the greatest cognitive effects with the smallest possible processing efforts (Sperber and Wilson, 1986:vii).

2.2.1 Historical background

Grice's (1975) theory of inferential communication formed a radical departure from the code model of sentence interpretation. The theory of inferential communication assumed that sentences are a sort of physical evidence or manifestations not of the message but of the intentions of the speaker. In other words, the linguistic expression is a representation of the intentions of the native speaker rather than the message it conveys. Grice's (1975) theory proposed a cooperative principle which stipulates that speakers of a language seek to cooperate with each other during a verbal exchange and that the hearers in a conversational exchange believe that the speaker is acting in a rational manner. In order to make the theory more explicit, Grice argues that the cooperative principle consists of four subordinate maxims: the maxim of quantity, the maxim of quality, the maxim of relevance and the maxim of manner (p. 45–6).

Grice further attempted to distinguish between what was said, what was conventionally implicated and what is nonconventionally implicated. While the first coincides with what is the equivalent to the sentence meaning, that is, what

the sentence or a linguistic structure means, the second one coincides with conventional implicatures, while the third aspect of meaning interfaces with conversational implicatures (1989:41).¹⁷ Further investigations of the Grice's inferential theory revealed that the theory, as proposed, could not adequately account for sentence interpretation due to lack of explicit interpretive procedures (Wilson, 1998:11) and thus required radical modifications of its interpretive tools. In addition, the theory of inferential communication failed because it involved too much metarepresentation (Wilson, 2000: 415). On these grounds, relevance theory emerged as a more accurate account for the interpretation of sentence meaning (Sperber and Wilson, 1986).

2.2.2 The notion of metarepresentation

According to the relevance theory humans have the ability to metarepresent cognitive representations or thoughts. Gibbs (2000:390) defines metarepresentation as a "representation of a representation: a higher order representation with a lower order representation embedded within it." During utterance interpretation, hearers mentally represent the utterances as bearers of specified content, that is, they metarepresent utterances (Sperber, 2000:121). Following developmental psychologists (Leslie 1987, 1994 and Baron-Cohen

¹⁷ According to Grice (1989:41–3), conventional implicatures arise from the conventional meaning of words in a sentence while conversational implicatures coincide with the proposition expressed by an utterance of a sentence but it is not part of what the conventional meaning of that sentence.

1995) Sperber (2000) further suggests that there exists a domain-specific mental module which comprises one domain for language and a separate domain for metarepresentation. Thus, there is an intricate relationship that exists between the domain of language and that of metarepresentation. These domains are automatic and online and operate within the sub personal systems contrary to Chomsky's criticism of the place of pragmatics in linguistic enquiry (Carston, 2002).

Decoding the sentence and computing its meaning is not the whole picture in a verbal communication exchange. In relation to this, Sperber (2000) argues that in uttering a sentence, the speaker entertains a particular mental representation that he or she intends the hearer to take notice of through his producing of the sentence and the hearer is expected to entertain it as either true or probably true. Verbal understanding, therefore, involves forming a metarepresentation of a representation of the speaker. For Sperber, the speaker's representation is itself a metarepresentation of the speaker's intention (2000:122). This includes (in part) discovering the speaker's informative intention as well as communicative intention since comprehension is attained once the hearer has fully metarepresented these intentions. According to Gibbs (2000) inferring metarepresentations plays a critical part in determining how interlocutors coordinate their mutual beliefs in successful communication. This coordination is necessary for sentence comprehension.

According to Sperber (2000:129) comprehension is an inferential process, using as input the output of linguistic decoding derive the speaker's intended meaning. This creates a demarcation between the sentence's meaning and the speaker's meaning, a demarcation that failed to surface in Grice's (1975) theory of inferential communication.¹⁸ Thus the hearer endeavors to discover the speakers meaning by metarepresenting the latter's thought.

2.2.3 The basic assumptions of the relevance theory

The Relevance theory is based on the assumption that besides the Gricean theory of inferential communication and De Saussure's model of coding and decoding, verbal interchange involves inference processes.¹⁹ The notion of relevance concerns properties of utterances of sentences themselves and other cognitive process involved in processing them (Wilson, 1998:11). For Sperber and Wilson (1986), human communication is based on cognitive mechanisms which function through paying attention to the most relevant stimulus with the greatest contextual effects. This proposal presupposes the idea that attention is a selective process. Following Broadbent's (1958) theory of perception and communication, Gross (2005) argues that since there exist myriads of sensations

¹⁸ See Sperber and Wilson (1986, especially chapter four) for similar views.

¹⁹ Notice that Chomsky's generative grammar is founded on the code model of language representation and communication related to Ferdinand de Saussure code model.

than can be processed by limited mental capacity, “humans must selectively attend to some information, and ‘tune out’ the rest (p. 216).

Within the relevance theory, communication assumes a two-step analysis: a) analysis of informative intention that makes certain assumptions manifest or more manifest to an individual and b) analysis of communicative intention that makes informative intention manifest to a hearer. These processes involve metarepresentational processes motivated by the search for relevance.

2.2.4 Relevance and cognition

According to Sperber and Wilson (1986), a communicator initiates expectations of relevance from his audience (hearer) and the latter expects that the former communicates information that is relevant enough to merit attention. In view of this, Sperber and Wilson (1986:260) propose two principles associated with relevance:

- (3) Cognitive principle of relevance
Human cognition tends to be geared towards maximization of relevance
- (4) Communicative principle of relevance
Every act of ostensive communication communicates a presumption of its own relevance.

According to Wilson and Sperber (2004: 609), (3) implies that the search for relevance is an intrinsic feature of human cognitive system. In other words, human cognitive system does not engage in the search for relevance because there is a Cooperative Principle to be satisfied but the search for relevance is an

intrinsic property of the architecture of the human mind.²⁰ On the other hand, (4) implies that all utterances and any other inputs into the cognitive system presuppose expectations of relevance because the speaker and the hearer communicate on the basis of principle (3) and (4). So, every utterance by itself presupposes that the hearer will process it according to his innate relevance searching processor.

2.2.5 The processing effort

One of the standard claims of the relevance theory is that relevance is the motivation for attention and processing effort. This implies that the motivation for attention is search for relevance. Matsui describes processing effort as the mental effort needed to interpret an utterance in order “to decide what proposition and propositional attitude it was intended to express, and work out its cognitive effects in that context” (2000:28).²¹

Factors such as recency of mention, frequency of mention, linguistic complexity, logical complexity, accessibility of contextual assumptions

²⁰ For a thorough discussion of the Cooperative Principle, see Grice (1975) and Levinson (1983). Sperber and Wilson (1986) questions the relevance of the Cooperative principle citing that the search for relevance is not a speaker’s conscious decision but it is an online or automatic process that lead to comprehension of utterances.

²¹ In relevance theoretical terms cognitive effects concern the benefits that an utterance or a linguistic expression has on the cognitive system. The benefits could be in the form of strengthening an existing assumption, contradicting it or combining with it to yield contextual implications.

determine the amount of the processing effort required in interpreting an utterance of a sentence.²² This implies that communicators endeavor to spend the least processing efforts to derive maximal cognitive effects and thus attain maximal relevance.

2.2.6 Mental contexts and comprehension strategy

Within the relevance theoretical assumptions, contexts are not independent of the comprehension process; they are retrieved or constructed during comprehension (Matsui, 2000:30). Thus, they are integral components of the process of comprehension. For Matsui, the comprehension strategy involves the hearer following a path of least effort, computing cognitive effects in order of accessibility until he has at least enough of them to make the utterance worth attention (2000:33). Once this is attained, all other lines of comprehension are disallowed. Comprehension strategy thus places a constraint on the extent to which a hearer can enlarge the context and the steps he can make in deriving the intended propositional content of an utterance.

²² Processing efforts concerns the amount of resources, that is, memory, attention and various processing algorithms and heuristics that require to be mobilized in order to determine the intended meaning of a linguistic input (see Carston, 2011). According to Carston, the relevance of any input is “a trade-off between the positive cognitive effects it yields and the processing effort it requires: the greater the ratio of effects to effort the greater the relevance of the input” (p. 3).

Hearers process new information in the context of old information as long as the new information combines with the old information to produce contextual effects. Contextual effects constitute the necessary conditions for the new information to guarantee relevance. This is captured in the assumption that an utterance of a sentence is relevant in a context if and only if it generates some contextual effect in that context (Sperber and Wilson, 1986:122). These authors further suggest three conditions that are necessary for contextual effects to be realized. First, if a new assumption combines with an existing assumption to yield a contextual implication the new assumption will produce contextual effects in that context, as in (5) below.

- (5) A: Shall we go to greet grandmother tomorrow?
B: I will go to church (tomorrow)

When B says "I will go to church tomorrow", A takes B's reply as a rejection of the proposed offer. To achieve this, A will of necessity need to supply assumptions (6) and (7) below.

- (6) If B goes to church he will not go to visit the grandmother
(7) B will not go to visit the grandmother

Therefore B's reply combines with (6) to yield contextual implication (7).²³ Sperber and Wilson (1986) suggest that in deriving contextual effects of an utterance, a certain amount of processing effort is required. This provides a

²³ Contextual implications are new conclusions that are generated when a new assumption inferentially combine with existing assumption. Notice that these conclusions cannot be generated by the existence on only new assumptions or old assumptions. Contextual implications are generated by the combination of the two categories of assumptions.

negative factor for constraining the degree of relevance of an assumption. They therefore claim that the cognitive effects are compared with the processing effort required to achieve them. They also claim that “other things being equal, the greater the processing effort the lower the relevance (1986:124). In view of these standard proposals, Sperber and Wilson (1986:125) adopt the following extent conditions in relation to relevance.

Extent condition 1: An assumption is relevant in a context to the extent that its contextual effects are large

Extent condition 2: An assumption is relevant in a context to the extent that the effort required to process it in this context is small.

The second way in which an assumption achieves contextual effect is through strengthening an existing assumption. Relevance, in this case, depends on two factors: a) the number of existing assumptions the new assumption strengthens, and b) the degree to which it strengthens these assumptions. If a new assumption strengthens an already existing assumption, the former combines with the latter to generate contextual effects, as illustrated with (8–10).

(8) Peter says : John is going to church

The hearer of (8) can entertain (9) and (10) as follows.

(9) People who are saved go to church on Sundays

(10) John is saved

Assumption (8) combines with context (9) to strengthen the assumption (10).

Thus, (8) is relevant in the context of (9).

The third way in which a set of new assumptions achieves contextual effect is through contradicting an existing assumption, as in (11–14):

- (11) Peter says: John is saved
- (12) People who are saved do not drink beer
- (13) I have seen John drinking beer
- (14) John is not saved

In relevance theoretical terms, (11) combines with context (12) and contradicts with (13). Here, (14) yields contextual effects in the context provided by (13), thus eliminating an old assumption. According to Sperber and Wilson (1986:141) a context is determined as “a matter of choice and as part of interpretation itself... and that the selection of a particular context is determined by search for relevance.” This contrasts with views of inferential communication theory (Grice 1975) where utterance interpretation was viewed as a process that began with the reception of linguistic input, then resolution of context and ultimately, the determination of the meaning.

Comprehension begins by the search for relevance and then determination of context that maximizes this relevance takes place. Thus, Sperber and Wilson (1986:142) postulate that hearers assume that the assumption being processed is relevant and they try to select a context that guarantees optimal relevance. The hearers’ attention is geared towards search for relevance and since relevance is attained through contextual determination, hearers are tasked to access a context to maximize relevance.

2.2.7 Context accessibility and relevance to an individual

Accessing a context requires effort and this means that more accessible contexts require less processing effort while less accessible contexts require more processing effort to access. Moreover, the types of assumptions accessible to an individual determine their relevance to that particular individual at a given time. Sperber and Wilson (1986:144) suggest that an assumption is relevant to an individual if and only if it is relevant in one or more of the accessible contexts to that particular individual. The assumption here is that an ostensive stimulus must attract the hearer's attention and must also be communicative oriented. It must be geared towards making manifest communicative intentions of the speaker. Once the hearer realizes the communicator's informative intention, the ostensive stimulus becomes relevant depending upon two factors: its contextual effects and the processing effort required to process it. This led Sperber and Wilson to propose the principle of relevance, which stipulates that "every act of ostensive communication communicates the presumption of its own relevance" (1986: 158).

Sperber and Wilson (1986) assume that comprehension is aimed at discovering the communicator's intentions rather than sentence meaning. Sperber (2000) defines relevance of a cognitive input as a "cognitive input to an individual as a positive function of the cognitive effects achieved by processing this input and as a negative function of the amount of processing effort involved in the processing" (p. 132). In this sense, relevance is seen in terms of rewards

(cognitive effects) achieved in relation to the processing efforts expended in the interpretation process.

In addition, inferences are determined by such logico-semantic relationships as entailment relations holding among representations in the abstract (Sperber, 2000:133). This is due to the fact that in the relevance theoretic framework work, inferences have logical properties or forms and thus should be amenable to analysis in terms of entailments and truth conditions. For Sperber and Wilson, whether the meaning of the sentence can be established through the analysis of the meaning of lexical items within the clausal configuration remains an open question since the discovery of speakers meaning involves the process of metarepresentation of speaker's informative as well as communicative intentions.

2.2.8 Conceptual addresses

Information stored in an individual's memory may be accessed through a conceptual address defined in terms of three conceptual entries: a) logical entry, b) encyclopaedic entry and c) lexical entry. The logical entry consists of a system of deductive rules that 'see' the concepts that are applied to propositions associated with these concepts thus generating premises and conclusions (Sperber and Wilson, 1986). The logical entries are computational in nature and therefore sensitive to logical relationships such as entailment and other logico-semantic relations holding between abstract representations. The second type of

conceptual address is the encyclopaedic entry. This consists of information about the objects, properties or events associated with concepts. This entry also contains information about denotation and extensions associated with concepts in linguistic expressions (p. 86).

As for the lexical entry, it contains information about its natural language counterpart, that is, the word or concept that expresses it (ibid.). A lexical entry also contains information about the phonological and syntactic features of lexical items as per the requirements of the generative grammar (ibid.). This is information about the syntactic category and co-occurrence possibilities of lexical items within linguistic structures. A major postulation of the relevance theory that demonstrates the relationship between these three entries is that the “recovery of the content of an utterance involves the ability to identify the individual words it contains, to recover the associated concepts, and to apply the deductive rules attached to their logical entries” (p. 90). These conceptual entries interact in interpretation of (15) and (16) below.

- (15) *Ka-ana* *ka-a-gur-ir-e* *muti*
 NC9-child 3SG-tns-buy-pst-fv NC2-tree
 The child bought a tree/stick/ voter’s card

According to the relevance theory, interpreting (15) requires that the determination of the referent of the NP *ka-ana* and the NP *Muti* is done as part of the development of the logical form. The logical form that is decoded and submitted to the pragmatic system from (15) is (16).

- (16) *Ka-ana* x *ka-gur-ir-e* *muti*₁ *muti*₂ *muti*₃
 NC9-child 3SG-tns-buy-pst-fv tree
 The child bought *muti*₁ *muti*₂

In (16) the logical form underspecifies the meaning of the NP at [Spec—Agro] the intended meaning is not specified at the level of sentence structure. To arrive at the intended interpretation of the sentence, the hearer of (16) needs to infer the intended meaning of the verb internal NP based on his encyclopaedic knowledge. That is, the choice between whether the speaker intended the first, the second or the third interpretation for the NP *muti* is partly determined by his knowledge of the meaning of the lexical item in the sentence, his world knowledge and the criterion of consistency with the principle of relevance.

2.2.9 Explicatures and implicatures

Understanding sentences involves not only selecting their semantic representations but also assigning referents to each of its various referring expressions, specifying the meaning of its function words, completing it and enriching it to arrive at the propositional form expressed by the utterance (Sperber and Wilson, 1986:179). These inferential tasks must take place in order for the sentence to yield a truth evaluable meaning. Sperber and Wilson conclude that for a sentence to yield a meaning that is truth evaluable, the logical form must be developed or enriched through inferential processes.

Once the logical form of a sentence is enriched, it becomes an explicature which, according to Sperber and Wilson, is any assumption that is

communicated through the development of logical form so that whatever is communicated can be associated with both its logical form and contextually inferred features (1986:182). In addition, Sperber and Wilson argue that the degree to which the meaning of a sentence is associated with its logical form is comparative. The more the logical form features contribute to the meaning of a sentence the more explicit the sentence becomes and the less the logical form contributes to the meaning of the sentence the less explicit the sentence becomes. When the meaning of an utterance cannot be determined through an analysis of the logical form configuration of that sentence, the communicated proposition is an implicature (ibid.). For Sperber and Wilson, there is no truth conditional meaning that can be derived by merely decoding a sentence. Any meaning of an utterance must often involve some element of inference since the logical form provides a fragmentary semantic structure that is not amenable to the truth conditional analysis.

Sperber and Wilson refute the existence of Grice's (1975) conventional implicatures by pointing out that Grice (1975) failed to envisage the extent to which the enrichment of logical forms occurs during sentence interpretation. For these authors, inference processes determine the meaning that is assigned to sentences during sentence comprehension. Once a hearer encounters a sentence, the first task is to identify either its explicature or implicature, that is, its propositional form. Whereas a sentence may have one or more propositional

forms, the right propositional form for a particular sentence is the one that is intended by the speaker during sentence production.

There are utterances whose propositional forms coincide with their explicatures while there are others whose propositional forms do not coincide with their explicatures. Sperber and Wilson further note that for the hearer to determine the right propositional form for any linguistic expression, he is guided by the criterion of consistency with the principle of relevance which guides the recovery of explicatures for all sentences. They compare a logical form to an assumption schema that is semantically incomplete and not amenable to truth conditional analysis. For them, the logical form does not represent any state of affairs and cannot be the sole basis for sentence interpretation. For these authors the logical form must be completed and enriched to yield a fully propositional meaning if the full meaning of the sentence is to be specified (1986:189).

2.3 Summary to chapter two

In this chapter, the key concepts used in the Minimalist Program and the relevance theory were outlined. Regarding the Minimalist Program, its basic assumptions, computational system, and the various modules that hold at the interface such as the case theory, theta-theory, the binding theory as well as the conditions of the economy of derivation were discussed. With regard to the Relevance theory, its basic assumptions, the principle of relevance, the

comprehension strategy, the conceptual addresses, the cognitive effects and processing effort required during sentence interpretation, and the notions of explicatures and implicatures were presented.

CHAPTER THREE

ANAPHORS AND PRONOMINALS

This chapter discusses Gichuka anaphors (reflexives and reciprocals), bound pronominal morphemes (subject markers and object markers), *pro* and lexical pronouns in relation to the grammatical and pragmatic processes through which their interpretation in sentences is constrained. First, it presents data on the structure of anaphoric sentences in Gichuka and demonstrates how their interpretation is constrained. In addition, it demonstrates the influence of the complex morphological features of the language on the interpretation of sentences.²⁴ It then presents data on the structure of sentences with bound pronominal morphemes. The chapter proceeds to demonstrate the grammatical and pragmatic rules that are involved in the interpretation of sentences with bound pronominal morphemes. Here, the role of agreement in constraining the interpretation of sentences is revisited. Finally, the chapter presents an analysis of sentences with lexical pronouns and the rules through which their interpretation is constrained.

²⁴ The notion of anaphor will be used in this study in the sense of Chomsky (1995:93) in which reflexives and reciprocals are characterized in terms of their binding properties within sentences. According to Chomsky, reflexives and reciprocals lack independent reference and their reference is attained via reference to another syntactic unit within the same minimal sentence based on special binding features that are unique to them.

3.1 Anaphors

Anaphors are morphological units that bear the feature specification [+ anaphor, – pronominal]. They lack an independent reference but acquire their reference through the other morphological units within the minimal sentences in which they occur. An anaphor therefore is an expression that is specified for the feature [+ anaphor]. As it will be illustrated in the sections that follow, an anaphor “functions referentially only in interaction with its antecedent” Chomsky (1995a:41).

3.1.1 An overview of anaphoric constructions in Gichuka

Anaphoric constructions are sentences which contain constituents that bear the feature specification [+ anaphor] at the level of interpretation. Anaphors are either lexical or nonlexical units that lack an independent reference so that their reference is attained via reference to another syntactic unit within the same sentence. Thus, an anaphoric morpheme (bound or free) is coindexed with its antecedent within the same sentence.

An anaphoric construction bears two minimal syntactic units: the unit encoding the antecedent and the one encoding the anaphor. The antecedent unit determines the interpretation of the unit encoding the anaphor in the sense that the latter’s interpretation must be coreferential with the former. The unit with the feature [+ anaphor] must bear the feature specifications of the antecedent so that it does not receive an independent interpretation at the logical form. Within

the framework of Generative grammar, it is assumed that anaphoric constructions fall in to two categories: the reflexive constructions and the reciprocal constructions.

3.1.1.1 Reflexive constructions

In Gichuka, anaphoric constructions are characterized by verb morphology. So, reflexive constructions are characterized by the reflexive prefix *i-* while the reciprocal constructions bear the reciprocal suffix morpheme *-an* within the verb. A reflexive construction presupposes that the action encoded by the verb was instigated by the agent of the action, which also functions as the patient of the action as shown in the following sentence.

- | | | | |
|-----|-------------------------------|-----------|---------------|
| (1) | <i>Tu-e-tem-ir-e</i> | <i>na</i> | <i>ka-biu</i> |
| | 3PL- tns:ref: cut-PERF-fv | with | NC9-knife |
| | We cut ourselves with a knife | | |

In (1), there are two prefixes on the verb. The bound pronominal morpheme *tu-* which marks the agent of the action predicated by the verb, the reflexive morpheme *e-* which marks the entity that is affected by the action and the tense morpheme which marks the temporal aspect of the action encoded by the verb. As long as the NP that instigated the action encoded by the verb in (1) is understood from the context, (1) represents a state of affairs where the speaker (and others understood from the context) cut themselves with a knife.

The prepositional phrase (PP) in (1) can be deleted without impairing the grammatical completeness of the sentence. This is so because it only encodes the

NP that is assigned the semantic role of the instrument of the action. Once this deletion occurs, the resulting sentence is (2).

- (2) *Tu-e-tem-ir-e*
3PL-tns:ref-cut-PERF-fv
We cut ourselves

Sentence (2) suggests that the basic structure of a reflexive construction in Gichuka is represented as (3).

- (3) Subject marker—tense:reflexive —root—ASP—fv

In (2) and (3), the sentence is made up of only the verb as the main constituent at the phonological form level of interpretation. Once the verb receives a reflexive marking, the subject-marking morpheme is construed as the agent undergoing the reflexive action encoded by the verb at the level of the sentence interpretation. In the case of (2) and (3), the verb expresses the entire reflexive meaning without an overt lexical NP at the level of sentence interpretation.

In (1), (2) and (3), the reflexive construction *tu-e-tem-ir-e* ‘we cut ourselves’ has the structure shown in (3). The subject marker is indicated by the bound morpheme *tu-*, the tense marker is represented by the morpheme *a-* and the reflexive morpheme is represented by the morpheme *i-*. Phonological processes require that the combination of the tense morpheme *a-* and the reflexive morpheme *i-* is pronounced as *e-* at the level of the surface structure (phonological form) of the sentence. Thus, the morpheme *e-* is a combination of both the tense morpheme and the reflexive morpheme at the phonological form level of representation of the sentence. In these sentences, the prefix *-e* marks the

verb as reflexive and therefore encodes the fact that the action affected the NP that is salient in the context. This NP is the one that is marked by the subject marking morpheme *tu-* on the verb.

Given the structures presented in (1—3), the basic reflexive sentence in Gichuka consists of the inflected verb as the main constituent. However, data suggest that it is also possible to have a reflexive sentence bearing a lexical NP in the preverbal position as shown in (4).

- (4) *Tu-ana* *tu-e-tem-ir-e* *na* *ka-biu*
 NC1-children 3PL-ref:tns-cut-PERF-fv with NC9-knife
 The children cut themselves with a knife

In (4), it is not the case that both the NP *tuana* ‘children’ and the prefix *-e* on the verb encode the same entity. The two morpho-syntactic units do not exist in a binding relationship. The reflexive morpheme expresses the fact that the action encoded by the verb *tema* ‘cut’ affected the NP *tuana* ‘children’. Thus (4) has the internal structure in (5) below.

- (5) NP subject marker—tense:reflexive —root—ASP—fv PP

In (5), the relationship [antecedent, anaphor] is not explicitly represented at the surface structure (phonological form) level of representation. Just like the prepositional phrase *na kabiu* ‘with a knife’ is optional in (1), the NP *tuana* ‘children’ at the preverbal position in (4) can be dropped without impairing the grammatical status of the sentence, thus leaving a structure identical with that of (3), repeated here as (6).

- (6) Subject marker—tense:reflexive —root—ASP—fv

morphology. Nonetheless, the sentence retains the reciprocal meaning. This meaning is encoded by the reciprocal morpheme *-an*, which is part of the verb so that the sentence is understood as having the reciprocal meaning despite the fact that there is no lexically represented reciprocal NP expressing the meaning ‘each other’ in the sentence final position. This indicates that the entity encoded by the subject marking morpheme *ci-* ‘they’ in (7) is the agent of the reciprocal action encoded by the verb *ira* ‘tell’. Therefore, (7) has the structure represented in (8) in which the reciprocal morpheme *-an* appears as a suffix while the subject marking morpheme appears as a prefix.

(8) Subject marker—tns—verb—reciprocal—PERF—fv

Considering (7) and (8), the obligatory constituent in a sentence expressing a reciprocal meaning is the main verb, in this case *ira* ‘tell’, whose morphology must include the subject marking morpheme and the reciprocal morpheme *-an* for it to express the reciprocal meaning. Just like in a reflexive construction such as the one illustrated with (6) above, the domain of interpretation of (8) is the verb as opposed to the entire sentence structure.

Apart from the subject markers and reciprocal morphemes, the other constituents of a reciprocal sentence are optional. They are triggered by extra grammatical features, as shown in (9).

(9) *N-thegere na Ka-bugu ci-eng-an-ir-e*
 NC4-badger and NC9-hare 3PL-chase-PERF-fv
 The badger and the hare chased each other

In (9) the sentence has a compound NP *nthegere na kabugu* ‘the badger and the hare’ at the preverbal position. Its structure is illustrated in (10) below.

(10) NP Subject marker—tns—verb—reciprocal—PERF—fv

In (9) and (10), the reciprocal morpheme *-an* appears as a suffix. It does not receive the same interpretation with the NP at the preverbal position but it marks the verb as reciprocal. Thus, there is no chain between the compound NP *nthegere na kabugu* ‘the badger and the hare’ in the preverbal position and the reflexive morpheme *-an* in the verb in (9). In (9) and (10) the [NP antecedent, anaphor] relation does not exist at the phonological form level of interpretation. In these sentences, the NP in the preverbal position must be specified for the feature [+ plural] since the reciprocal marks the verb as plural and therefore the action encoded by the verb requires a plural entity. The rule at play in (9) and (10) is that the presence of the reciprocal morpheme in the verb is licensed by the plural subject marking morpheme on the verb. Since (10) can encode the same truth conditional meaning as (8), the former is the non-default, marked construction while the latter is the default, unmarked construction, as will be further discussed in the following sections.²⁶

²⁶ In this study the term marked is used in Horn’s (1989) sense. According to Horn, a marked expression conveys a marked message — the kind of a message which would be unavailable if an unmarked alternative is used (Huang, 1995).

3.1.2 Distribution of lexical NPs in anaphoric constructions

The presence of lexical NPs is not obligatory in anaphoric constructions in Gichuka. Reflexive constructions such as (1), (2) and (3) above express the reflexive meaning without any additional overt NPs at the level of the surface structure. Once the verb is inflected for the antecedent and reflexive meaning, the [antecedent, anaphor] relationship becomes available to the hearer at the level of sentence interpretation. As the data above suggest, the antecedent relationship is encoded within the domain of the verb instead of that of the sentence. Certain facts emerge from this assumption and the data from these sentences: First, the antecedents in sentences with overt reflexive NPs do not necessarily need to be lexically represented within the minimal syntactic domains by NPs such as common nouns and proper nouns, as illustrated with (11) below.

- (11) *Mukundi* *a-e-tem-ir-e* *na* *ka-biu*
Mukundi 3SG-tns-ref-cut-PERF-fv with NC9-knife
Mukundi cut himself with a knife

In (11) the NP *Mukundi* is not necessary for grammatical completeness of the sentence. Once the context provides the intended referent for bound pronominal *a-* in (11), the sentence can be pronounced without the lexical NP and express the same truth conditional meaning, as shown in (12).

- (12) *A-e-tem-ir-e* *na* *ka-biu*
3PL-ref-tns-cut-PERF-fv with NC9-knife
He cut himself with a knife

Sentences (11) and (12) can express the same truth conditional meaning as long as the lexical NP that is dropped in the latter is salient from the context. As long as there is a contextually salient referent, such as the NP *Mukundi*, that for the pronominal *a-* on the verb *tema* 'cut', then (11) and (12) would yield the same truth conditional meaning at the level of the interpretation. The presence of the NP *Mukundi* in the sentence initial position in (11) is superfluous for the grammatical spell-out of a reflexive construction. However, there are instances where the presence of an overt NP is obligatorily required. For instance, if (11) was the answer to the question such as *what happened*, then, the presence of a lexical NP *Mukundi* in the sentence initial position would be obligatory. In such a case, the whole sentence in (11) is specified for the feature [+ focus] since the information about the agent of the action and that of the nature of the action are unavailable from the context this information has to be provided for the interpretation. Thus, the entire sentence expresses new information.²⁷ Similarly, in a situation where the sentence was an answer to the question *who cut himself with a knife*, then only the NP *Mukundi* in (11) would be the appropriate response. Here, the NP *Mukundi* would be the only new information in the sentence. It would therefore be specified for the feature [+ focus]. In this position, the NP bears the feature [+ focus]. This is known as argument focus (Dik, 1980). In these

²⁷ Dik, (1980) refers to this as the sentence focus.

two instances, the presence of a lexical NP in a reflexive sentence such as (11) is required.

So far, the study has presented data on morphological reflexives, which are the default reflexive construction in the language. Reflexives can, however, also be used lexically. There are data to show that the presence of a lexically represented reflexive is not driven by grammatical necessity but by the intentions of the speaker, as can be seen in the following sentences.

- | | | | |
|------|--|---------------------------------|-------------------------------------|
| (13) | <i>M-e-thaik-ir-e</i>
3PL-tns:ref-tie-PERF-fv
They tied themselves | <i>na</i>
with | <i>mu-kanda</i>
NC2-rope |
| | | | |
| (14) | <i>M-e-thaik-ir-e</i>
3PL-tns:ref-tie-PERF-fv
They tied themselves | <i>mo-ene</i>
NC1-themselves | <i>na mu-kanda</i>
with NC2-rope |

Since (13) can express the reflexive meaning without a reflexive NP, the presence of a lexically represented reflexive *moene* ‘themselves’ in (14) is disallowed by the conditions on the economy of syntax, unless it bears an extra feature. This extra feature is [+ focus]; it is required to provide additional information not derived from the logical form of the sentence. To illustrate that the presence of lexically represented reflexives such as *moene* ‘themselves’ is licensed by an extra feature can be illustrated with sentence (15).

- | | |
|------|--|
| (15) | <i>Nuu a-ma-thaik-ir-e?</i>
Who 3SG-obj-tie-PERF-fv
Who tied them? |
|------|--|

Sentence (14) would be the appropriate answer to (15). Further, the lexically represented reflexive NP *moene* ‘themselves’ in (14) would still suffice as the answer to (15), as represented in the elliptical structure in (16).

- (16) *Mo-ene*
NC1-themselves

Though (16) is not a full sentence at the phonological form level of representation, it expresses the same truth conditional meaning as (14) in the context of (15).²⁸ In both (14) and (16), the lexical reflexive NP *moene* bears the feature [+ focus]. This NP occupies a position licensed by informational structure and therefore not obligatory for the grammatical completeness of the sentence. Based on the analysis of (13—16), the present study suggests that all reflexive sentences with lexical NPs in the clause initial or final position are non default marked constructions in Gichuka. The same generalization can also be extended to cover the reciprocal sentences in (17—19).

- (17) *N-thegere* *na* *Ka-bugu₁* *ci-on-an-a* *cio-mene₁*
NC4-badger and NC9-hare 3PL-see-rec-fv NC4-self
The badger and the hare saw each other

- (18) *N-thegere* *na* *Ka-bugu* *ci-on-an-a*
NC4-badger and NC9-hare 3PL-see-rec-fv
The badger and the hare saw each other

- (19) *Ci-on-an-a*
3PL-see-rec-fv
They saw each other

²⁸ A full technical description of structures such as (16) and (17) and the rules through which their interpretation is constrained will be dealt with in chapter five.

Since (19) can express the same truth conditional meaning as (17) and (18), the presence of a lexical reciprocal NP *ciomene* ‘each other’ in the sentence final position in (17) is disallowed unless the NP expresses an extra grammatical feature. For instance, (17) would be the appropriate answer to the question *what happened*. Similarly, (18) would be the appropriate answer to the question *who did what* in which case the NPs *nthegere na kabugu* ‘the badger and the hare’ as well as the entire sentence would be specified for the feature [+ focus]. This extra grammatical feature [+focus] is integrated in the structure of the sentence to encode the intentions of the speaker.

Sentences (13—19) show that the unmarked default sentences in Gichuka do not have lexically represented antecedents and anaphors at the level of the logical form configuration. The presence of these NPs within sentences is licensed by the intentions of the speakers at the time of producing the sentence as exemplified with (13—19) above. The [antecedent, anaphor] relations are realized in unmarked default sentences where binding relations there are no existing binding relations between the morphological reflexive and the incorporated pronoun at the level of logical form. This undermines principle A of the binding theory which requires that an anaphor be bound by its lexical antecedent within its local domain (Chomsky, 1995a:96).²⁹

²⁹ This principle is based on the assumption that both the anaphor and the antecedent occupy an A—position within the same sentence.

3.1.3 Interpretation of anaphoric sentences

As seen in section 3.1.2, Gichuka has a complex morphology that seems to place a significant interpretive burden on the verb. As shown with examples (3) and (6) above, the verb becomes the main constituent of the sentence so that what determines the meaning of an unmarked sentence is the meaning of the verb as well as its inflectional morphology. This presents significant difficulties for grammatically driven approaches to sentence meaning as will be discussed in the sections below.

3.1.3.1 Reflexive sentences

Section 3.1.1 has presented an overview of the structure of the anaphoric sentences in Gichuka and the pragmatic and grammatical rules through which their distributional properties are constrained. It has been shown that in default unmarked sentences, reflexive meaning is inflected in the verb. Now, consider the (3) repeated here as (20).

(20)	<i>Tu-e-tem-ir-e</i>	<i>na</i>	<i>ka-biu</i>
	3PL-tns:ref-cut-PERF-fv	with	NC9-knife
	We cut ourselves with a knife		

In (20) the antecedent of the reflexive morpheme is marked by the bound morpheme *tu-* 'we' which appears as a prefix on the verb *tema* 'cut'. Given that the antecedent is encoded by a bound morpheme *tu-* 'we', (20) does not have a lexically represented overt antecedent at the phonological form level. Two suggestions are available for the interpretation of (20): The first one is that once

the verb is marked reflexive by the bound reflexive morpheme *e-*, any NP that is salient from the context of the sentence is construed to be referent for the agent of the reflexive action encoded by the verb *tema* 'cut' in (20). In sentences such as (20), it is the task of the hearer to identify the most salient referent within the context of (20) in order to enrich the meaning of the sentence and arrive at its truth conditional meaning.

In arriving at the correct antecedent NP and the referent for the prefix morpheme *tu-* 'we' in (20), the hearer has to fix the contextual parameters within which the sentence is produced in order to complete the sentence and assign the intended semantic value of the prefix *tu-* 'we'. In (20), it is the subject-marking morpheme *tu-* 'we' which needs to be contextually completed in order for it to refer to an antecedent NP in a topic position. The presence of a lexically represented antecedent and a lexically represented anaphor within the same minimal domain is unnecessary for the grammaticality of sentences in Gichuka. This suggests that there are no syntactic binding relations between the lexical antecedents and lexically bound anaphors at the phonological level of representation in sentences such as (20). What happens is that binding relations exist at the word level, not the syntactic level. In this case, the sentence has to be pragmatically saturated to determine the intended antecedent for the morpheme *tu-* 'we'. So, it is the contextual parameters that determine the referents of the antecedents of the subject-marking morphemes rather than the locality conditions existing between the anaphor and its antecedent as claimed in

Chomsky's binding principles (1995:96). In (20), there is nothing in the logical form configuration of the sentence to guide the hearer on the choice of the antecedent of the bound subject-marking morpheme, that is, the prefix *tu-* 'we'. *Tu-* 'we' is the agent of the action but the intended referent has to be derived through pragmatic saturation.

On this account, it is suggested that once the referent of the reflexive morpheme is recoverable from the context, it can bind the subject-marking morpheme *tu-* as a topic, as illustrated with (21) and (22) below.

- (21) *Mu-ruthi na n-thegere m-a-tum-it-e*
 NC2-lion and NC4-badger 3PL-tns-build-PERF-fv
u-rata
 NC7-friendship
 The lion and the badger were friends

- (22) *M-a-bang-a m-e-tum-ir-e n-omba*
 3PL-tns-plan-fv 3PL-tns:ref-build-ben-fv NC4-house
 They decided to build themselves a house

Sentence (21) provides the necessary context for the antecedent of the bound topic-marking morpheme *m-* in (22). In (22) the anaphoric relation of the type [antecedent, anaphor] is evident at the level of interpretation of the sentence. In other words, (22) represents a state of affairs where *the badger* and *the lion* decided to build themselves a house. The reflexive morpheme *e-* licenses the benefactive morpheme *-ir* on the verb *tuma* 'build' and the latter marks the beneficiary marks the beneficiary of the action encoded by the verb (22). At the level of interpretation, the compound NP *Muruthi na nthegere* 'the lion and the badger' in the sentence initial position in (21) is available and in (22) it is marked

by the plural topic-marking morpheme *m-* on the verb *banga* ‘decide’. The reflexive meaning is available by virtue of the presence of the reflexive morpheme *e-* on the verb. The prefix *m-* marks the most contextually accessible topic NP. If this is so, the topic-marking morpheme *ma-* ‘they’ becomes the agent of the reflexive verb *banga* ‘decide’ and therefore licenses the benefactive morpheme *-ir* in (22) so that the bound morpheme *ma-* ‘they’ becomes the beneficiary of the action so that (22) has the logical form structure represented in (23).

(23)	XP ₁	<i>Ci₁-e-tum-ir-a</i>	<i>n-omba</i>
		3PL-tns:ref-ben-tell-rec-fv	NC4-house
		They built themselves a house	

The XP₁ in (23) points back to any NP that is in topic or focus position and contextually binds the topic-marking morpheme.³⁰ In (23), the assignment of the truth conditional meaning of the sentence is determined once the hearer identifies the topic NP that is the most salient in the context, as shown in (24a) and (24b).

(24a)	<i>Ru-gono</i>	<i>ru-u</i>	<i>ni</i>	<i>ru-a</i>	<i>m-biti</i>	<i>na</i>
	NC6-story	NC6-that	be	NC6-ASSOC	NC4-hyena	and
	NC4-goat					
	<i>m-buri</i>					
	That story is about the hyena and the goat					

(24b)	<i>I-g-e-tum-ir-a</i>	<i>n-omba</i>
	3PL-tns-ref-build-ben-fv	NC4-house
	They built themselves a house	

³⁰ From now on, the term topic-marking or focus-marking morpheme will be used instead of the subject-marking morpheme.

In (24a) the compound NP, *mbiti na mburi* ‘the hyena and the goat’, provides the context that determines the referent for the topic-identifying morpheme *i-* ‘they’ in (24b). The reflexive morpheme *e-* marks the verb reflexive thereby assigning it a reflexive meaning at logical form. The [antecedent, anaphor] relationship is available at the level of interpretation despite the fact that the antecedent compound NP *mbiti na mburi* ‘the hyena and the goat’ and the reflexive verb *tuma* ‘build’ are in different c-commanding domains (IP projections). This, however, undermines the requirement that the antecedent and the reflexive be within the same c-commanding domain (Chomsky, 1995:96). In sentences such as (24b) it is the task of the hearer to identify the most salient NPs from the context in order to assign the truth conditional meaning of the sentence. In (22a) and (22b) the antecedent compound NP, that is, *mbiti na mburi* ‘the hyena and the goat’ and the reflexive morpheme *e-* are in different maximal projections, that is, in (24a) and (24b) respectively.³¹ To determine the truth conditional meaning of (24b), the hearer must refer to the topic compound NP *mbiti na mburi* ‘the hyena and the goat’, which is salient in the context provided by (24a).³² After

³¹ According to Chomsky (1981, 1995a), the meaning of a sentence is represented at the level of logical form configuration. For Chomsky, the interpretation of anaphors is constrained by the theory of binding which applies at the logical form level of sentence interpretation.

³² A sentence converges at logical form when it gives a non deviant meaning. Non convergence at logical form results once phonological features of the sentence are visible at logical form (Chomsky, 1995a). Thus any derivation that converges at logical form must meet the

the identification of the truth conditional meaning of *i-* the antecedent relationship of *i* and *e* has to be explained.

The second account, which is more grammatically driven, assumes that the bound morpheme *i-* in (24b) which is the topic-marking morpheme, binds another bound morpheme, namely, the reflexive bound morpheme *e-* within the same verb. On this account, the two bound morphemes, that is, *i-* and *e-* must be assumed as referring to the same entity at the level of the logical form. This formulation results in a chain such as the one illustrated with (25) in which identical indices indicate that both the bound reflexive and the bound antecedent morphemes bear identical indices and, hence, co-refer (Chomsky, 1995:41).³³

(25) Bound antecedent morpheme₁—tns:reflexive₁-Verb— ben—fv

The structure in (25) demonstrates that both the bound antecedent morpheme and the reflexive are lowered on the verb during the numeration. Given (25), the logical form of (24b) above can be illustrated with (26) below.

(26)	<i>I-g-e-tum-ir-a</i>	<i>n-omba</i>
	3PL ₁ -tns:ref ₁ -build-ben-fv	NC4-house
	They built themselves a house	

requirements of all conditions that apply at this level of interpretation such as the theta theory and the binding theory.

³³ Chomsky (1995a) characterizes various syntactic relations that constrain the interpretation of anaphors within sentences. Central to Chomsky's characterization is the notion of coindexation as a result of which the identity of indices between two or more syntactic units marks a relationship of coreferentiality while nonidentity marks the absence of such a relation.

To understand (26), the hearer is guided by the fact that the topic-marking morpheme *i-* and the reflexive morpheme *e-* refer to the same entity and, therefore, the former binds the latter. Although this account seems to have a theoretical justification in the sense that binding relations are maintained between co-referring syntactic units, it cannot be reconciled with the Minimalist Program since only an NP in an A-position can bind another NP in an A-position. Therefore, (25) and (26) would be ruled out within the Minimalist Program by the fact that the two bound morphemes are not in an argument position of the logical form configuration. Additionally, only lexical antecedent NPs and lexical anaphors can exist in a binding relation within the logical form and this also rules out binding relations between inflectional affixes within the domain of the verb, as noted for (26). Since binding relations are present at the level of interpretation of (26) without A-binding, Chomsky's (1995:41) suggestion that the sentence is the minimal domain for the binding needs to be reanalyzed in the light of Gichuka data. While the concept of binding seems to be universal in understanding reflexive sentences, (26) illustrates a shift in binding domain from sentence level to the level of the verb as the main reflexive domain for reflexive sentences in Gichuka.

3.1.3.2 Reciprocal sentences

The understanding of a reciprocal sentence requires the analysis of not only the [antecedent, anaphor] relations but also the morphology of the verb as

the main constituent of the unmarked sentence in Gichuka as illustrated with (7) repeated here as (27).

- | | | |
|------|--|---|
| (27) | <i>Ci-a-ir-an-ir-e</i>
3PL-tns-tell-rec-PERF-fv
They told each other something | <i>u-ntu</i> ³⁴
NC7-something |
|------|--|---|

In (27) the topic marking morpheme *ci-* ‘they’ is the antecedent topic NP while the reciprocal morpheme *-an* marks the verb as a reciprocal. It is not the case that the topic and the reciprocal morphemes in (27) bear identical indices. Rather, the topic morpheme *ci-* ‘they’ points back to a referent (an antecedent NP) that is accessible from the context while the reciprocal morpheme *-an* expresses the reciprocal meaning of the verb *ira* ‘tell’. A similar generalization can be extended to a reciprocal sentence such as (28).

- | | | |
|------|---|---|
| (28) | S1 <i>Ci-a-ring-an-a</i>
3PL-tns-kick-rec-fv
They kicked each other | S2 <i>Ci-a-ring-an-a</i>
3PL-tns-kick-rec-fv
They kicked each other |
|------|---|---|

In (28) the verb has a topic-identifying morpheme *ci-* ‘they’ and the reciprocal morpheme *-an*. The reference of the topic-identifying morpheme is pragmatically constrained so that the NP that is the most salient in the context is the one associated with it. Once the reference for this NP is resolved via the

³⁴ Notice that the combination of the aspectual morpheme *a-* and the morpheme *i-* in the verb *ira* ‘tell’ is pronounced as *e-* during sentence pronunciation.

context of the sentence, the truth conditional status of the sentence can be determined as shown in (29) and (30).³⁵

- (29) S1 *N-thegere* *y-a-chon-er-a* *bo*
 NC9-Badger 3SG-tns-enter-PER-fv there
 S2 *Baria* *y-e-gu-ir-ir-a* *mu-gambo*
 Where 3SG-tns-ear-mood-ASP-fv NC2-sound
 S3 *Sungura* *y-a-umbuk-a* *S4 Y-a-um-a*
 hare 3SG-tns-fly-fv S4 3SG-tns-leave-fv
 S1 The badger entered there. S2 Where the voice was came from. S3 The hare then got out. S4 It ran away.
- (30) S5 *Ci-e-ng-an-a* *S6 ci-eng-an-a.*
 3PL-tns-chase-ref-fv S6 3PL-tns-chase-ref-fv
S7 ci-eng-an-a
 S7 3PL-tns-chase-ref-fv
 They chased each other. They chased each other. They chased each other

In (30S5), (30S6) and (30S7) there is neither a lexically represented antecedent NP nor a lexically represented anaphor. However, the antecedent and the reciprocal are present and the anaphor is bound by the antecedent at the level of the sentence interpretation. The antecedent NP is understood to be the combination of the two NPs, that is, the NP *nthegere* ‘badger’ in (29S1) and *kabugu* ‘hare’ in (29S3).

That the [antecedent, anaphor] relationship can be generated without the application of binding rules, as suggested by Chomsky (1981, 1995a), raises fundamental questions regarding the descriptive and explanatory adequacy of

³⁵ Sentences (29–30) were taken from an animal story narrated to the researcher during one of the interviews at the Kauthini village of the County of Tharaka Nithi in Kenya.

the binding theory. First, there are two possible antecedents in the context provided by (29), the NP *sungura* ‘hare’, as well as the NP *nthegere* ‘badger’, both of which are located outside the local c-commanding domains of any of the reciprocal verbs in (30S5), (30S6) and (30S7).³⁶ Secondly, there is no lexical antecedent and lexical anaphor in (30). This undermines the possibility of a syntactic binding relation which requires the presence of both the lexical antecedent and the lexical anaphor within the sentence. The relationship between the antecedent lexical NPs in (29) and the topic-identifying morpheme is pragmatic since assigning the semantic value to the topic-marking morphemes *ci-* ‘they’ in (30) requires the reference to the context offered by (29) where the two NPs are accessible as possible referents. For instance, once the referent of the topic-identifying morpheme is resolved, the truth conditional meaning of (30) is determined so that the NP *N-nthegere* ‘badger’ and *kabugu* ‘hare’ are assigned as referents for the topic-marking morpheme on the main verb in (30). Once this referent is fixed, the NPs *nthegere* ‘badger’ and *kabugu* ‘hare’

³⁶ According to Chomsky (1995a:93) a c-commanding domain is the minimal clause structure that contains a variable of the antecedent. Chomsky further devices the following theoretical algorithms to constrain the anaphoric relations between the antecedents and their variables:

- (i) α binds β if α c-commands β and α, β are coindexed.
- (ii) If β is not bound, then β is free.
- (iii) An R-expression (fully referential expression—not a pronoun or an anaphor) must be free

become the agent of the reciprocal action encoded by the verb in (30) at the level of interpretation.

Based on the observations made in relation to (30), it is clear that sentences in Gichuka violate the rule of domain-internal control between the antecedent and the anaphor. In these sentences, the notion of c-command fails to predict the interpretation of the anaphoric meaning of the sentences. The anaphoric meaning at the logical form is achieved in the absence of both a lexical antecedent and a lexical anaphor within the same minimal syntactic domain. For the hearer of (30) to determine the meaning of (30S5), (30S6) and (30S7), he must make reference to the context in which the sentence is uttered rather than appeal to his tacit knowledge of the binding rules since these are assumed to be internal to the sentence domain as opposed to the verb domain.

Although sentences (28S1), (28S2), (30S5), (30S6) and (30S7) lack lexical antecedents and lexical anaphors, they are understood without having these NPs at the level of interpretation. In this case, [antecedent, anaphor] relation is present at the level of sentence interpretation without a corresponding representation at the logical form configuration. In Gichuka, the domain of the [antecedent, anaphor] relation shifts from the sentence to the word level. The topic-identifying morpheme in fact does not bind the reciprocal morpheme *-an* because both morphemes are not lexical NPs and therefore are not in an A-position. In this case, binding relations are defined within the word level rather than the sentence level since the morpho-syntactic units involved in

binding relations are the bound morphemes on the verb as opposed to the lexically represented elements of the sentence.

3.2 Pronominals in Gichuka

Pronominals are syntactic constituents with the feature specification [–anaphor, + pronominal]. According to Chomsky (1995:93), pronominals must be free within the minimal clausal structure in which they occur. In Gichuka, pronominals fall into two categories: bound pronominals and free (lexical) pronouns.

3.2.1 Bound pronominals

In Gichuka, bound pronominal morphemes appear as inflectional affixes, specifically prefixes to the root, as can be seen in the following examples.

- | | | | | |
|-------|--|-----------------------------------|---------------------|----------------------------|
| (31a) | <i>A-a-thi-ir-e</i>
3SG-tns-go-PERF-fv
He went to Chuka on foot | <i>Chuka</i>
Chuka | <i>na</i>
with | <i>ma-guru</i>
NC8-legs |
| (31b) | <i>Nd-a-m-er-a</i>
1SG-tns-obj-tell-fv
I told them to go to Weru | <i>m-a-thi-i</i>
3PL-tns-go-fv | <i>Weru</i>
Weru | |

In (31a) the prefix *a-* ‘he’ marks the NP serving as the agent of the action encoded by the verb whereas in (31b), the bound pronominal morpheme (prefix) *nd-* ‘I’ marks the agent of the action of the verb *ira* ‘tell’, while the bound pronominal morpheme (prefix) *m-* ‘them’ marks the patient of the action encoded by the verb *ira* ‘tell’. Regardless of the number of participants in the action encoded by the verb, bound pronominal morphemes appear as prefixes. The interpretation of

the meaning of sentences with bound pronominals presents a complex interpretative problem for the logical form of Gichuka sentences. Though they appear as verbal prefixes, their presence in the verb constrain sentence meaning in certain ways as will be shown in the following sections.

3.2.1.1 Bound pronominals and linear ordering

Bound pronominals display the phenomenon of pronominalization. Pronominalization is both a syntactic and a pragmatic phenomenon in Gichuka.³⁷ The determination of the actual referent for bound pronominal constituent is a combination of both grammar and pragmatics as indicated in (32a) and (32b).

(32a) *A-a-ug-ir-e* *a-ka-thi-i* *cukuru*
 3SG-tns-say-PERF-fv 3SG-fut-go-fv school
 He said he would go to school

(32b) *A-a-ug-ir-e* *Mukundi* *a-ka-thi-i* *cukuru*
 3SG-tns-say-PERF-fv Mukundi 3SG-tns-go-fv school
 He said Mukundi would go to school

In (32a–b), the reference for the bound pronominal morpheme in the verb displays both syntactic and pragmatic constraints. In (32a), for instance, the topic-marker *a-* ‘he or she’ in the verb *uga* ‘say’ may refer to any preceding NP as long as it has the feature specification [+ human] and as long as it is accessible from the context, i.e., somewhere else in the discourse structure or in the mind

³⁷ According to Chafe, pronominalization is the process by which a lexical unit which is deleted leaves behind a non lexical unit that is semantically associated with it (1970:53).

of the speaker. In addition, the topic marker *a-* ‘he or she’ in the verb *thii* ‘go’ in the smaller clause in (32a) may either refer to the same entity as the one encoded by the topic morpheme *a-* in the matrix verb *uga* ‘say’, or an NP anchored somewhere else within the accessible context. In Gichuka, the bound pronominal *a-* ‘he or she’ prefixed to the matrix verb *uga* ‘say’ in (32b) cannot be coreferential with the NP *Mukundi* since the bound morpheme *a-* ‘he or she’ on the verb *uga* ‘say’ precedes the NP *Mukundi* as required by the linearity principle. Both (32a) and (32b) are therefore constrained by (33a) and (33b) below.

(33a) When a lexically represented NP immediately precedes a verb, the bound pronominal morpheme in the verb must be coreferential with the NP.

(33b) When a lexically represented NP is immediately preceded by a verb, the relationship between the NP and the bound pronominal morpheme in the verb must not be coreferential.

While (33a) and (33b) seem to account for (32a) and (32b), they face fundamental difficulties in accounting for (34) and (35).

(34)	S1	<i>N-thegere</i>	<i>y-a-chon-er-a</i>	<i>bo</i>
		NC9-Badger	3SG-tns-enter-PER-fv	there
	S2	<i>Baria y-e-gu-ir-ir-a</i>		<i>mu-gambo</i>
		Where 3SG-tns-ear-mood-ASP-fv		NC2-sound
	S1	The badger entered. S2 Where the voice came from		

(35)	S3	<i>Sungura</i>	<i>S2 y-a-umbuk-a</i>	<i>S3 Y-a-um-a</i>
		hare	S2 3SG-tns-fly-fv	S3 3SG-tns-leave-fv
		The hare then got out and ran away		

S4	<i>y-a-m-ing-a</i>	S5	<i>y-a-m-ing-a</i>
	3SG-tns-obj-chase-fv	S5	3SG-tns-obj-chase-fv
	It chased it		It chased it

In (34S1), the NP *n-thegere* ‘badger’ has been introduced to the discourse while in (35S1), it is the NP *Sungura* ‘hare’ that has. The bound pronominal morphemes *y-* and *m-* in (35S4–35S5) refer to either the NP *n-thegere* ‘badger’ or the NP *sungura* ‘hare’. Since the two NPs belong to the same grammatical class, they can be marked by an identical pronominal morpheme *m-* ‘it’. There is no syntactic unit in the logical form unit to guide the hearer on the correct interpretation of the meaning of (35S4–35S5). In this case, (33) cannot predict the referent of the pronominal morpheme *y-* ‘it’ in (35). In (35S4-35S5), the pronominal morphemes can refer to any NP in the preceding sentences and thus, the hearer has to rely on his background information stored in the mind regarding the *badgers* and the *hares*.

3.2.1.2 Bound pronominals and topic antecedents

Gichuka data suggest that the language has a rich inflectional morphology. Due to the rich morphology, bound pronominals play a significant role in the grammar of the language. In unmarked sentences, a verb expresses the meaning of the entire sentence as illustrated with (36) and (37).

- (36) *M-a-mu-tem-a*
 3PL-tns-obj-cut-fv
 They cut him/her

- (37) *M-a-ma-bir-a* *mu-ruruku-ni*
 3PL-tns-obj-take-fv mururuku-loc
 They took them under the *mururuku* tree

In (36), the sentence constitutes only an inflected form of the verb *tem-a* ‘cut’. The participants of the action encoded by the verb are marked by *m-* ‘they’ and *mu-* ‘them’ where, semantically, the former marks the agent of the action while the latter marks the patient. In (37), it is only the PP *mururukuni* ‘under the mururuku tree’ that is outside the verb morphology. As noted earlier, one property of Gichuka sentences is that all the lexically represented arguments of the verb are optional as illustrated with (38—39).

- (38) *E-e-ring-ir-e* *na* *i-thiga*
 3SG-tns-ref-hit-PERF-fv with NC5-stone
 He/she hit himself/herself with a stone
- (39) *A-a-mu-ring-ir-e* *na* *i-thiga*
 3SG-tns-obj-hit-PERF-fv with NC5-stone
 He/she hit him/her with a stone

In (38) and (39), the sentence initial position is not occupied by an overt lexical NP. Similarly, the verb internal position is not occupied by an overt lexical NP despite the fact that it is transitive and therefore requires the presence of complement NPs in both the [spec-Agrs] and [spec-Agro] positions. Sentence (38) is an example of reflexive construction and thus, the reflexive NP is incorporated on the verb. Similarly, the object-identifying morpheme disallows the presence of the lexically represented object NP in (39). Sentences (38) and (39) provide evidence that [spec-Agrs] and [spec-Agro] are not obligatory logical

form positions in Gichuka sentences as the participants of the action encoded by the verbs can be recovered from the context as shown in (40) and (41).³⁸

- (40) S1 *Kenyatta₁ e-e-kar-a nthi S2 a-a-ug-ir-e*
 Kenyatta 3SG-tns-sit-fv down S2 3SG-tns-say-PERF-fv
harambee
 Harambee
 (When) Kenyatta became the president of the republic of Kenya, he said Harambee!
- (41) S3 *A-t-a-ug-a Ikamba S4 A-t-a-ug-a njarugu*
 3SG-neg-tns-say-fv Kamba S4 3SG-neg-tns-say-fv luo
 S5 *A-t-a-ug-a guu kungi*
 3SG-neg-tns-say-fv area other places
 He did not mention a Kamba. He did not mention a Luo.
 He did not mention any other areas

The bound pronominal morpheme *e-* affixed to the verb *kara* ‘sit’ in the initial sentence position in (40S1) is necessarily coreferential with the NP *Kenyatta* in the sentence initial position in (40S1) by virtue of the linearity principle. However, the relationship between the NP *Kenyatta* in the sentence initial position in (41S3) and the rest of the bound pronominal morphemes in (41S4—41S5) is not grammatically constrained. The bound pronominals in (41S3—41S5) are not syntactically bound the NP *Kenyatta* in (40S1). In this case, the [antecedent, pronoun] or [pronoun, antecedent] interpretation is attained by accessing the appropriate referent for the bound pronominals from the context rather than by motivating a grammatically driven algorithm at the logical form

³⁸ Sentences (40—41) were taken from a story narrated to the researcher in one of the interviews at the Kauthini village of the County of Tharaka Nithi in Kenya.

level of interpretation. In addition, the distance between the bound pronominal morphemes *a-* and the syntactic antecedent NP *Kenyatta* does not constrain the determination of the reference for the former in (41). As long as the entity referred to is accessible from the context, syntactic proximity between the antecedent and the bound pronominal morpheme plays no role in assigning the semantic value to the pronominal morpheme and the entire sentence. Consider (42) and (43) for illustration.³⁹

(42) *Mu-alimo a-a-tu-itikir-i-a*
 NC1-teacher 3SG-tns-obj-accept-mood-fv
 The teacher allowed us

(43) *A-a-tu-itikir-i-a*
 3SG-tns-obj-accept-mood-fv
 He / she allowed us

Sentences (42) and (43) express identical truth conditions in an appropriate context. They represent a state of affairs where the teacher allowed the speaker (and others) to undertake a certain activity. In this case, the lexically represented NP *mu-alimo* ‘teacher’ in the sentence initial position in (43) is not necessary for the grammatical completeness of the sentence. Whether the overt NP is present or not, the minimum grammaticality requirement is fulfilled so that (43) can be called the unmarked form while (42) is the marked one. Once the context supplies the missing NP in (43), its presence at the sentence initial position is

³⁹ Sentence (42) is taken from a narrative presented to the researcher at Kauthini village, County of Tharaka Nithi. The original sentence was *mu-alimo a-a-mb-itikir-i-a* ‘the teacher allowed me’.

disallowed unless it carries an additional feature. Though the NP *mualimo* is syntactically absent at the level of phonological form in (43), its presence at the level of interpretation is contextually determined. In (42) the participant of the action expressed by the verb is lexically represented. In (43), however, the subject is incorporated into the verb but the reference for the bound pronominal morpheme is recoverable based on the context provided by (42). Pragmatics talks about reference assignment, where the sentence has to be saturated by specifying the accessible antecedent for interpretation. Now, consider the following passage taken from what an animal story.⁴⁰

- (44) *Ru-gono ru-u ni ru-a mu-ruthi na n-thegere*
 NC6-story NC6-that be NC6-ASSOC NC2-lion and NC4-badger
 That story is about the lion and the badger
- (45) *I-k-ir-an-a i-thi-i i-ka-guim-e*
 3PL-PERF-tell-rec-fv 3PL-go-fv 3PL-tns-hunt-fv
 They agreed to go for hunting
- (46) *U-a-urag-a n-gombe u-ka-nd-um-i-a n-ama*
 2SG-tns-kill-fv NC4-cow 2SG-tns-obj-give-CAUS-fv meat
 (If) you kill the cow, you will give me the meat
- (47) *U-a-ror-a mi-atu u-nd-um-i-e u-ki*
 2SG-tns-harvest-fv NC2-beehive 2SG-obj-give-mood-fv honey
 (If) you harvest the honey, you will give me the honey.

In (44) the equitive sentence has lexically represented NPs, namely, the NP *rugono ruu* ‘this story’ and the compound NP *mu-ruthi na n-thegere* ‘the lion and the badger’. In (45), the topic NP is incorporated into the verb but the reference

⁴⁰ The story in (44–47) was narrated to the researcher at the Kauthini village of the County of Tharaka Nithi. Sentences (45–47) have been slightly modified for brevity.

for the bound pronominal morpheme *i-* ‘they’ is recoverable from the context provided by (44). The reference for the pronominal morpheme *u-* in the verbs *u-a-urag-a* ‘if you kill’ and *u-ka-nd-um-i-a* ‘you will give me’ in (46) bear an identical referent with the NP *muruthi* ‘lion’ due to the associated verb *uraga* ‘kill’ while in (47) the pronominal morpheme *u-* on the verbs *u-a-ror-a* ‘harvest honey’ and *u-nd-um-i-e* ‘give me’ encode the NP *n-thegere* ‘badger’ . In such sentences, the reference for the bound pronominal is assigned based on the background information about the *badgers* and *lions* stored in the mind of the speakers and hearers.

In sentences such as (44—47), the hearers are able to assign the referents to the bound pronominals on the basis of their background knowledge of participants of the actions encoded by the verbs. For instance, both *muruthi* ‘lion’ and *n-thegere* ‘badger’ are semantically [+ animate] and [- human]. These componential values [+animate] and [–human] are not sufficient for the identification of the intended referent for the bound pronominal *u*. For the reference assignment in (46) and (47), however, the hearer has to activate the background knowledge he has about the characteristics of *badgers* and *lions*.⁴¹ The hearer uses the information stored in his long term memory that such as lions kill and honey badgers have honey.

⁴¹ For a thorough discussion of the use of encyclopaedic information in determination of the interpretation of sentences, see (Sperber and Wilson, 1986, Carston, 1988, 2002 and Recanati, 1993 and 2004). The present study will return to this discussion later in chapter six.

3.2.1.3 Bound pronominals and the pro-drop account

The theory of pro-drop parameter attempts to account for the absence of pronouns in sentence initial positions in sentences such as (48) and (49).⁴²

(48) *Tu-ka-thi-i* *Kathathani*
1PL-tns-go-fv Kathathani
We will go to Kathathani

(49) *Tu-ka-mi-tem-a*
1PL-tns-obj-cut-fv
We will cut them

In (48) the agent of the action encoded by the verb *thii* 'go' is incorporated into the verb whereas in (49) both the agent of the action and the patient are incorporated into the verb *tema* 'cut'. In both expressions, the inflected verb expresses the entire meaning of the sentence. Although the pronoun meaning is present in both (48) and (49) in the sentence initial position, there is no lexically represented pronoun in this position. Similarly, there is no lexical pronoun in the sentence final position (49) despite the fact that this pronoun is represented at the logical form level of the interpretation.

⁴² The pro-drop parameter categorizes languages on the basis of the phonetic properties of their base generated verb internal NPs. According to the pro-drop parameter, there are languages that have rich inflectional paradigms and hence allow the subject or object NPs to be dropped without impairing the grammatical properties of sentences (Chomsky, 1981, 1995a). On the other hand, there are languages with poor inflectional morphology in which the argument of the verb have to be overtly represented at the logical form.

In Gichuka the presence of an overt pronoun in either sentence initial or final position is disallowed unless it encodes an additional pragmatic feature such as [+ focus] as illustrated with (50) below.

- | | | | |
|------|--------------------------|--------------------|-------------------|
| (50) | <i>Tuiu</i> | <i>tu-ka-thi-i</i> | <i>Kathathani</i> |
| | 1PL | 1PL-tns-go-fv | Kathathani |
| | We will go to Kathathani | | |

In (50), the overt pronoun has a feature specification [+focus] which is pragmatically constrained. In an appropriate context, (50) is the appropriate answer to the question such as *who will do what*. In that case, the entire (50) bears the feature [+ focus] at the level of interpretation. In the context of the question *who will go to Kathathani*, only the pronoun *tuiu* ‘we’ in (50) is the appropriate answer and bears the feature [+ focus]. Where there is no additional pragmatic information required in the sentence, only the unmarked forms such as (48) and (49) are required. Therefore, unmarked sentences do not have overt pronouns in sentence initial positions unless their presence is required for extra grammatical features. Once the reference for the bound pronominal is established from the context, there is no lexically represented pronominal licensed in the preverbal position of the sentence unless it expresses an extra grammatical feature. Following this line of argument, the proposal that a covert pronominal morpheme labeled as pro-drop is syntactically represented at the logical form in sentences with incorporated pronominal NPs (Chomsky, 1981, 1995a) is undermined.

Contrary to the above account, Chomsky (1981, 1995a) posits the presence of a covert pronoun (*pro*) at [spec-Agrs] position in sentences such as (48) and (49).⁴³ Following Chomsky, several studies on languages related to Gichuka have argued for the presence of *pro* in the sentence initial position (see Nyaga, 1998, Mwangi, 1992, Kaviti, 2004 and Gachomo, 2004). In these studies, sentences such as (48) are represented as (51) below.

(51) *pro tu-ka-thi-i Kathathani*
 1PL-tns-go-fv Kathathani
 We will go to Kathathani

According to these studies, *pro* has the feature specification [+ pronominal, —anaphor] and thus the pronominal constituent is represented at the logical form level of representation so that the features of the *pro* are recoverable from the rich morphology of the verb.

However, the proposal for a *pro* in sentence initial and final positions in languages with rich inflectional morphology has been challenged. For instance, Speas argues that for languages that drop the subject NPs “there is no necessity for the specifier of AGR to be filled [since] the null subject... is base generated, and the specifier of AGRSP remains truly empty” (2006:40). If Speas claim is on the right track, then the argument that the AGRSP is ‘truly empty’ provides

⁴³ According to Chomsky (1981, 1995a) *pro* is a logical form constituent that occupies the [spec-Agrs] in sentences without a lexically represented pronoun. If *pro* is suggested by virtue of the Extended Projection Principle that requires the obligatory presence of a subject position for all languages.

evidence that the position occupied by *pro* in (51) is not a syntactic position proper but a pragmatic position that is occupied by an NP that is anchored in the context of the sentence. Since such positions as the one occupied by *pro* in (51) are positively specified for the feature [+ pronominal] the present study argues (following Chierchia, 1995) that “they are semantic variables that are either semantically bound or have a contextually specified value” (Quoted in Koeneman, 2006:96). Therefore, the determination of the truth conditional properties of (51) would require the analysis of the context of the utterance rather than the binding principles of grammar. In such sentences as (51) it is therefore the context, rather than the logical form, that determines the semantic interpretation.

The argument that the [spec-Agrs] position is empty raises one more interesting question. If this position is “truly empty”, as argued by Koeneman, then Chomsky’s theta criterion at logical form level of interpretation will have to be violated in a convergent derivation such as (52).

- (52) *Tu-ka-mi-tem-a*
 1PL-tns-obj-cut-fv
 We will cut it

In (52), there are no lexically represented NPs to take up the two theta roles that are availed by the transitive verb *tema* ‘cut’. Therefore (52) violates the theta criterion. According to Chomsky (1995a) the theta criterion requires that each argument bear one and only one theta role and that each theta role is assigned

to one and only one argument at the level of the logical form.⁴⁴ In spite of this postulation, there is no argument to be assigned a theta role at [spec-Agrs] position since it is ‘truly empty’ in (52). This follows the argument that a theta role cannot be assigned to a syntactic position that is empty at the logical form.⁴⁵

3.2.1.4 Bound pronominals and gender features

In Gichuka, the interpretation of semantic features of pronominal morphemes requires reference to the context in which the sentence is produced, as shown in (53—55).

- | | | | |
|------|--|-------------------|---|
| (53) | <i>E-e-ring-ir-e</i>
3SG-ref-hit-pst-fv
He/she hit himself/herself | <i>na</i>
with | <i>i-thiga</i>
NC5-stone
with a stone |
| (54) | <i>A-a-rib-ir-e</i>
3SG-tns-pay-PERF -fv
He paid | | <i>ruraio</i>
dowry |
| (55) | <i>A-a-mu-ring-ir-e</i>
3SG-tns-obj-hit-PERF-fv
He/she hit him/her | <i>na</i>
with | <i>i-thiga</i>
NC5-stone
with a stone |

⁴⁴ The theta criterion is assumed to hold at the logical form level of representation (Chomsky, 1981, 1995a).

⁴⁵ See Koenenman for a further discussion of this topic. Koenenman (following Alexiadou and Anagnostopoulou, 1998) suggests that in such cases, the theta role is assigned to the agreement paradigm of the verb at logical form so that the null DP does not need to be generated since the Extended Projection Principle (henceforth, EPP) is satisfied by the agreement morphology of the verb.

Sentence (53) is a reflexive sentence while in (54) the pronominal morpheme *a-* encodes the agent of the action encoded by the verb. In (55), both the agent and the patient are incorporated into the verb. The presence of the verb internal lexical NP in (55) is therefore disallowed. While the bound pronominals grammaticalize person and number features in (53—55), they do not grammaticalize for gender features.⁴⁶ For instance, there is nothing in the pronominal morpheme to encode the gender features of the agent of action in (53—55) since these features are not specified in the lexical entries for the pronominal constituents.

In Gichuka, gender is grammatically not marked with the exception of a limited semantically-based gender distinctions observed mostly in proper names.⁴⁷ In (53) and (54), there is no syntactic unit in the logical form that specifies the gender features that the verb raises to Agrs to check. While the

⁴⁶ Notice that in Gichuka, the case features of the pronouns are not overtly realized regardless of the structural position of the pronoun in the sentence.

⁴⁷ There are a few examples of morphologically marked semantic gender distinctions in proper nouns (only associated with names of people) such as:

<u>Male</u>	<u>Female</u>
<i>Ki-rimi</i>	<i>Ka-rimi</i>
<i>Ki-nyua</i>	<i>Ka-nyua</i>
<i>Mu-tuiri</i>	<i>Ga-tuiri</i>
<i>Mu-gendi</i>	<i>Ka-gendi</i>
<i>Mu-ngai</i>	<i>Ka-ngai</i>
<i>Ru-gendo</i>	<i>Kagendo</i>
<i>Ma-wira</i>	<i>Ka-wira</i>

number and person features are specified at the logical form configuration, there is no rule within the logical form that predicts the gender features for the pronominal morphemes that occupies the [spec – Agrs] position in (53) and (55). Nonetheless, the sentence is grammatical and converges at the logical form. For instance, in (54) the feature specification for gender is understood as [+male] though there is no additional syntactic unit at the logical form to specify this feature. In this sense, assigning the correct gender features for the NP in the [Spec – Agrs] position is attained once the hearer fixes the contextual parameters within which the sentence is produced during the process of comprehension. The hearer of (54) fixes the parameters of the context and activates his background knowledge about the culture of the people of Chuka in regard to marriage. Therefore, though the verb *riba* ‘pay’ can be used in different contexts, (54) yields the specific meaning in regard to cultural issues that surround the payment of dowries, that only a male person can pay dowry. So, in (54), *a-* is understood as having the feature [+ male]. What (53—55) suggest is that the relationship between the bound pronominal morphemes and gender features is not straightforward from the logical form.

3.2.1.5 Bound pronominals and non-agreement

In view of the argument against pro-drop phenomenon advanced in section 3.2.1.3, it appears that the role of agreement in Gichuka is unclear, as illustrated with (56) below.

- (56) *M-a-u-gur-ir-e* *n-giri* *i-thatu*
 3PL-tns-obj-buy-BEN-fv NC4-thousand NC4-three
 They bought it at three thousand [shillings]

In (56) the arguments of the verb *gura* ‘buy’ are incorporated into the verb. Once the topic NP is understood from the context, its presence is disallowed in the subsequent sentences unless the speaker intends the sentence to express additional information such as focus. A typical Gichuka sentence does not require a pronominal in the sentence initial position. As long as the arguments of the verb are understood from the context and marked on the verb with an incorporated pronoun, the presence of a lexical NP is optional. Therefore (56) rules out the requirement that the verb must agree with either subject or object depending (Chomsky, 1995a). Chomsky (1995a) following Belletti (1990) suggests two types of Verb-NP agreement. According to Chomsky, the verb may either agree with the subject or with the object depending on the language (1995a:146).⁴⁸ If Chomsky’s suggestion is correct for Gichuka, the presence of a pronoun at the [spec-Agrs] position results in a marked sentence such as (57).

- (57) *Mo* *m-a-u-gur-ir-e* *n-giri* *i-thatu*
 They 3PL-tns-obj-buy-BEN-fv NC4-thousand NC4-three
 They bought it at three thousand [shillings]

In (57), the lexical topic NP is represented at the level of phonological form. The presence of the pronoun *mo* in the sentence initial position is disallowed unless

⁴⁸ Given this assumption, it becomes clear why the notion of subject and object *pro* is obligatory for languages with a rich morphological paradigm in the Minimalist Program.

this pronoun bears an additional feature. Sentence (57) would be most appropriate answer to the question *who did what*. In addition, the pronoun *mo* alone would be the most appropriate answer to the question *who bought it at three thousand shillings*. In this case, the overt pronoun *mo* ‘they’ bear the feature [+contrastive focus] where the speaker wishes to emphasize that it is *they* and not *others* who bought the entity under consideration at three thousand shillings. Following Chomsky, (56) would have the structure such as (58) and (59) at the level of logical form interpretation in which both lexical pronouns are represented by the *pro* in (59).

- | | | | |
|------|------------|---|------------|
| (58) | NP | V | NP |
| (59) | <i>pro</i> | V | <i>pro</i> |

In contrast to Chomsky’s agreement analysis, I suggest that the structure of (56) is as represented in (60) below.

- (60) Subject marker—object marker—verb—PERF-fv

In (56) and (60) the verb is the main constituent of the sentence as the prepositional phrase can be omitted without impairing the grammatical completeness of the sentence. There is no NP in either the subject or object position of (60). Though (56) and (60) do not have a lexically represented pronominal in the sentence initial position, they are grammatical. In addition, (56) and (60) are always true in all contexts that (57) is true and therefore all of them express the same truth conditional meaning with (57) in the appropriate contexts. Therefore, Chomsky’s (1995a: *ibid.*) suggestion that that the verb has

to be in agreement with its lexical NPs within the sentence is falsified since there is no need for the postulation of a lexical NP at the sentence initial position.

It has emerged in the preceding sections that a verb may express a truth conditional meaning without any lexical subject or object as in (56). Having ruled out the possibility of (subject and object) *pro* in Gichuka and suggested that the position occupied by *pro* is an empty logical form position, (56) lacks both the overt subject NP and the overt object NP. This falsifies the Extended Projection Principle (Chomsky, 1995a) that suggests the obligatory presence of a universal subject position in any grammatical sentence. Thus, the Extended Projection Principle and agreement are not applicable to Gichuka and cannot therefore be assumed to be principles of the Universal Grammar. In addition, what the Minimalist Program suggests is a logical form position occupied by (subject or object) *pro* lacks an empirical justification in Gichuka. For Gichuka, the lexical NPs of subject and object are pragmatic positions that are filled by either a focus or a topic noun phrase that may either be integrated within the clause or outside the clause.

3.2.2 Free pronouns in Gichuka

There are different types of pronouns in Gichuka. This study will limit the analysis to personal pronouns. Personal pronouns cannot occur in the subject and object argument positions in unmarked Gichuka sentences. In these types of sentences, the pronouns are incorporated into the verb, as in (61) so that only

unless such NPs add an extra feature of focus to the sentence. What appears from (62—64) is that the presence of an overt pronoun at [spec-Agrs] position is not required in Gichuka as this would be superfluous. This observation is consistent with the principle of Full interpretation that states that which requires that all linguistic features receive appropriate interpretation at interface levels. Despite the fact that bound pronominal morphemes do not encode gender distinctions, the gender features of (63) and (64) are [—male] due to the semantic gender features of the NP *Muthoni* in (62).

3.2.2.1 Distribution of free pronouns in Gichuka sentences

As observed with the bound pronominals in section 3.2.2, free pronouns present difficulties for the logical form account of sentence meaning. This is due to the complex morphology of the language that disallows the presence of overt pronouns in sentences. As has been observed in the previous section, free pronouns are licensed by extra grammatical features such as [+ focus]. A free pronoun cannot occur in a nominative or accusative position in relation to the predicate in an unmarked sentence in Gichuka, as is illustrated by the following passage.⁵⁰

- | | | | |
|------|------------------------------------|-----------------------------|-----------------|
| (65) | <i>Mu-thee</i> | <i>a-a-mbat-ir-w-e</i> | <i>Makawani</i> |
| | NC1-father | 3SG-tns-arrest-PERF-pass-fv | Makawani |
| | My father was arrested at Makawani | | |

⁵⁰ ⁵⁰ This passage in was narrated to the researcher by one of his informant at Kamugungo village of the County of Tharaka Nithi in Kenya.

- (66) *A-a-um-it-e* *Weru*
 3SG-tns-leave-IMP-fv *Weru*
 He was coming from Weru
- (67) *A-a-bur-w-a* *mb-uro* *n-ene* *muno*
 3SG-tns-beat- pass-fv NC4-big NC4-big very
 He was given a thorough beating
- (68) *A-a-bir-w-a* *Chuka* *e-r-w-a*
 3SG-pst-take-pss-fv *Chuka* 3SG-tell-pass-fv
a-ti-ka-thaik-w-e *u-yu* *ni mu-kuru muno*
 3SG-neg-tns-tie-pass-fv NC1-this be NC1-old very
 He was taken to Chuka where it was agreed that he should not be
 detained because he was too old

In (66—68) there is no overt pronoun in the [spec-Agrs] position of the sentence. Despite this, the third person pronoun meaning is expressed at the level of sentence interpretation. There are two accounts for this interpretation. On the one hand, the topic-marking morphemes *a-* in (66—68) refer back to the NP *muthee* ‘father’ in (65). On this interpretation, there is no grammatical rule determining the referent of the bound morpheme *a-* in (66—68) but the referent is constrained by the intention of the speaker.

Given that a free pronoun cannot occupy [spec-Agrs] and [spec-Agro] positions in sentences, sentence (69) is ruled out as a default construction due to the presence of an overt pronoun at [spec-Agrs] position.

- (69) ?*Mo* *m-a-bir-ir-w-e* *mu-thitu*
 They 3PLtns--take-PERF-pass-fv NC2-forest
 They were taken to the forest

If this argument is correct, then the position that is occupied by the overt pronoun in (69) is motivated by pragmatic factors and therefore it is not needed

to meet any grammatical requirement at the logical form. Sentence (69) is therefore a non default marked construction. The presence of any pronominal constituent in [spec-Agrs] position is disallowed by conditions on the economy of derivation which rule out any superfluous symbols that are not necessary for the convergence of a derivation. Now, consider the passage in (70) and (71) for an illustration of the licensing conditions for overt pronouns.⁵¹

- (70) S1 *Tu-a-r-i mu-ena w-a thirikari*
 1PL-tns-be-fv NC2-side NC2-ASSOC government
 S2 *na mo m-a-r-i mu-ena w-a*
 S2 but they 3PL-tns-be NC2-side NC2-ASSOC
gu-chu-a wiathi
 inf-search-fv freedom
 We were on the side of the government and they were on the side of freedom fighters
- (71) S1 *Tuiu t-u-a-r-i mu-ena w-a thirikari*
 We 1PL-tns-be-fv NC2-side NC2-ASSOC government
 S2 *na mo m-a-r-i mu-ena w-a*
 S2 but they 3PL-tns-be-fv NC2-side NC2-ASSOC
gu-chu-a wiathi
 inf-search-fv freedom
 We were on the side of the government and they were fighting for independence

(70S1) is the non default unmarked form of (71S1). The latter has a lexical pronoun *tuiu* ‘we’ while the former has only an incorporated pronoun *tu-*. The presence of the lexically represented pronoun *tuiu* ‘we’ in (71S1) in the clause initial position is not obligatory for Gichuka. The lexically represented pronoun

⁵¹ This passage in was narrated to the researcher by one of his informant at Kauthini village in the County of Tharaka Nithi in Kenya.

can be omitted without impairing the grammatical completeness of the unmarked sentence as illustrated with (70S1). Therefore, the presence of a lexical pronoun in (71) encodes the intention of the speaker and marks it as bearing the feature [+ focus].⁵² Even in marked sentences, determining the referents of the lexical pronouns is done by the intentions of the speaker at the time of producing the sentence. Therefore, the position occupied by the overt lexical pronoun is not an argument position it is licensed by pragmatics rather than rules internal to syntax.

In (70S2) and (71S2), the presence of the pronoun *mo* ‘they’ is obligatory due to the presence of the conjunction *na* ‘but’ that immediately precedes the pronoun. This conjunction constrains the interpretation of the part of the sentence it precedes by guiding the hearer towards the intended interpretation for the remaining part of the sentence.⁵³ Thus, the presence of the conjunction *na* ‘but’ licenses the presence of the lexical pronoun *mo* ‘they’. Otherwise, the (70S2) and (71S2) would be ungrammatical. This obligatory requirement for the pronoun *mo* ‘they’ is eliminated once the conjunction is deleted in (72).

(72) S1 *Tu-a-r-i* *mu-ena* *w-a* *thirikari*
 1PL-tns-be-fv NC2-side NC2-ASSOC government
 We were on the side of the government

⁵² See Ndwiga (2008) for a similar discussion on the discussions of the status of the *pro* in the syntax of Gichuka.

⁵³ For a thorough discussion of the use of form words in guiding the hearers in the correct interpretation, see Blakemore (1997). According to Blakemore, the process in which form words are used to guide the hearer to the correct interpretation is known as procedural interpretation.

S2 *M-a-r-i* *mu-ena* *w-a* *gu-chu-a*
 3PL-tns-be-fv NC2-side NC2-ASSOC inf-search-fv
wiathi
 freedom
 S2 They were freedom fighters

The omission of the overt pronouns in (72) does not change the semantic interpretation of the sentence. The element of the sentence that is lost in (72) is the feature [+focus] which is required at the level of pragmatics rather than at the level of syntax. This provides evidence that what Chomsky (1981, 1995a) assumes to be a syntactic position, that is, the [spec-Agrs] position at the logical form is a position that is outside the logical form configuration in Gichuka. This position is not obligatory for the truth conditional meaning of the sentence. This suggests that sentences such as (72) bear only the inflected verb that fills the main syntactic position of a sentence. The other positions are not obligatory argument positions but positions that are filled depending on the intentions of the speakers at the time of producing sentences.

3.2.2.2 Pronoun binding

In section 3.2.2.1, it has been shown that unmarked sentences do not represent free pronouns and that there are no logical form positions for those pronouns. The positions available for pronouns are pragmatically constrained and hence, pronouns occupying these positions must bear an extra feature at the level of interpretation. Consider (65–67) repeated here as (73–75).

- (73) *Mu-thee a-a-mbat-ir-w-e Makawani*
 NC1-father 3SG-tns-arrest-loc-pass-fv Makawani
 My father was arrested at *Makawani*
- (74) *A-a-um-it-e Weru*
 3SG-tns-leave-IMP-fv Weru
 He was coming from Weru
- (75) *A-a-bur-w-a mb-uro n-ene muno*
 3SG-tns-beat-PERF-pass-fv NC4-big NC4-big very
 He was given a thorough beating

In (73) the bound pronominal morpheme *a-* necessarily refers to the preceding NP *muthee* ‘father’. Though the binding relation between the bound pronominal morpheme *a-* in (74) and (75) and the NP *muthee* ‘father’ is present at the logical form level of interpretation, there is no overt pronoun in the [spec-Agrs] position in these sentences. In (74) and (75), the fact that a bound pronominal morpheme occurs in a binding relation with an overt NP cannot be reconciled with the Minimalist Program for Gichuka. The binding theory requires that both the antecedent and the pro(noun) be in an A—position. This is violated in (74) and (75) since the bound pronominal morpheme is not in an A—position and, hence, the binding relation between the pronoun and the NP *muthee* ‘father’ is ruled out.

In addition, Chomsky (1995a) encounters difficulties in assigning meaning to marked sentences in which the overt pronoun is represented at the logical form configuration. Even in such sentences, the referent of a lexically represented pronoun is determined by the context within which the sentence is

uttered and therefore falls within the domain of pragmatics as exemplified with (76— 77) below.

(76)	<i>Mukundi</i>	<i>a-a-ug-a</i>	<i>we</i>	<i>a-ka-thi-i</i>
	Mukundi	3SG-tns-say-fv	he	3SG-tns-go-fv
	Mukundi says he will go			

(77)	<i>Mukundi</i>	<i>a-a-ug-a</i>		<i>a-ka-thi-i</i>
	Mukundi	3SG-tns-say-fv		3SG-tns-go-fv
	Mukundi says he will go			

Both (76) and (77) have identical interpretations in different contexts depending on their coindexation at logical form as well as the saliency of the referent they encode within the context of the sentence. Due to the presence of a full pronoun *we* ‘him’ in (76), the native speakers of Gichuka consider it marked. Even when a covert pronoun (*pro*) is suggested in the [spec-Agrs] position, the logical form account of meaning of pronouns does not hold.

3.3 Summary to chapter three

This chapter has demonstrated that the binding theory, in this case Binding conditions A and B, that are assumed to constrain the interpretation of anaphors, bound pronominal morphemes and free pronouns at the logical form level of representation is incapable of accounting for their interpretation in Gichuka. The language has a complex array of valence reducing morphological processes such as reflexivization, subject incorporation and object incorporation that violate binding principles which are prerequisites for convergent derivations.

The chapter has also suggested that it is the pragmatic relations of topic and focus that constrain the interpretation of pronouns either in preverbal or postverbal positions. Thus, lexical pronouns are in topic positions rather than in logical form argument positions.

Additionally, *pro* does not exist in Gichuka either in the subject or object positions. These positions are associated with pragmatic functions such as topic and focus and are therefore not obligatory in convergent derivations. As a consequence, the role of agreement and the Extended Projection Principle is questioned since only the verb is the obligatory constituent in a sentence and the positions of the subject and object are optional.

Finally, the chapter has argued that the grammatically driven logical form approach to the interpretation of anaphors, bound pronominal morphemes and pronouns within sentences would be inadequate for Gichuka sentences. The logical form account would fail to account for the truth conditional meaning of anaphoric constructions as well as sentences with pronominals. Therefore, any account of the interpretation of these categories must take into consideration the features of the context of the utterance which would enrich the semantic interpretation of sentences and, thus, derive the truth conditional meaning.

CHAPTER FOUR

REFERRING EXPRESSIONS IN GICHUKA

Chapter three analyzed the syntactic and pragmatic properties of reflexive constructions, reciprocal constructions and sentences with (bound and free) pronominals in Gichuka. It showed that sentences with these morpho-syntactic units were semantically underspecified and therefore determining their truth conditional meaning requires reference to the context of the sentences within which they occur. This chapter analyzes the assignment of truth conditional meaning of referring expressions (R—expressions) or lexical NPs in different sentence patterns. The relations between the R—expressions and their predicates are characterized in terms of their syntactic, semantic and pragmatic properties. The analysis of the truth conditional properties of the R—expressions is important because it is the relations that hold between predicates and their arguments that determine the meaning of sentences through the mediation of the logical form (Chomsky, 1977).⁵⁴ Therefore, the truth conditional meaning of

⁵⁴ Chomsky (1977) suggests that the meaning of a sentence is defined in terms of its truth conditions and that what the sentence describes corresponds with the actual state of affairs in the world. While admitting that there exists an intricate relationship between the grammar and other cognitive systems, he points out that the “grammar that comes into existence in the mind of the speaker will be intimately interwoven, at specific points, with other cognitive structures” (p. 37).

the R—expressions in sentences plays an important role in determining the meaning of the entire sentence within which they occur.

It is divided into three main sections: the first reviews the distribution of R—expressions in different sentence positions, the second examines the assignment of the truth conditional properties/meaning of the R—expressions in different sentence patterns in Gichuka. Here, the gap between the syntactically constrained semantic representations and the meaning that sentences with R—expressions attain in actual speech is investigated. The section ends with a review of the structure and meaning of the R—expressions in possessive expressions, active and passive expressions as well as expletive sentences.

4.1 Distribution of R—expressions in Gichuka sentences

This section provides an overview of the positions that are occupied by the R—expressions in various sentence patterns in Gichuka. According to Chomsky, an R—expression is a lexical NP that can pick a referent from the world of discourse without an antecedent within or outside its syntactic domain. It is referentially independent and bears the feature specification [—anaphor, —pronominal] (1995a:41). The number of the R—expressions as well as the positions that they occupy in sentences is dependent on the morpho-syntactic

features of the main verbs of the sentences in question as can be seen in the following sections.⁵⁵

4.1.1 R—expressions in equative clauses

In Gichuka, an equative clause has the copula verb *ni* ‘be’ on what about *-ri* the verb. The verb may appear either in the form of *ari* with an inflection for person and tense or in its uninflected form *ni*, as can be seen in the following sentences.

- | | | | |
|-----|--|---|---|
| (1) | Subject
<i>Mu-geni</i>
NC1-visitor
The visitor is in the house | Verb
<i>a-a-r-i</i>
3SG-tns-behave?-fv | Adverb
<i>n-omba</i>
NC4-house |
| (2) | Subject
<i>Mugure</i>
Mugure
Mugure is a teacher | verb (be)
<i>ni</i>
be | Subject complement
<i>mu-alimo</i>
NC1-teacher |

In (1), the sentence consists of the subject NP *mugeni* ‘visitor’, the verb *ri* ‘be’ and the adverbial phrase *nomba* ‘house’. The verb *ri* ‘be’ is inflected for person and the tense by the prefixes *a-* and *a-* respectively. The first inflectional morpheme *a-* on the verb *ri* encodes the number and person features of the subject NP while the second morpheme *a-* marks the tense features. In (2), the main verb is the copula *ni* ‘be’ and both the subject NP *Mugure* and the subject complement NP

⁵⁵ In this section, the terms “R—expressions” and “lexical NPs” will be used interchangeably but strictly to refer to those lexical NPs that bear the feature matrix [– anaphor, – pronominal] and are referentially independent (Chomsky 1995a:41). Bound and free pronominal morphemes are therefore excluded from this definition of lexical given their feature matrix [+ pronominal].

mu-alimo ‘teacher’ are lexically represented at the logical form configuration.⁵⁶ Thus, the equative meaning of the verb may be encoded in the logical form through the morpho-syntactic verb form *a-ri* ‘be’ and *ni* ‘be’ in (1) and (2) respectively.⁵⁷

4.1.2 R—expressions in transitive clauses

A transitive clause is one with a verb that licenses a [Spec-Agro] position as in (3) below.

(3)	Subject	Verb	Object
	<i>Gitonga</i>	<i>a-a-munt-ir-e</i>	<i>mu-ana</i>
	Gitonga	3SG-tns- stab-PERF-fv	NC1-child
	Gitonga stabbed the child		

In (3), the transitive verb *munt-a*, ‘stab’, licenses two logical form positions. These are occupied by the NP *Gitonga* and the NP *muana* ‘child’. Sentences (1–3) show that equative verbs and transitive verbs license the presence of two logical form positions for the R—expressions in Gichuka. In addition to the equative and transitive sentences, there are also derived transitive sentences in Gichuka such as (4a–d) below. In these types of sentences, both the valence increasing processes (such as the presence of benefactive and causative markers on the verb) and the valence decreasing processes (such as noun incorporation) are the

⁵⁶ The copula *ni* ‘be’ is the present form while its past form becomes *ari*. The latter bears a different pronunciation with the verb *a-ri* ‘have.’

⁵⁷ Note that the verb *ni* ‘be’ is the present form while its past form becomes *ri*.

major determining factors for the presence of lexical NPs in sentences thus resulting in the following sentence patterns in Gichuka data.

- | | | | | |
|------|--|-------------------------------|----------------|----------------|
| (4a) | <i>Muiti</i> | <i>a-a-gur-ir-e</i> | <i>Mugendi</i> | <i>ka-ramu</i> |
| | Muiti | 3SG-tns-buy-ben-fv | Mugendi | NC9-pen |
| | Muiti bought Mugendi a pen | | | |
| | | | | |
| (4b) | <i>Muiti</i> | <i>a-a-rug-ith-i-a</i> | <i>Mugendi</i> | <i>irio</i> |
| | Muiti | 3SG-tns-cook-caus-mood-fv | Mugendi | food |
| | Muiti has made Mugendi cook food | | | |
| | | | | |
| (4c) | <i>Muiti</i> | <i>a-a-rug-ith-ir-i-a</i> | <i>Mugendi</i> | <i>irio</i> |
| | Muiti | 3SG-tns-cook-caus-ben-mood-fv | Mugendi | food |
| | Muiti has made (someone) cook food for Mugendi | | | |

In (4a), the verb *gur-a* ‘buy’ requires the occurrence of the two object positions where the NP *Mugendi* is the applied object while the NP *karamu* ‘pen’ is the direct object. The applied object NP is licensed by the occurrence of the benefactive morpheme *-ir* in the verb *gura* ‘buy’. In (4b), the verb *gura* ‘buy’ bears the causative morpheme *-ith-* which licenses the presence of the NP *Mugendi* at the position immediately preceded by the verb. In (4c), the causative morpheme *-ith-* licenses no corresponding lexical NP position in the sentence whereas the benefactive morpheme *-ir* licenses the applied NP *Mugendi*. The argument structure of the verb in (4c) requires the presence of a direct object NP *irio* ‘food’. In contrast to (4c), consider (4d) where the presence of a causative NP is encoded through the prefix *mu-* in the verb.

- | | | | | |
|------|--|-----------------------------------|----------------|-------------|
| (4d) | <i>Muiti</i> | <i>a-a-mu-rug-ithi-ir-i-a</i> | <i>Gitonga</i> | <i>irio</i> |
| | Muiti | 3SG-tns-obj-cook-caus-ben-mood-fv | Gitonga | food |
| | Muiti has made him cook food for Gitonga | | | |

In (4d), the sentence is interpreted as having four lexical NPs due to the presence of the object prefix *mu-* ‘him’ in the verb. Whereas the presence of the causative NP is implied in (4c) (and thus not represented at the logical form), it is overtly encoded in the logical form of (4d). The presence of the object marking morpheme *mu-* ‘him’ in the verb in (4d) means that the R-expression denoting the object must be obligatorily omitted from the sentence. In this case, the prefix *mu-* ‘him’ cannot be coreferential with the NP *Gitonga* in Gichuka grammar.⁵⁸

4.1.3 R-expressions in topic and focus positions

Section 4.1.1 and 4.1.2 above have shown that the occurrence of R-expressions in sentences is determined by the morpho-syntactic features of the verbs of the sentences in question. In this section, the distribution of the R-expressions in topic and focus positions is investigated. A topic position is one occupied by an R-expression that sets the scene for the rest of the sentences in a discourse structure, as can be seen with the following text in Gichuka.

(5a) *Ru-gono ru-u ni ru-a mu-ruthi na*
 NC6-story NC6-that be NC6-ASSOC NC2-lion and
n-thegere
 NC4-badger
 That story is about a lion and a badger

(5b) *Mu-ruthi u-a-ri na tu-ana tu-iri*
 NC2-lion 3SG-tns-havewith NC1-children NC1-two
 The lion had two children

⁵⁸ See chapter three above for the grammatical relationship between object marking morpheme and the R-expression denoting the object. Once the former is affixed on the verb, the latter is obligatorily deleted from the sentence.

(5c) *N-thegere* *i-t-a-ri* *na* *tu-ana*
 NC4-badger 3SG-neg-tns-have with NC1-children
 The badger did not have children

In (5a), both NPs *muruthi* ‘lion’ and *nthegere* ‘badger’ are [—definite]. This is their first mention in the discourse and, therefore, their indefiniteness arises from low discourse accessibility.⁵⁹ However, in (5b) and (5c) the two NPs are understood as bearing the feature matrix [+ definite or + topic]. In (5b) and (5c), the NPs *muruthi* ‘lion’ and *nthegere* ‘badger’ occupy the topic positions. The interpretation of the NPs as [+definite or + topic] in (5b) and (5c) is attributed to the fact that since they have been mentioned in the preceding discourse, they are salient in the context and therefore assigned [+ definite, + topic] by virtue of the information structure of the sentence.⁶⁰

A focus position, on the other hand, is that position which is the locus of the new information in sentences. In discourse initial positions such as in (5a), lexical NPs such as *muruthi* ‘lion’ and *nthegere* ‘badger’ bear the feature specification [+ focus] and hence are marked [—definite, –topic]. Once their reference is specified from the context, their feature specification shifts to [—

⁵⁹ Discourse accessibility refers to the cognitive status of the entity referred to by an NP within the discourse structure. For instance, if the entity referred to by the NP has not received any previous mention in the discourse, its accessibility is low. If it has, then the accessibility is high.

⁶⁰ An entity, represented by an NP, is salient in the context if it forms part of what is termed the background constituents, that is, it has received a recent mention in the preceding discourse, it can be inferred from the communicative situation or constitutes the background knowledge of the interlocutors in a communication exchange (Steube et al, 2004:15).

focus] hence they receive a [+ definite] description. In this case, the NPs *muruthi* ‘lion’ and *nthe gere* ‘badger’ in (5b–c) are understood as identifying an identical referent with the NPs in (5a) and therefore, they express the entities already salient within the discourse.

Besides the overt representation of the R—expressions in unmarked focus sentence position such as (5a) above, R—expressions also occupy marked focus positions in Gichuka sentences as shown in (6–8).

- (6) *Ni Mukundi Murithi a-ring-ir-e*
 Foc Mukundi Murithi 3SG-hit-PERF-fv
 It is Mukundi that Murithi hit
- (7) *Murithi ni a-ring-ir-e Mukundi*
 Murithi foc 3SG-hit-PERF-fv Mukundi
 Murithi hit Mukundi
- (8) **Ni Mukundi Murithi ni a-ring-ir-e*
 Foc Mukundi Murithi foc 3SG-hit-PERF-fv
 Intended meaning: It is Mukundi that Murithi hit

In (6), the NP that is the focus of the sentence, that is, *Mukundi* occupies the position that immediately follows the focus particle *ni*. The sentence initial position in (6) is occupied by the focus particle *ni* both at the phonological form representation as well as the logical form position. The focus phrase (FP), *ni Mukundi*, immediately precedes the NP *Murithi* that precedes the main verb *ringa* ‘hit’, resulting in the structure of (6).⁶¹ In (6), argument focus is represented since it is the NP *Mukundi* that bears the new information in the sentence. In (7)

⁶¹ For a similar discussion on Kikuyu, a language that is closely related to Gichuka, see Horvath, (1995: 40–44).

the focus particle *ni* precedes the verbal head, that is, the verb *ring-a* 'hit'. The position in which the focus particle appears in (6) and the one in which it appears (7) are mutually exclusive. As a consequence, (8) is ruled out as ungrammatical since there are two constituents, the NP *Mukundi* and the verb *ringa* 'hit' bearing the feature [+focus] at the logical form. Given that the two forms bear identical effects at the interface levels, the sentence is ruled out by virtue of the violation of the conditions on the economy of derivation (Chomsky, 1995a).

4.2 The truth conditional meaning of the R—expressions in Gichuka

The truth conditional meaning of a sentence refers to the aspects of sentence meaning that are determined by the semantic values for each of the lexical items of the sentence and their mode of combination (Larson and Segal, 1995). This section looks at the truth conditional meaning that is assigned to the R—expressions in Gichuka by virtue of the logical form rules of the sentences and phrases in which they occur. The semantic interpretation as well as the assignment of the truth conditional meaning of the R—expressions in various sentence patterns presents difficulties for the logical form rules since a complete assignment of the truth conditional meaning of sentences requires the analysis of both the syntactic and contextual features of the sentences, as will be shown in the following sections.

4.2.1 R—expressions in di-transitive sentences

A di-transitive sentence has a verb that licenses two object positions. In Gichuka, there are predicates that subcategorize for three theta-positions, which allow them to occur with three R—expressions (lexical NPs or arguments) in which two appear as the object NPs of the verb, as shown in (9).

- | | | | | |
|-------|--|---------------------------|----------------|----------------|
| (9) | <i>Muiti</i> | <i>a-a-gur-ir-e</i> | <i>Mugendi</i> | <i>ka-ramu</i> |
| | Muiti | 3SG-tns-buy-ben-fv | Mugendi | NC9-pen |
| (9a) | Muiti bought a pen for Mugendi | | | |
| (9b) | Muiti bought a pen from Mugendi | | | |
| | | | | |
| (10) | <i>Muiti</i> | <i>a-a-ret-er-e</i> | <i>Mugendi</i> | <i>ka-ramu</i> |
| | Muiti | 3SG-tns-sell- ben-mood-fv | Mugendi | NC9-pen |
| (10a) | Muiti brought Mugendi a pen | | | |
| (10b) | Muiti brought a pen on behalf of Mugendi | | | |

The presence of the benefactive morpheme *-ir*, on the verbs *gur-a* ‘buy’ and *ret-a* ‘bring’ in (9), licenses the presence of the indirect object *Mugendi*. This results in the sentence having both direct and indirect object NPs. The verbs involved license two object NPs where one is assigned the theta role of benefactive while the other one is assigned the role of patient. On interpretation (9a) the verb assigns the NP *Mugendi* the thematic role of benefactive. On interpretation (9b) the same NP is assigned the thematic role of the source. The meaning of (9) is therefore not truth evaluable in the sense that there is nothing in its logical form configuration to guide the hearer on the choice of interpretation between (9a) or (9b). Similarly, whether the intended meaning of (10) is (10a) or (10b) cannot be determined by the logical form. In this case, the assignment of the semantic roles assigned to the R—expressions *Mugendi* and *karamu* ‘pen’ in double object

sentences containing verbs such as *gura* ‘buy’ and *reta* ‘bring’ is resolved via reference to the context in which the sentence is produced rather than by reference to the rules of the logical form of the sentence. In the absence of an appropriate context, the sentence fails to yield a determinate meaning as intended by the speaker.

4.2.2 R—expressions in simple possessive clauses

In possessive expressions, the NP taking the role of the possessor is more prominent in the context of the discourse situation (Langacker, 1995:58).⁶² In Gichuka, overt morphological realizations, syntactic configurations and contextual parameters play a significant role in determining the truth conditional meaning of possessive expressions. The language exploits morphological processes such as bound morphemes affixed to nouns, to mark possessive relations, as shown in (11).

- (11) *Munene* *a-ku-on-a* *mu-ka*
Munene 3SG-tns-see-fv NC1-wife
Munene has found a wife/the wife/his wife

In (11) the NP *mu-ka* expresses a variety of meanings depending on the context within which the sentence is produced. For instance, if the NP *Munene* is understood to be a bachelor who has been trying to find someone to marry, then

⁶² According to Langacker (1995), the possessor is the reference point in a possessive construction. Therefore, it is more semantically dominant at the level of the interpretation of a possessive construction.

an indefinite reference, ‘a wife’ is the most likely interpretation. However, if it is in reference to a man whose wife had been missing, then the definite description, i.e., ‘his wife’ is the most likely interpretation. Therefore, the reference for the NP *mu-ka* is determined by the hearer’s knowledge of the social status of the referent encoded by the NP *Munene* in (11). This suggests that the possessor/possessee relation in (11) is a pragmatic matter, not a syntactic one. Now, consider (12) below.

- (12) *Mu-ka-gu* *ni* *mu-ruaru*
 NC1-wife-your be NC1-sick
 Your wife is sick

In (12), the possessive relation is morphologically marked through the suffix *-gu* ‘your’ on the noun *muka* ‘wife’. The possessed NP bears the affix that marks possession.⁶³ The reference for the pronounced bound pronominal morpheme *-gu* ‘your’ is determined by the context within which the NP *mukagu* ‘your wife’ is produced. Whether (12) is true or false is determined once the referent of the suffix *-gu* ‘your’ is identified from the context. The truth conditional meaning of (12) is therefore assigned once the addressee of (12) is identified from the

⁶³ This morphological marking of genitive-possessive relations is limited to a restricted set of lexical items that only mark kinship relations such as wife, husband, father, etc. Notice that the suffix does not change regardless of the phi-features of the possessor NPs. In these types of lexical items, the possessor NP contains three units, that is, *muka-wa-ku* ‘wife of yours’ but morphophonemic processes determine that the reduced form *mu-ka-gu* pronounced.

discourse context; otherwise the sentence is neither truth or false. Now consider (13) below.

- (13) *Mu-alimo* *wa-ku* *ni* *mu-kuru* *muno*
 NC1-teacher NC1-your be NC1-old very
 Your teacher is very old

In (13) the possessive relation is marked by the (lexical) possessive pronoun *waku* 'your', which functions as the modifier of the NP *mu-alimo* 'teacher'. The latter is assigned the role of the possessee. The possessive pronoun *waku* 'your' is overtly inflected with a morpheme *wa-* to mark the phi-features of the head of the possessive NP to reflect the number and the grammatical class of the head of the possessive phrase. In this case, the modifier *waku* 'your' stands in agreement relation with the head of the NP, that is, the NP *mualimo* 'teacher'. In addition, the NP *mualimo* 'teacher' also stands in agreement relation with the post verbal adjective *mukuru muno* 'very old', in the sentence final position. This agreement is marked by the prefix *mu-* on both the noun *mualimo* 'teacher' and the adjective *mukuru* 'old'.

In Gichuka, the possessive meaning is also marked through syntactic realization as can be seen in (14) below.

- (14) *Ma-a-r-i* *na* *m-buri* *m-ingi* *muno*
 3PL-tns-have-fv with NC4-goats NC4-many very
 They had very many goats

In (14), the verb *-ri* 'have' imposes a possessive relation between the entity encoded by the third person prefix *ma-* 'they' and the NP *mburi* 'goats'. The prefix *ma-* 'they' encodes the possessor while the lexical NP *mburi* 'goats'

encodes the possessee. The agreement relation is limited in this type of construction in the sense that the verb *-ri* ‘have’ agrees only with a contextually salient NP marked by the prefix *m-*. This prefix marks the phi-features on an entity that is outside the logical form of (14). However, there is no agreement relationship between the phi-features of the prefix *m-* on the equitive verb *ri* and the possessee NP *m-buri* ‘goats’. In producing (14), the speaker has an entity anchored in the mind and therefore copies the features of the entity on the verb so that the morphological features of the verb are determined by an entity that is anchored in the discourse context rather than the NP that is located within the logical form position of the sentence. The entity encoded by the morpheme *m-* may bear either the feature [+ focus] or [– focus].⁶⁴ The topic-marking morpheme *a-* ‘they’ on the verb *-ri* ‘have’ overtly reflects the phi-features of the intended referent from the discourse context. If the NP that is assigned the possessor role is [+ plural] but the possessee is [–plural], the equitive verb *-ri* ‘have’ bears a plural marking and if the possessor is [+ singular], the verb bears a singular marking at the phonological form level. Further, consider the following additional syntactically constrained possessive expressions.

- (15) *Mbuku* *i-no* *ni* *y-a* *Munene*
 NC4-book NC4-this be NC4- ASSOC Munene
 This is Munene’s book

⁶⁴ For a full technical discussion of the assignment of topic and focus features, see section 4.1.1 above.

- (16) *A-a-ch-a* *na* *gi-ti* *ki-a* *baba*
 3SG-tns-come-fv with NC3-seat NC3-ASSOC father
 He has come with my father's seat

In (15), the possessor NP *Munene* is in a predicative position in relation to the possessee NP *mbuku* 'book', whereas in (16) the possessive relation involves the NPs *giti* 'chair' and *baba* 'father' with a preposition *kia* 'of' intervening between the two. In (16), the possessive marking preposition *kia* 'of' overtly agrees with the possessed NP *giti* 'chair' in terms of the phi-features. The same agreement relation holds for the relationship between the preposition *ya* 'of' and the possessed NP *mbuku* 'book' in (15). In addition, both the possessor NP *Munene* and the possessed NP *mbuku* 'book' must be lexically represented in the structure since the copula verb *ni* 'be' in (16) cannot allow the noun incorporation rules to apply in (15). In (16) the possessive phrase *gi-ti ki-a baba* 'my father's seat' occurs within the PP and therefore cannot be integrated in the verb *cha* 'come' due to the intervening preposition *na* 'with'. The derivation of (15) and (16) is similar only that in the latter, there is no merge between the specifier and the head of the VP due to the presence of the intervening pronoun *na* 'with'.

The relationships between the possessor NPs and the possessed NPs in (14), (15) and (16) above are syntactically constrained. Despite the fact that the theta roles are assigned to the NPs such as *mbuku* 'book', *Munene* and *giti*, 'chair' and *baba* 'father' in possessive constructions such as (15) and (16), the specification of the truth conditional meaning of the genitive expressions in

Gichuka goes beyond the rules of the logical form as demonstrated further by the following types of genitive NPs and clauses in the sections that follow.

4.2.2.1 R—expressions in *ni* predicative possessive clauses

In a typical *ni* predicative possessive clause, the possessive pronoun occupies the postverbal position while the R—expression, that is, the possessed NP, occupies the sentence initial position as can be seen in the following sentences.

(17)	<i>M-buri</i>	<i>i-no</i>	<i>ni</i>	<i>y-ake</i>
	NC4-book	NC4-this	be	NC4-his/her

(17a) This goat is his or hers

(17b) This is her/his goat

(18)	<i>Mbuku</i>	<i>i-no</i>	<i>ni</i>	<i>y-a</i>	<i>Murithi</i>
	NC4-book	NC4-this	be	NC4- ASSOC	Murithi

(18a) This book is Murithi's

(18b) This is Murithi's book

In (17), the possessor, that is, the pronoun *yake* 'his' is in a predicative position in relation to the NP *mburi* 'goat' both at the surface structure and the logical form. The possessive pronoun *yake* 'his' in (17) and the NP *Murithi* in (18) stand in an predicative position with respect to the NPs *mburi ino* 'this goat' and *mbuku ino* 'this book' in (17) and (18) respectively.

In (18), it is the NP *Murithi* that is assigned the role of possessor. On interpretation (17a) and (18a) the NPs *mburi* 'goat' and *mbuku* 'book' receive an indefinite description at the logical form while on interpretation (17b) and (18b), they receive a definite description. The choice of which interpretation is derived

from (17) and (18) is not constrained by any morpho-syntactic unit within the logical form configuration of the sentence. The specification of the particular semantic interpretation is resolved via reference to the context of the sentence. In deciding whether the meaning of (17) and (18) is indefinite as in (17a) or (18a) or definite as in (17b) or (18b), one must complete the logical form of (17) and (18) by referring to the context in which the sentence is produced. For instance, if there was no mention of the NP *book* in the preceding discourse, then (17a) or (18a) would be the most likely interpretation. However, if there was a mention of it and the NP was the most contextually accessible; this would result in the interpretations in (17b) and (18b). In such sentences as (17) and (18) context plays an important role in assigning the truth conditional meaning of the R-expressions in the sentence.

4.2.2.2 R-expressions in *-ri* possessive clauses

Just like the R-expressions in *ni* predicative possessive clauses, the meaning of the R-expressions in *-ri* possessive clauses also display semantic under-determinacy. This is partly due to the semantic ambiguity of the verb *-ri* and to the obligatory contextual factors that determine the truth conditional properties of the sentences within which these genitive expressions occur. In Gichuka, the postposed possessive expressions bear the possessed NP immediately preceded by the copula verb *-ri* 'have' as shown in (19).

- | | | | |
|-------|-----------------------------|-----------------|---------------|
| (19) | <i>Mu-alimo</i> | <i>a-a-r-i</i> | <i>ɲ-omba</i> |
| | Teacher | 3SG-tns-have-fv | house |
| (19a) | The teacher has a house | | |
| (19b) | The teacher is in the house | | |

(19) is ambiguous between (19a) and (19b). On interpretation (19a) the relationship between the two R—expressions, that is, the NP *mualimo* ‘teacher’ and the NP *ɲomba* ‘house’, is that of possession. The NP *mualimo* ‘teacher’ is assigned the possessor role whereas the NP *ɲomba* ‘house’ in the clause final position is assigned the possessee. On interpretation (19b), the NP *ɲomba* ‘house’ is assigned a locative semantic role at the level of logical form representation. In (19), the NP *ɲomba* ‘house’ is assigned both the possessee role as well as the location role. There is no morpho-syntactic unit in the logical form to guide the hearer on the choice of the interpretation of (19). A similar problem of semantic under-determinacy arises in the recovery of truth conditional meaning assigned to R—expressions in (20) below.

- | | | | |
|-------|--------------------------------|----------------|-------------|
| (20) | <i>Mu-alimo</i> | <i>a-a-r-i</i> | <i>ndaa</i> |
| | Teacher | 3SG-tns-have | louse |
| (20a) | The teacher has a louse on him | | |
| (20b) | * The teacher owns a louse | | |

In (20), it is clear that there is no relation of possession between the entity marked by the NP *mualimo* ‘teacher’ and the NP *ndaa* ‘louse’. The logical form yields a meaning that the NP *ndaa* is on the entity encoded by the NP *mualimo* ‘teacher’ and thus the latter NP is assigned the thematic role of location rather than that of the possessor. The interpretation in (20b) is unavailable in most contexts given the interlocutors’ encyclopaedic knowledge of *lice* and *people* according to which

people never own lice. The NP *mualimo* ‘teacher’ in (20) is assigned the semantic role of the location. This implies that the NP *ndaa* is located at the entity encoded by the NP *mualimo* ‘teacher’. On this account, the knowledge of the interlocutors limits the state of affairs in which the NP *mu-alimo* at the sentence initial position and the NP *ndaa* ‘louse’ can exist in a possessive relation.

The substitution of the NP *ndaa* ‘louse’ with another NP such as *nomba* ‘house’ as exemplified with (19) opens a possibility of genuine possessive relation. Thus, in order to determine the truth conditional properties of sentences such as (19) and (20), one needs to determine the context of the sentence. In this case, the locative and possessive distinctions for (20) are clear once the context of the sentence is determined. Further, consider the conversation in (21).

- (21) A: *M-bia* *i-ka-uma* *ku?*
 NC4-money NC4-fut-come from where?
 Where will the money come from?
- B: *Murithi* *a-r-i* *na* *m-bia*
 Murithi 3SG-have-fv with NC4-money
 Murithi has the money

B’s response encodes the possessive relationship that describes a state of affairs in a world where part of the possessions that the NP *Murithi* has is a subset of money, hence the relationship of possession emerges from the sentence. Here, the NP *Murithi* is assigned the role of possessor while the NP *mbia* ‘money’ is assigned the role of possessee. The second aspect of the truth conditional status of B’s response describes a state of affairs in a world where money is available.

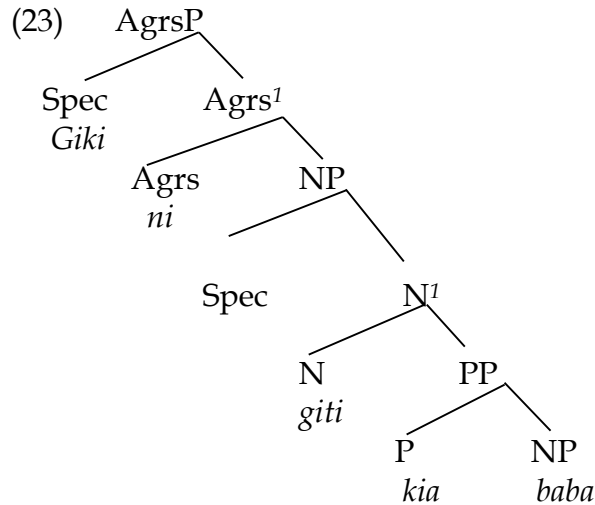
In this case, the NP *Murithi* is assigned the role of the source. In the recovery of the truth conditional meaning from the logical form of B's response, the hearer of B has to resolve the ambiguity between the meaning that *Murithi* has the money and the meaning that money is available. Decoding B's logical form derives the semantic interpretation that *Murithi* has money with him as well as money is available. Thus, the logical form of B is underspecified for these semantic distinctions and therefore the sentence must be enriched through contextual information to determine the actual truth conditional meaning intended by the speaker.

4.2.2.3 R-expressions in NP-a-NP possessive NPs

The NP-a-NP possessive NPs are those that bear two NPs and an intervening preposition *-a* between them. The leftmost NP within the possessive NP is assigned the semantic role of the possessee while the NP preceded by the preposition *-a* is assigned the role of the possessor, as can be seen in (22).

- (22) *Gi-ki* *ni* *gi-ti* *ki-a* *baba*
 NC2-this be NC3-seat NC3-ASSOC father
 This is my father's seat

In (22), the preposition *ki-a* 'of' selects the NP *baba* 'father' as its complement and introduces it into the derivation. This results in the logical form configuration in (23) below.



In (23), the NP *baba* ‘father’ is licensed in the lower sentence position and bears the semantic role of the possessor as assigned by the preposition *kia* ‘of’. The NP *giti* ‘chair’ raises to the [spec-Agrs] position of the sentence to check its case features. Once the NP *baba* ‘father’ merges with the preposition, it is assigned the theta role of the possessor via merge.⁶⁵ Since the semantic properties of the head of VP, that is, the copula *ni* ‘be’ in (22) disallow it from assigning theta roles at logical form, the NP *gi-ti ki-a baba* ‘my father’s chair’, functions as the complement of the determiner *giki* ‘this’ at the clause initial position. The entire possessive phrase *gi-ti ki-a baba* ‘my father’s seat’ functions as the subject complement.⁶⁶

⁶⁵ Radford (1997, 2004) following Chomsky (1995a) argues that theta roles are assigned via the operation merge.

⁶⁶ For a similar logical form representation of equative sentences in English, see Chomsky, (1995:175).

As can be seen in (22) and (23) there is no strict adjacency between the NP *giti* ‘chair’ and the preposition *-a* ‘of’. In Gichuka, modifiers of the possessed NP *giti* ‘chair’ in (22) and (23) can intervene between the preposition *-a* ‘of’ and the possessed NP *giti* ‘chair’ as can be illustrated by the grammaticality of (24).

- (24) *Gi-ki ni gi-ti gi-i ki-nene ki-a*
 NC2-this be NC3-seat NC2-det NC2-big NC3-ASSOC
baba
 father
 This is my father’s big seat

However, strict adjacency between the preposition *-a* ‘of’ and the possessor NP *baba* ‘father’ is required since the introduction of additional constituents between the preposition and the possessor NP results in the ungrammaticality, as shown in (25).

- (25) **Gi-ki ni gi-ti ki-a gi-i ki-nene baba*
 NC2-this be NC3-seat NC3-ASSOC NC2-det NC2-big father
 Intended meaning: This is my father’s big seat

The ungrammaticality of (25) results from the constituents *gi-i* ‘the’ and *kinene* ‘big’ intervening between the preposition *kia* ‘of’ and the possessor NP *baba* ‘father’. The presence of *gi-i ki-nene* ‘the big one’ between the preposition *kia* ‘of’ and the possessed NP *giti* ‘chair’ blocks the latter from merging with the former to yield a single syntactic unit at the level of the logical form, therefore resulting in the ungrammaticality.

In *NP—a—NP* possessive clauses, the possessive phrase expresses semantic under-determinacy, as can be seen in (26) below.

- (26) *A-gur-ir-e* *m-bicha* *y-a* *Mugure*
 3SG-buy-PERF-fv NC4-picture NC4- ASSOC Mugure
 He/she bought Mugure's picture
 (26a) NP — The picture of Mugure
 (26b) NP — The picture by Mugure

In (26) the NP *Mugure* is the complement of the preposition *ya* 'of'. The latter is the specifier of the PP *ya Mugure* 'of *Mugure*'. Sentence (26) has two possible interpretations. On interpretation (26a) the NP *Mugure* has the possessive relationship with the NP *mbicha* 'picture'. On this interpretation, the picture belongs to *Mugure*. On interpretation (26b), *Mugure* is the agent of the NP *mbicha* 'picture', which means that *Mugure* must have taken the picture herself. (26b) therefore represents a state of affairs in which the picture was taken by *Mugure*. In (26a) the relationship between the NP *mbicha* 'picture' and the NP *Mugure* is that of possessee and possessor while in (26b) it is the possessor and agent relation.⁶⁷ The logical form of (26) fails to provide an accurate prediction of the choice of interpretation for (26).

4.2.2.4 R—expressions in double—possessive NPs

This section focuses on the structure and meaning of the R—expressions in double—possessive NPs. The recovery of the meaning of the double

⁶⁷ The picture-type of possessive—genitive relations has been extensively deal with in a number of studies (see for instance, Chomsky, 1967, 1981, 1995a, Chafe, 1970 and Lyons, 1968 and Haegeman, 1994).

possessive NPs via reference to their syntactic representation leads to multiple semantic representations, as illustrated by (27).

- (27) *M-bicha* *y-a* *Muthomi* *y-a* *Mugure*
 NC4-picture NC4-ASSOC Muthomi NC4-ASSOC Mugure
 (27a) The picture of Mugure that Muthomi owns
 (27b) The picture of Mugure that Muthomi drew
 (27c) Muthomi's view of Mugure
 (27d) The picture of Muthomi that Mugure owns

The structure in (27) is ambiguous with regard to the role which the NP *Muthomi* plays vis-à-vis the NP *mbicha* 'picture'. In (27a) the NP *Muthomi* is the possessor and is also the agent in the possessive relation encoded by the logical form. In (27b) the NP *Muthomi* stands in an agent/theme relation with respect to the NP *mbicha* 'picture'. In (27c) the NP *Muthomi* stands in the theme/experiencer position in relation to the NP *mbicha* 'picture'. In (27d), the NP *Mugure* is assigned the thematic role of the possessor and is also the agent in the possessive relation encoded by the logical form just like the NP *Mugure* in (27a). The additional syntactic constituent, i.e., the PP *y-a Muthomi*, 'of *Muthomi*', fails to offer any restriction on the scope of the interpretive ambiguity. The actual meaning of the double possessive NPs is therefore determined by factors that are beyond the logical form constraints. What the above situation brings out is that there are different interpretations for the constituents that are dominated by the NP projection at the logical form of the possessive NPs. The context in which (27) is produced is the determining factor in the assignment of the theta role of the NPs within the possessive phrases. In (27), the ambiguity arises from the

number of theta roles that can be assigned to the NP *Muthomi* once it is merged with the preposition during the operation merge. In such derivations as (27), there is clearly a multiplicity of theta roles that the R-expressions within the possessive phrases receive. Whether the NP *Muthomi* is assigned agentive or experiencer thematic roles at the logical form level of representation is a matter that is not determined by the logical form configuration of the sentence.

4.2.3 R-expressions in active and passive sentences

It is assumed that a passive sentence bears the same truth conditional meaning as its active counterpart, as shown in (28) and (29) below.

(28) *Gitonga a-a-munt-ir-e Muiti na kabi*
 Gitonga 3SG-tns-stab-PERF-fv Muiti with NC9-knife
 Gitonga stabbed Muiti with a knife

(29) *Muiti a-a-munt-ir-w-e na kabi ni Gitonga*
 Muiti 3SG-tns-stab-PERF-pass-fv with NC9-knife by Gitonga
 Muiti was stabbed with a knife by Gitonga

The identity of the truth conditional meaning between the passive and its active counterpart arises from the assumption that at the logical form configuration, the NPs in passive and active sentences bear identical theta roles. Passivization is therefore viewed as a meaning preserving operation (Chomsky, 1995a: 115). For instance, in (28) the NP *Muiti* is the complement of the verb *munta* ‘stab’; it is assigned the theta role of the patient at logical form. Similarly, the NP *Muiti* in (29) is the complement of the verb *munta* ‘stab’ but has moved to the [spec-

Agro] position check its case features. In addition, it is assigned the semantic role of the patient through its merger with the verb.

There are active sentences in Gichuka that differ in meaning from their passive counterparts, as shown in (30) and (31).

- (30) *A-rithi* *ma-i-rug-ag-a* *wa* *mu-thenya*
 NC1-shepherds 1PL-obj-cook-IMP-fv every NC2-day
 The shepherds cook them every day
- (31) *I-rug-ag-w-a* *wa* *mu-thenya (ni a-rithi)*
 3SG-cook-IMP-pass-fv every NC2-day (by NC1-shepherds)
 They are cooked every day (by the shepherds)

The presence of the PP *ni arithi* ‘by the shepherds’ in the clause final position in (31) makes no semantic contribution to the meaning of the sentence. What determines the semantic passive meaning of the sentence is the assignment of the referent to the bound pronominal morpheme *i-* in (31). This morpheme *i-* can be assigned any semantic value that is different from that assigned to the bound pronominal morpheme *ma-* in (30). Since the morpheme *i-* does not specify a specific R-expression (noun), the sentence cannot be assigned a specific meaning by virtue of the presence of the bound pronominal morpheme on the verb *ruga* ‘cook’. For instance, *i-* limits the choice of the interpretation to nouns that belong to class 3 such as *indo* ‘things’, class 4 nouns such as *ɲama* ‘meat’, *ɲombe* ‘cows’ *m-buri* ‘goats’, *ndigu* ‘bananas, etc. There is nothing in the logical form configuration of either of the sentences to guide the hearer on the correct interpretation of the bound pronominal morpheme *i-*. For the hearer of (31) to arrive at the correct truth conditional meaning, he/she must complete the logical

form of the sentence with contextual information in order to specify the intended referent of the bound pronominal morpheme so as to arrive at the correct semantic interpretation that is identical with the one in (30).

Just as in (30) and (31) above, the truth conditional properties of (32) may not necessarily entail those of (33), unless they are determined by the context of the sentence.

(32)	<i>Ci-ana</i> NC1-children Children cook food	<i>i-i-rug-ag-a</i> 3PL-tns-cook-IMP-fv	<i>irio</i> food
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(33)	<i>Irio</i> Food Food is cooked (by children)	<i>i-rug-ag-w-a</i> 3SG-cook-IMP-pass-fv	(<i>ni ci-ana</i>) (by NC1-children)
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Sentences (32) and (33) raise a fundamental question with regard to the meaning equivalence in terms of truth conditions and entailments. Sentence (32) does not necessarily entail the truth of (33). It is not the case that (33) is always true in all contexts where (32) is true. For the hearer of (33) to arrive at the truth conditional meaning that is identical with that of (32) the referent of the *irio* ‘food’ referred in the sentence must be fully specified in (33) so that it matches with the specific food that the speaker of (32) intended at the time of producing the sentence. In both (32) and (33), the specificity of both the NP *irio* ‘food’ and the NP *ciana* ‘children’ is required. The intended meaning of the NP is attained by narrowing the reference of the concept *irio* ‘food’ by use of the discourse context so that it attains an interpretation that matches the one intended by the speaker.

Chomsky (1977:30) argues that in sentences such as (32) and (33), “there is a universal quantifier over the subject lurking somewhere in the interpretation.” According to Chomsky, the active sentence such as (32) derives the interpretation that all food is cooked whether or not this is the typical property of any food while the passive form says nothing about all food. On realizing that the truth conditional meaning of such sentences is context-dependent, Chomsky concedes that in sentences with generic indefinite NPs such as *irio*, there exist extra grammatical factors such as discourse context that determine the truth conditional status for sentences (1977:30, fn 11). As the reader can see, the specification of the meaning of the bound pronominal morpheme *i-* in (31) and the specification of the intended truth conditional meaning of the NPs such as *irio* ‘food’ in (33) require reference from the context. In this case, context plays a major role in determining the intended referent of the bound pronominal elements in order for the sentence to express the truth conditional meaning.

4.2.4 R—expressions in expletive sentences

Expletive sentences are also known as existential sentences. They bear the presupposition that the referent encoded by the R—expression introduced by the verb *ri* ‘be’ exists in the extra-linguistic world. In Gichuka, the expletive meaning is encoded by the morpheme *ku* ‘there’. A typical expletive sentence in Gichuka

begins with the expletive particle *ku* 'there' followed by the morpheme *na* 'with' and then by a lexical NP, as shown in (34).

- (34) *Ku-a-r-i* *na* *iria* *kabati-ni*
 There-tns-be-fv with milk cupboard-loc
 There was milk in the cupboard

The expletive *ku* 'there' is prefixed to the verb *ri* 'be' in the sentence initial position. The associate NP for the expletive particle is usually a common noun such as *iria* 'milk' in (34). It is located in the postverbal position within the prepositional phrase. There are factors that come into play when determining the truth conditional status of (34) even after all the grammatically driven saturation has applied. For instance, it is hard to derive from the logical form configuration what the relationship between the two NPs, that is, the NP *iria* 'milk' and the NP *kabati* 'cupboard' is in (34). If there were sprinkles of milk on cupboard walls and shelves, the speaker would produce (34).⁶⁸ Similarly, if there was a flask, a cup, a carton or a basin of milk in the cupboard, the speaker would still produce the same logical form. Whereas the English type languages break down the generic meaning of the mass nouns such as milk, hearers of Gichuka rely on the aspects of the context to specify the intended meaning for some of the sentences containing such nouns. This is a case of semantic indeterminacy on the part of the logical form since decoding the logical form does not yield a determinate truth evaluable semantic interpretation for the NP *iria* 'milk' in the

⁶⁸ See Carston, (2002) for a similar suggestion for English sentences.

sentence. Hence, the entire sentence cannot be specified as either being true or false by the virtue of its logical form. There is nothing in the logical form to specify what semantic interpretation of the NP *iria* ‘milk’ that the speaker of (34) intended. So, the sentence is not amenable to truth conditional analysis unless enrichment has applied. Further, consider (35) and (36) for a demonstration of how the hearer’s knowledge of the context of speech situation can specify the meaning of the R—expressions in expletive sentences.

- | | | | | |
|-------|--------------------------------|-----------|---------------|---------------|
| (35) | <i>Ku-a-r-i</i> | <i>na</i> | <i>m-buku</i> | <i>cukuru</i> |
| | There-tns-be-fv | with | NC4-book | school |
| (35a) | There was a book in the school | | | |
| (35b) | There were books in the school | | | |
| | | | | |
| (36) | <i>Ku-a-r-i</i> | <i>na</i> | <i>n-tumu</i> | <i>thoko</i> |
| | There-tns-be-fv | with | NC9-bean | market |
| (36a) | There was a bean in the market | | | |
| (36b) | There were beans in the market | | | |

(35) is ambiguous between (35a) and (35b). Given that the NP *m-buku* does not inflect for number features, the sentence is ambiguous between (35a) and (35b). Despite this ambiguity, the most likely interpretation is (35b). Given the hearers’ background knowledge of the *schools* and their relationship with *books*, the most likely interpretation of (35) is (35b) as opposed to (35a). Similarly, (36) is ambiguous between (36a) and (36b). Whereas (36a) is still a possible logical form, it is an unlikely interpretation in most contexts given the information that speakers and hearers have about markets.

Within the generative tradition, it is assumed that the expletive and the lexical NP appearing after the preposition form a chain. According to Chomsky (1995a), the expletive and the associate NPs must stand in certain structural position in relation to each other so that they form a chain in which the NP is the head of the chain. At logical form, both the head of the chain and the expletive receive identical interpretation. However, the Minimalist Program fails to account for the interpretation of (34–36) since the chain that is formed by the two logical form elements involve the NP and a bound morpheme ‘*ku-*’. Since the latter cannot occupy a logical form position, it cannot form a chain with the associate NPs and hence the logical form cannot account for the interpretation of the meaning of postnominal *-ri* constructions in Gichuka.⁶⁹ The meaning of such constructions cannot be explained by reference to only the syntax features of the language.

4.3 Summary to chapter four

This chapter showed that the presence of the R-expressions in sentences is determined by the morpho-syntactic features of the verbs of the sentences in question. Valence increasing processes such as the presence of benefactive and

⁶⁹ Chomsky (1995), following Burzio (1986), treats an expletive as a logical form affix for its associate NP and argues that when its syntactic features corresponds with those of its associate NP, it must fulfill the restrictive locality constructions at D-structure level of representation. In addition, he argues that the agreement for number features in expletive constructions occurs between the associate NP and the verb-rather than between the expletive and the verb.

causative morphemes require the presence of at least three R-expressions in sentences while valence decreasing processes such as object marking reduces the number of arguments occurring with transitive verbs.

The chapter brought to light how the logical form faced difficulty in accounting for the interpretation of the semantic roles assigned to R-expressions in sentences with double objects and possessive expressions. Specifically, the rules of grammar were shown to fail to resolve the semantic ambiguity that is characteristic of sentences with double objects as well as double possessives. The features of the context such as the hearers' knowledge of the subject of the discourse play an important role in determining the semantic equivalence between active and passive sentences with generic nouns.

Further, the lack of overt morphological agreement between the R-expressions immediately preceded by the copula verb *ri* 'be' in Gichuka expletive sentences means that the interpretation of the chain between the expletive particle *ku-* and the associate NP (R-expression) cannot be adequately accounted for within the Minimalist Program (Chomsky, 1995a). As has been shown, the interpretation of the meaning of the R-expressions in expletive sentences is largely determined by the context due to the fact that context plays an important role in determining the truth conditional meaning of these sentences.

Finally, the study has demonstrated that definite and indefinite description for R-expressions is determined by the context of sentences.

Whether an R-expression receives a definite or indefinite interpretation is determined by the context of the sentence. Finally, it has emerged that the process of reference assignment and enrichment of sentences with R-expressions play an important role in determining the truth conditional meaning of the sentences.

CHAPTER FIVE

**QUANTIFIED EXPRESSIONS,
ELLIPSIS AND UNARTICULATED CONSTITUENTS**

In chapter four, the study analyzed the structure and truth conditional meaning of the R-expressions in Gichuka. It emerged that their distributional properties and truth conditional meaning were constrained by the context within which sentences containing them were produced, as the logical form alone could not adequately account for some of the R-expressions presented in the chapter.

The present chapter analyzes the structure and the semantic truth conditional meaning of quantified expressions, elliptical constructions and unarticulated constituents in Gichuka. It is divided into three main sections. The first section provides a brief description of the structure of quantified expressions and the syntactic and pragmatic rules that account for their truth conditional meaning. The second section discusses the structure of elliptical constructions and their truth conditional meaning. The third section analyzes unarticulated constituents and their contribution to the truth conditional meaning of the sentences. Given that all the three structures have a bearing on the truth conditional meaning of the sentences within which they occur, the chapter analyzes the syntactic and pragmatic rules that constrain the truth

conditional meaning of the sentences within which they occur, with a view to investigate the interface of syntax and pragmatics in understanding sentences.

5.1 Quantified expressions in Gichuka

A quantifier is a functional category with a quantificational feature matrix [+ quant] whose function is to denote quantity. There are different quantifiers in Gichuka as can be seen in the table 1 below.

Table 1: Quantifiers in Gichuka

Quantifier	Gloss
<i>-onthe</i>	all
<i>wa</i>	every/each
<i>-mwe</i>	some
<i>-ingi</i>	many
<i>nini</i>	few/a few

A quantified expression is an expression that consists of an NP which occurs in the form of a variable bound by a universal quantifier and whose interpretation is determined by the scope of the quantification of the universal quantifier (Huang, 1994:129). (1a–f) are examples of quantified expression in Gichuka.

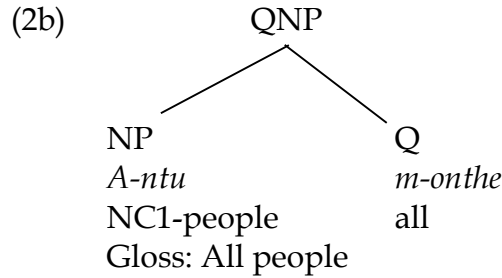
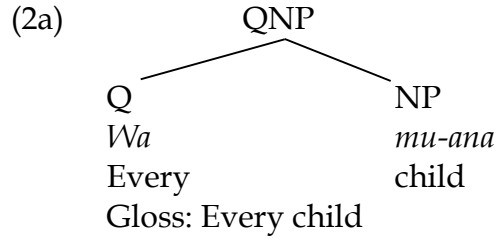
- (1a) *I-ti* *ci-onthe*
 NC3-chairs NC3-all
 Gloss: All chairs
- (1b) *Mi-ti* *y-onthe*
 NC2-tree NC2-all
 Gloss: All trees
- (1c) *Wa* *Gi-ti*
 Every NC3-chair
 Gloss: Every Chair

- (1d) *Wa* *mu-ti*
 Every NC2-tree
 Gloss: Every tree
- (1e) *A-ntu* *ma-mwe*
 NC1-people NC1-some
 Gloss: Some people
- (1f) *Mi-ti* *mi-ngi*
 NC2-trees NC2-many
 Gloss: Many trees

In (1a–b), the universal quantifier *-onthe* ‘all’ has the feature specification [+ plural]. Hence, the NP it quantifies bears the semantic feature [+ plural] by virtue of agreement rules that require that the phi-features of the controller (noun) be copied on the target (quantifier) (Ackema et al, 2006:1). The quantifier *wa* ‘every’ in (1c–d) quantifies over the NPs that have the feature [– plural]. The quantifiers *-mwe* ‘some’ and *-ingi* ‘many’ in (1e–f) quantify over NPs with the feature specification [+ plural].

5.1.1 The structure and semantics of quantified expressions

In Gichuka, quantified expressions display systematic syntactic, semantic and pragmatic properties. The determination of their truth conditional meaning requires reference to these properties. As a functional category, a quantifier selects an NP as its complement in a derivation forming a quantified NP (henceforth, QNP) headed by a quantifier, as shown in (2a) and (2b).

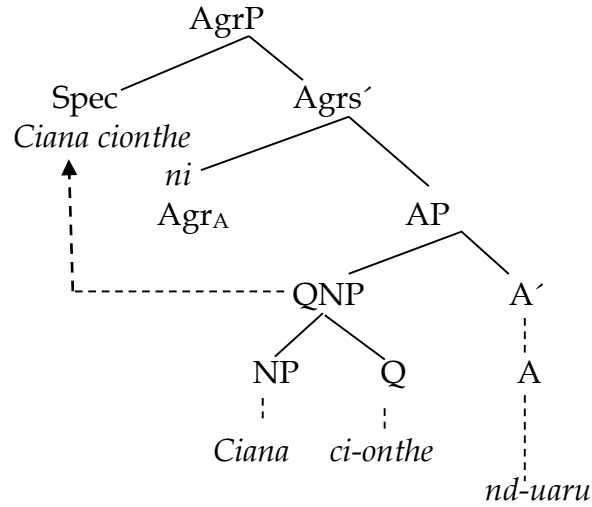


In (2a), the quantifier *wa* 'every' precedes the NP *muana* 'child' which it quantifies whereas in (2b) it is the NP *antu* 'people' that precedes the quantifier that quantifies it. In other words, the quantifier *wa* 'every' occupies a prenominal position while the quantifier *-onthe* 'all' occupies a postnominal position. A QNP can occupy a sentence initial position followed by a copula verb *ni* and then a subject complement, as shown in (3).

(3) *Ci-ana* *cionthe* *ni* *nd-uaru*
 NC1-children NC1-all be NC1-sick
 All children are sick

Following the structures in (2a) and (2b) above, (3) has the logical form configuration shown in (4).

(4)

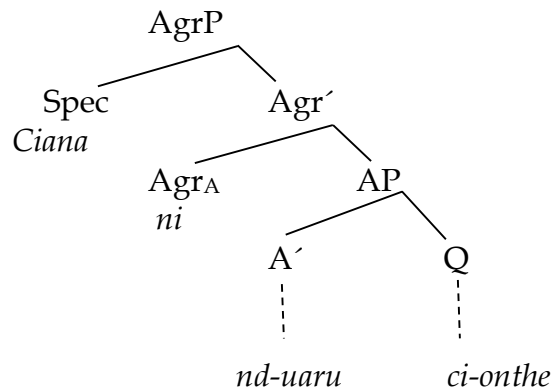


In (4), the QNP *ciana cionthe* ‘all children’ raises to the [Spec of AgrP] position to check its case features, thus creating an adjective–NP agreement structure. The Adjective (A) *nduaru* ‘sick’ merges with the QNP *ciana cionthe* ‘all children’ to form the adjective phrase (AP) resulting in (4).

The position of the quantifier in relation to that of the NP it quantifies may vary, is illustrated in (5a) below.

- (5a) *Ci-ana* *ni* *nd-uaru* *ci-onthe*
 NC1-children be NC1-sick NC1-all
 The children are all sick

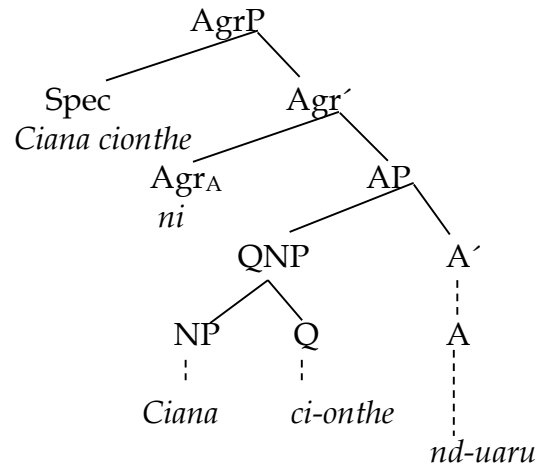
(5b)



Unlike in (4), where the quantifier *cionthe* 'all' immediately precedes the NP it quantifies, the NP *ciana* 'children' occupies the [Spec-Agrs] position of the sentence despite the fact that the quantifier *ci-onthe* 'all' occupies the sentence final position in (5a) and (5b). (5a) and (5b) are examples of discontinuous (floating) QNPs in the sense that there are intervening constituents, that is, the copula *ni* 'be' and the adjective *nduaru* 'sick' that occur between the quantifier and its complement NP.

The structural relationships between a quantifier and its complement NP is that of a c-command, as illustrated in (6a-c).⁷⁰

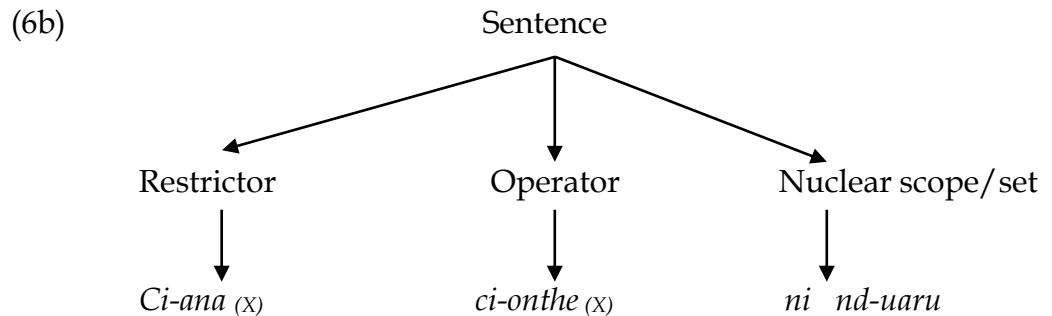
(6a)



In (6a) the node QNP dominates both the NP *ciana* 'children' and the quantifier *cionthe* 'all'. The quantifier *cionthe* c-commands the NP *ciana* given that both the quantifier and the NP are dominated by the same node, that is, the QNP node,

⁷⁰ According to Radford (1988:114) "X c-commands Y iff (= if and only if) the first branching node dominating X dominates Y, and X does not dominate Y nor Y dominate X (a branching node is a node which branches into two or more immediate constituents)."

and neither of them dominates the other. (6a) bears the semantic representation in (bb).



In (6b), the operator *cionthe* ‘all’ relates the restrictor set *ciana* ‘children’, usually a common noun, and the nuclear scope (predication set) *ni nduaru* ‘are sick’. The restrictor set is the set *ciana* ‘children’ which is encoded by the NP *ciana* ‘children’. From a truth conditional perspective of meaning, (6b) satisfies truth conditions if the set of *ciana* ‘children’ is included in the set that was sick. Further, the quantifier *cionthe* ‘all’ in (6b) binds the variable, that is, the NP *ciana* ‘children’ in the restrictive clause as well as the other variables within the nuclear scope. Returning to (6a), the first node c-commanded by the quantifier *cionthe* ‘all’ in the lower QNP is the restrictive node which specifies the set of entities, that is, *ciana* ‘children’, that is under restriction by the quantifier *cionthe* ‘all’.

On the other hand, sentences with discontinuous (floating) quantifiers such as (5a) bear the semantic structure demonstrated with (7) below.

double—object constructions. Hence, it is assigned the beneficiary of the action encoded by the verb *gura* ‘buy’.

Only a common noun specified for the feature [+ concrete, + common] can occupy the position of the restrictive node regardless of its position in relation to the operator, as indicated by the ungrammaticality of (11–12).

(11) **Wa* *Ciamati* *ni* *mu-ruaru*
 Every *Ciamati* be NC1-sick
 Intended meaning: Every person called by the name *Ciamati* is sick

(12) * *Wa* *ki-thomo* *ni* *ki-ega*
 Every NC3-education be NC3-good
 Intended meaning: Every aspect of education is good

In (11) the quantifier *wa* ‘every’ has scope over a proper noun *Ciamati* whereas in (12) it has scope over the abstract noun *kithomo* ‘education’, thus rendering the sentences ungrammatical. (11) is ungrammatical because the quantifier *wa* has scope over an NP that lacks logical properties while in (12), the quantifier has scope over an NP that has the feature [– concrete].⁷¹ Additionally, a *wa*+NP expression cannot co-occur with collective predicates, as shown by the ungrammaticality of (13) below.

(13) **Wa* *mu-alimo* *ma-keth-an-ir-i-e* *na*
 Every NC1-teacher 3P-greet-rec-PERF-mood-fv with
a-ciari
 NC1-parents
 Intended meaning: Every teacher greeted the parents

⁷¹ See Sperber and Wilson, (1986, chapters 3 and 4) for a thorough discussion of the relation of inferences and logical properties of NPs. According to these authors, proper nouns lack semantic input and hence are devoid of logical properties.

The ungrammaticality of (13) results from the fact that the bound reciprocal morpheme *-an* marks the predicate [+ plural], which disallows the presence of the *wa*+NP form of a quantified NP in the sentence initial position.

QNP's with *wa* 'every' always co-occur with distributive predicates. These are predicates that require that the NP collating with them bear the feature matrix [+singular], as illustrated in (14).

- (14) *Wa mu-alimo a-mi-gur-ir-e ma-gana*
 Every NC1-teacher 3SG-obj-buy-PERF-fv NC5-hundred
ma-iri
 NC5-two
 Every teacher bought it at two hundred shillings

The quantifier *wa* 'every' expresses a distributive (singular) meaning and therefore can be classified as a portmanteau lexical item which, according to Gill (1995: 322), means that the quantifier combines "the quantificational force of a universal quantifier with an additional denotation pertaining to distributivity" within the same sentence. The quantifier *wa* 'every' licenses a predicate with a number feature [+ singular] within the same sentence. Otherwise the sentence would be ungrammatical, as exemplified in (13).

5.1.2 The truth conditional meaning of quantified expressions

Unlike the R-expressions which designate individual entities in the universe of discourse, the QNP's denote sets of individuals. Determining the truth conditional meaning of the latter requires mapping the s-structure representations to the logical form representations (Huang, 1995:129 and Larson

and Segal, 1995:232). This property of the QNPs presents great difficulty in accounting for the meaning of the sentences with QNPs since sentences containing these expressions are characterized by various forms of semantic under-specification. It is these aspects of semantic under-specification that are highlighted in the following paragraphs.

5.1.2.1 Definite versus indefinite meaning

Common nouns that occur with the universal quantifier *onthe* 'all' bear the semantic feature [+ plural]. However, there still exists semantic ambiguity with regard to the feature [+ definite] or [- definite] of the head of the NP in a QNP such as (15).

- | | | | | |
|-------|---------------------------------|----------------|-----------------------|---------------|
| (15) | <i>A-rimo</i> | <i>m-onthe</i> | <i>ma-tindik-ir-e</i> | <i>n-gari</i> |
| | NC1-teachers | NC1-all | 3PL-push-PERF-fv | NC4-car |
| (15a) | All teachers pushed the car | | | |
| (15b) | All the teachers pushed the car | | | |

In (15), there is no morphological particle within the logical form to determine whether the choice of interpretation converges with either (15a) or (15b). In this case, the hearer of (15) relies on contextual information to determine the scope of the universal quantifier *monthe* 'all', that is, whether it takes scope over all the individuals in the teaching profession or a set of individuals within the set referred to by the NP *arimo* 'teachers'. In addition, (15) presents additional multiple semantic values in that it is ambiguous between whether the interpretation of the NP *arimo* 'teachers' coincides with a states of affairs in which all the teachers pushed the car together and simultaneously or whether

they pushed the car separately. The truth conditional meaning of (15) is also dependent on when and how the teachers pushed the car. Whatever the interpretation, the hearer relies on the context of the sentence to identify the intended meaning of (15). The logical form of sentences such as (15) lacks a morphological unit to determine whether the entire QNP *arimo monthe* ‘all teachers’ has a contextually salient class of teachers as in (15b) or whether there is no contextually salient QNP, as in (15a).

The saliency of the NP in context plays a role in determining the truth conditional meaning of sentences such as (17) below.

(16) *Mu-alimo a-ch-ir-e na mu-bira cukuru*
 NC1-teacher 3SG-come-PERF-fv with NC2-ball school
 The teacher came to school with a ball

(17) *U-a-ring-ir-w-e ni a-ntu m-onthe*
 3SG-tns-PERF-pass-fv by NC1-people NC1-all

(17a) It was kicked by all people

(17b) It was kicked by all the people

Both the interpretation in (17a) and that in (17b) imply that all the people in the universe kicked the ball— an interpretation that is unlikely in any context. However, if (17) is interpreted in the context of (16), then it would be understood as referring to people in the specific school where the entity encoded by the NP *mu-alimo* in (16) was at the time of the utterance, rather than the proposition that all the people in the universe kicked the ball. Sentence (16) provides a bridging assumption (immediate context) for the assignment of the intended referent for the agent of the action of the verb *ringa* ‘kick’ in (17). This is a case of bridging

reference assignment (Matsui, 1992:253).⁷² Thus, the truth conditional meaning of (17) is specified by the context provided by the preceding sentence in (16).

One additional source of difficulty in accounting for the meaning of quantified sentences has to do with the distinction between generic and non-generic meaning, as demonstrated by (18).

- | | | | | |
|-------|---------------------------|-----------------|--------------------|------------|
| (18) | <i>N-thegere</i> | <i>ci-onthe</i> | <i>i-ri-chag-a</i> | <i>uki</i> |
| | NC4-badgers | NC4-all | 3PL-eat-IMP-fv | honey |
| (18a) | All badgers eat honey | | | |
| (18b) | All the badgers eat honey | | | |

The logical form of (18) derives two semantic interpretations, that is, (18a) and (18b). This means that the meaning of the entire QNP (18) is ambiguous between the generic meaning, that is, the natural capacity of all badgers to eat honey, as represented by (18a), and the meaning in which a set of badgers within the universal set of badgers is being referred to (nongeneric meaning) as in (18b). On interpretation (18b), the sentence bears the interpretation of a contextually salient set of badgers within the universal set, that is, a particular pragmatic group of badgers which are identifiable within the mind of the speaker or within the discourse context at the time of producing the sentence. On this interpretation, the NP *nthegere* 'badger' that is quantified by the universal quantifier *cionthe* 'all' in the sentence initial position refers to a contextually

⁷² See Matsui (1992:253) for a full technical discussion of bridging reference assignment in English sentences. In chapter six, a thorough discussion of how the immediate context is assessed in bridging reference assignment for NPs in Gichuka will be discussed.

salient entity anchored in the context or the universe of discourse. The distinction between the meaning expressed by (18a) and that expressed by (18b) shows that Gichuka lacks an overt logical form correlate to grammaticalize the generic and nongeneric interpretations of QNPs. The absence of any logical form morphological unit to grammaticalize these semantic distinctions leaves the language users with the option of using the contextual information such as the knowledge of the discourse to arrive at the intended meaning of the sentence.

In addition to specifying the [+generic] and [–generic] distinctions for the universal quantifier *-onthe* ‘all’, context, rather than the context-invariant logical form alone, specifies the scope and meaning of the quantifier *wa* ‘every’ in structures such (19) below.

- | | | | | | | |
|------|---------|---|-----------------------------|---|---------------------------------|----------------------------|
| (19) | S1 | <i>Munene</i>
Munene
Munene and Mukundi were sick | <i>na</i>
and | <i>Mukundi</i>
Mukundi | <i>m-a-r-i</i>
3PL-tns-be-fv | <i>a-ruaru</i>
NC1-sick |
| | S2 | <i>Wa</i>
Every
<i>nd-awa</i>
NC4-medicine | <i>mu-ntu</i>
NC1-person | <i>a-a-be-er-w-e</i>
3SG-tns-give-PERF-pass-fv | | |
| | (19S2a) | Every person was given the medicine | | | | |
| | (19S2b) | Each person was given the medicine | | | | |

In (19S2) the quantifier *wa* ‘every’ does not have scope over all the individuals in the universe but only the two NPs, that is, *Munene* and *Mukundi* that are mentioned in (19S1). So, (19S2a) is ruled out in the context of (19S1). Given that the referent of the QNP *wa muntu* ‘every person’ can be identified from the preceding sentence, the quantifier *wa* ‘every’ expresses a definite meaning, that

is, ‘each’. If there were no preceding sentence, the entire QNP *wa muntu* ‘each/every person’ would be semantically ambiguous between the definite and indefinite reading as illustrated with (19S2a) and (19S2b). In this case, the preceding sentence restricts the domain (scope) of the quantifier, specifying it for the feature [+definite] rather than the [–definite] meaning. Here, the context provided by (19S1) determines not only the truth conditional meaning of (19S2) but also its semantic interpretation by narrowing it to refer to only the NPs *Munene* and *Mukundi* mentioned in (19S1). Without this restriction, the quantifier *wa* ‘every’ implies a state of affairs in which every person in the universe was given medicine – an interpretation that would be unlikely in most contexts.

5.1.2.2 Dual versus plural distinctions

The rules of grammar further encounter difficulties in accounting for the way in which the speakers of Gichuka specify the meaning of the universal quantifier *-onthe* ‘all’ in sentences such as (20a) and (20b).

- (20a) S1 *Kendi a-a-mu-gur-ir-e nd-igu*
 Kendi 3PL-tns-obj-buy-PERF-fv NC4-banana
 na mu-gate
 and NC2-bread
 Kendi bought him a banana and a loaf of bread
- S2 *Muiti a-a-ri-ir-e ci-onthe*
 Muiti 3SG-tns-eat-PERF-fv NC7-all
 Muiti ate all of them/everything

- (20b) S1 *Kendi a-a-mu-gur-ir-e* *nd-igu* *i-tano*
 Kendi 3SG-tns-obj-buy-PERF-fv NC4-bananas NC4-five
 Kendi bought her five bananas
- S2 *Muiti a-a-ri-ir-e* *ci-onthe*
 Muiti 3SG-tns-eat-PERF-fv NC4-all
 Muiti ate all of them

The quantifier *cionthe* ‘all’ in (20aS2) represents a state of affairs in which the individual encoded by the NP *Muiti* ate both the *banana* and the *loaf of bread*. This meaning is specified for the feature [+ dual] at the level of the sentence meaning since the quantifier has scope over only two entities. On the other hand, the quantifier *cionthe* ‘all’ in (20bS2) represents a state of affairs where the NP *Muiti* ate all the *bananas* and therefore its reference include more than two entities, that is, bananas. In the latter meaning, the quantifier is specified for the feature [+ plural]. The [+dual] and [+ plural] distinction of the meaning of quantifier *cionthe* ‘all’ in (20a) and (20b) is exemplified by the interpretations in (20c) and (20d) respectively.

- (20c) She ate both of them
 (20d) She ate all of them

(20c) and (20d) show that the meaning of the quantifier *both* and *all* in Gichuka is expressed through a single syntactic unit at logical form, that is, the quantifier *-on the* ‘all’. There is no logical form correlate corresponding to the semantic interpretation of [+ dual] in (20c) and another one corresponding to the meaning of [+ plural] in (20d). The truth conditional meaning of the quantifier *onthe* ‘all’ in (20aS2) and (20bS2) is determined by the structure of the preceding sentences,

that is, (20aS1) and (20bS1) respectively. (20aS1) and (20bS1) provide the necessary context for the pragmatic enrichment of the logical form of (20aS2) and (20bS2) respectively in order to derive an explicature that expresses the full propositional content whose truth conditional value can be specified as either true or false depending on the context in which the sentence is produced. Whereas the English-type languages grammaticalize [+dual] and [+plural] distinctions through lexical particles such as *both* and *all*, Gichuka exploits discourse parameters to decide on the truth conditional meaning of sentences requiring these distinctions. (20aS2) and (20bS2) are interpreted either as having a [+ dual] meaning or [+ plural] meaning depending on the discourse context within which the sentence is produced.

In contrast to (20aS2) in which the preceding sentence (linguistic context) specifies the feature matrix of the quantifier *wa* 'every' as [+ dual], the preceding sentence in (21S1) below specifies the feature matrix of the quantifier *wa* as [+plural] in (21S2).

(21)	S1	<i>η-ombe</i> NC4-cows	<i>ci-onthe</i> NC4-all	<i>ci-a-r-i</i> 3PL-tns-be-fv	<i>nd-uaru</i> NC4-sick
	(21S1a)	All the cows were sick			
	(21S1b)	All cows were sick			
	S2	<i>Wa</i> Every <i>nd-awa</i> NC4-medicine	<i>η-ombe</i> NC4-cow	<i>y-a-be-er-w-e</i> 3SG-tns-give-PERF-pass-fv	
		Every cow was treated			

Sentence (21) is semantically ambiguous between the generic meaning in (21S1a) and the non generic meaning in (21S1b). Similarly, the QNP *wa η-ombe* ‘every cow’ in (21S2) is semantically underspecified in terms of whether it has scope over all the cows that there are in the universe or the specific cows anchored in the mind of the speaker at the time of producing (21S2). In the latter case, it quantifies a specific set of cows which were sick at a specific point in time as specified by the predicate *ci-a-r-i nd-uaru* ‘were sick’ of the preceding sentence in (21S1). So, (21S1) narrows the domain of the universal quantifier by restricting the semantic meaning of the entire sentence in terms of its truth conditional meaning as well as its entailment relations. It provides a discourse context that specifies the sets of objects that the quantifier *wa* ‘every’ in (21S2) has scopes over, thereby specifying the truth condition meaning of the sentence.

5.1.2.3 Proportional versus cardinal meaning

Speakers of Gichuka express both proportional and cardinal meaning using identical logical form configurations. The hearers’ knowledge of syntactic structure of the sentence alone does not necessarily lead to the derivation of the truth conditional meaning, as can be seen from the meaning of the quantifier *mi-angi* ‘many’ in (22).

(22)	<i>Ci-ana</i>	<i>mi-angi</i>	<i>ni</i>	<i>nd-uaru</i>
	NC1-children	NC1-many	be	NC1-sick
	Many children are unwell			

Sentence (22) has two interpretations: a proportional and a cardinal one. According to the former, a large percentage of the children are unwell whereas according to the latter the number of students who are sick is large enough, that is, above the standard.⁷³ In (22), there is no morphological unit within the logical form of the sentence to guide the hearer as to whether the speaker intends either a proportional reading or a cardinal one. In determining the intended meaning of (22), the logical form of the quantified NP *ci-ana mi-ngi* ‘many children’ in (22) has to be enriched by reference to the context in which the entire sentence is produced in order to derive an explicature that specifies the intended meaning of the sentence. A similar semantic under-specification of the meaning of the quantified NP *η-ombe i-mwe* ‘some cows’ can be seen in (23).

- (23) *Nda-me-r-a η-ombe i-mwe ni ci-u-ur-ir-e*
 1SG-obj-tell-fv NC4-cows NC4-some be 3PL-tns-lose-PERF-fv
 I told them that some cows got lost

In (23), the quantifier *i-mwe* ‘some’ is semantically indeterminate between the state of affairs where a percentage of cows could not be traced and one in which a number of cows could not be traced. The semantics of the quantifier *imwe* ‘some’ implies that less than the whole set of the entity encoded by the NP *ηombe* ‘cows’ got lost. Similarly, the semantics of the quantifier *mingi* ‘many’ in (22) implies that less than the whole set of the NP *η-ombe* got lost. The actual number or percentage of the cows that got lost can only be determined once the full

⁷³ See (Partee, 1989) for a similar analysis of proportional versus cardinal meaning in English.

context is determined. There is nothing within the logical form to guide the hearer one the correct interpretation of (22) and (23).

5.1.2.4 Negation in quantified sentences

When quantified expressions have the feature [+neg], determining their truth conditional properties requires reference to the context, as can be seen in (24–25).

- | | | | | | |
|------|---|-------------------------------|-----------------------------------|-------------------|---------------------|
| (24) | <i>Mi-chuba</i>
NC2-bottles
All bottles have milk | <i>y-onthe</i>
NC2-all | <i>i-i-r-i</i>
3PL-tns-have-fv | <i>na</i>
with | <i>iria</i>
milk |
| (25) | <i>Guti</i>
No
There is no bottle that has milk | <i>mu-chuba</i>
NC2-bottle | <i>u-r-i</i>
3SG-have-fv | <i>na</i>
with | <i>iria</i>
milk |

The quantifier *yonthe* ‘all’ in (24) encodes the meaning that all the bottles that there are in the universe are true as long as they are applicable to the property expressed by the predicate *iiri na iria* ‘they have milk’. Therefore the sentence is true if and only if the QNP *mi-chuba y-onthe* ‘all bottles’ bears the property expressed by the predicate *iiri na iria* ‘they have milk’. This interpretation fails to express a true proposition as the speaker does not intend to represent a state of affairs in which all the bottles there are in the universe are empty but has specific bottles anchored in the context that he is making reference to. In (25) the quantifier *guti* ‘no’ represents a state of affairs in which there is no bottle in the universe that meets the description of having milk, as provided by the predicate *u-r-i na iria* ‘has milk’. This interpretation underspecifies the semantic meaning

of (25) since it fails to encode the specific referent for the NP *muchuba* ‘bottle’ that is intended by the speaker at the time of producing (25). In uttering (25) the speaker has a specific class of bottles in mind that meets the descriptive content expressed by the predicate *u-r-i na iria* ‘has milk’. Therefore, interpreting such sentences requires the hearers to enrich the logical form in order to derive an explicature that specifies the proposition intended, that is, identify the referent (pragmatic set of bottles) encoded by the NP *mi-chuba* ‘bottles’ so as to restrict the domain of the universal quantifier *y-onthe* ‘all’ to this specific class as intended by the speaker at the time of producing (24). In most of the verbal exchanges, speakers tend to use incomplete syntactic structures and leave the hearers to enrich them to explicatures such as (26) below.

- (26) *Guti mu-chuba u-r-i na iria [kabati-ni]*
 No NC2-bottle 3SG-have-fv with milk [cupboard-loc]
 There is no bottle that has milk [in the cupboard]

In (26), the additional location constituent *kabati-ni* ‘in the cupboard’ specifies that the class of bottles that the speaker has in mind at the time of uttering (26) are the specific bottles located in the cupboard rather than the state of affairs in no bottle in the universe has milk. Therefore, the explicature in (26) is a truth conditional proposition specifying the intended pragmatic class of bottles intended by the speaker of (25) and hence contributes to the derivation of the truth conditional content of the sentence.

An additional example in which the context specifies the truth conditional meaning of sentences containing QNPs is (27).

- (27) *A-ntu* *m-onthe* *ma-ikar-ag-a* *Weru*
 NC1-people NC1-all 3PL-stay-IMP-fv Weru
 All people [in this place] were living in Weru

Sentence (27) represents a state of affairs where any NP that is semantically [+ human] lived in *Weru*. From the syntactic–semantic accounts of universal quantifiers, one would argue, following Larson and Segal (1995:233), that the QNP *antu monthe* ‘all people’ implicitly counts or quantifies names. According to Larson and Segal (1995:232–3), the truth conditions of quantified sentences can be “spelt out in terms of the truth conditions of elementary predication sentences.” This means that a QNP such as *antu monthe* ‘all people’ is true just in case for every proper name that is the name of an entity with the feature [+ human], the sentence formed by replacing the QNP with the proper noun is true (ibid.). This proposal implies that the QNP *antu monthe* ‘all people’ is applicable to any proper name that represents an NP that is semantically [+ human]. If this proposal is right, sentences containing QNPs such as (27) would be devoid of any truth conditional content (false) since there is no likely context in which for every NP with the feature [+ human], that NP is in the location encoded by the NP *Weru* at the time of producing the sentence. As Huang suggests, the truth conditional meaning of sentences with QNPs such as (27) cannot be determined in the same way as sentences containing ordinary NPs since in these sentences, the predicate cannot be said to be predicated of an individual and the truth condition meaning of the sentence cannot be determined in the same way (Huang, 1995:128).

5.2 Elliptical constructions in Gichuka

An elliptical construction is a well-formed sentence some of whose constituents are not represented at the phonological form level of representation but it is a full sentence with all the constituents represented at some underlying level (Culicover and Jackendoff, 2005: 234). Ellipsis is therefore a phenomenon in which one or more elements of a sentence are omitted at the s—structure by virtue of the conditions on economy of the derivations. The phenomenon of ellipsis involves missing syntactic constituents at the level of surface structure representation as shown in section 5.2.1 below.

5.2.1 Types of elliptical constructions

Different constituents can be omitted from the sentence without yielding a deviant meaning at the level of the interpretation. For instance, in (28) below, a verb internal argument is omitted without interfering with the grammatical or semantic completeness of the sentence.

(28)	<i>Munene</i>	<i>a-r-ir-e</i>	<i>irio</i>	<i>indi</i>	<i>Mukundi</i>
	Munene	3SG-eat-PERF-fv	food	but	Mukundi
	<i>a-t-a-ri-a</i>		<i>irio</i>		
	3SG-neg-tns-eat- fv		food		
	She ate food but Mukundi didn't				

In (28), it is only the NP *irio* 'food' that is omitted from the sentence leaving the TP *ataria* 'he didn't eat' without a complement NP. This is an example of an NP or argument ellipsis in Gichuka.

Another phenomenon of ellipsis, known as gapping, involves the omission of the verb at the level of the s—structure representation of the sentence as exemplified with (29) below.

- (29) *Kaguta ni mu-alimo nawe Kirimo #i mu-rogi*
 Kaguta be NC1-teacher but Kirimo be NC1-witch
 Kaguta is a teacher but Kirimo is a witch

In (29), verb *ni* ‘be’ was omitted from the sentence leaving only the NP *Kirimo* and the NP *murogi* as the only constituents preceded by the coordinating conjunction *nawe* ‘but’. In (29), only the verb *ni* ‘be’ of the second IP receives a null phonological representation at the interface leaving the lower clause without a verb.

Ellipsis also involves elements of the sentence that fall within the TP, as can be seen in (30) below.⁷⁴

- (30) *Ku-u-r-i mu-ntu a-thung-ir-e η-omba indi*
 There-tns-be-fv NC1-person 3SG-enter-PERF-fv NC4-house but
tu-t-i-ich-i nuu ~~a-thung-ir-e~~ η-omba
 1Pl-neg-tns-know-fv who 3SG-enter-PERF-fv NC4-house
 There is someone who entered the house but we do not know who
 [~~the person was/entered the house~~]

In (30), the entire TP, *a-thung-ir-e η-omba* ‘he entered the house’ is omitted from the sentence. As can be seen in (30), the morphological features of Gichuka play a crucial role in determining the constituents that are amenable to ellipsis rules and those that are not. For instance, it is the verb *thungira* ‘enter’, its tense feature

⁷⁴ The syntactic constituents that are elided at the phonological form level of interpretation will be indicated using a strikethrough.

a-, and the topic-marking morpheme *a-* that are omitted from the elliptic sentence, thus making the whole TP fall within the ellipsis site. Thus, the ellipsis site in (30) involves both the arguments of the verb and the verb itself as opposed to the verb alone. This type of ellipsis is the TP and what about VP ellipsis. Sentence (31) below demonstrates the types of ellipsis that involves the omission of the infinite clause.

- (31) *E-nd-ag-a* *ku-ri-a* *ɲ-ama* *na* *we*
 3SG-love-IMP-fv inf-eat-fv NC4-meat but she
a-t-nd-ag-a ~~*ku-ria*~~ — ~~*ɲ-ama*~~
 3SG-neg-like-IMP-fv inf-eat-fv NC4-meat
 He wanted to eat meat but she didn't

In (31), the infinitive verb *kuria* 'to eat' and its complement NP *ɲama* 'meat' are omitted from the sentence. Here, the entire IP is omitted.⁷⁵ Sentence (31) shows that in Gichuka, the omitted constituents need not bear a finite morphology. This is an example of sluicing (Culicover and Jackendoff, 2005:233) in which an entire infinitival clause is left out in a grammatical sentence without yielding a deviant meaning at the level of sentence interpretation.

5.2.2 Domain of the interpretation of elliptical constructions

The interpretation of elliptical constructions has been a topic of extensive debate. Several studies have focused on their syntactic interpretation (see e.g. Williams, 1977; Sag, 1976; Lasnik, 1995; Merchant, 1999, 2006), while others have focused on their semantics (Dalrymple, 2005) and still others have focused on

⁷⁵ Here, the study uses the IP in the sense of Chomsky (1981).

their pragmatics (Barton, 1990, 2006; Stainton, 2006; Carston, 2002; and Culicover and Jackendoff, 2005). The question as to whether the interpretation of ellipsis is within the domain of syntax or pragmatics has remained unanswered. In the following paragraphs, the present study analyzes the domain of interpretation of the various types of elliptical constructions in Gichuka and provides an argument that pragmatic inferences (contextual information) play a critical role in accounting for the truth conditional meaning and interpretation of elliptical constructions in Gichuka sentences. The domains of interpretation of different types of ellipsis presented in this study are grouped into two: the clause-level domain and the discourse-level domain.

5.2.2.1 The clause-level domain

The recovery of the missing elements of the sentence plays an important role in determining its truth conditional meaning. For instance, sentence (32) demonstrates that the VP-internal NP is omitted without that resulting in ungrammaticality.

- (32) *Munene a-r-ir-e irio indi Mukundi*
 Munene 3SG-eat-PERF-fv food but Mukundi
a-t-a-ri-a #iø
 3SG-neg-tns-eat-fv føøð
 Munene ate food but Mukundi didn't [eat]

Sentence (32) has two clauses coordinated by the coordinating conjunction *indi* 'but', that is, the clause *Munene arire irio* 'Munene ate food' and the clause immediately preceded by the coordinating conjunction *indi*, that is, *Mukundi*

ataria ‘Mukundi didn’t eat.’ In specifying the truth conditional meaning of the latter clause, the hearer has to supply the intended complement of the verb *ria* ‘eat’. The VP internal argument in (32) is derived based on the presence of the verb internal argument in the preceding clause. Thus, the domain of interpretation is the sentence since the preceding clause in (32) provides the context for enriching the logical form of the second clause to derive an explicature such as (33).

- (33) *Munene a-r-ir-e irio indi Mukundi*
 Munene 3SG-eat-PERF-fv food but Mukundi
a-t-a-ri-a [irio]
 3SG-neg-tns-eat- fv [food]
 Munene ate food but Mukundi didn’t [eat food]

The explicature in (33) is derived by enriching the semantically indeterminate structure in (32) so that the former bears all the constituents of the sentence that are necessary expressing a truth propositional evaluable meaning.

In TP ellipsis, a TP is omitted at the phonological level of representation but the sentence is interpreted as having its full meaning. In this type of elliptical construction, sentences miss an explicit IP constituent within their logical form configurations but are understood to have these constituents at a more abstract level of representation. The determination of the meaning of the missing IPs poses difficulties for the rules of grammar in accounting for the meaning of sentences involving TP ellipsis. In view of this, consider the following sentence.

- (34) *Mukundi a-ring-ir-e mu-ntu₁ indi*
 Mukundi 3SG-hit-PERF-fv NC1-person but
n-t-i-ich-i nuu₁ a-ring-ir-e
 1SG-neg-tns-fv who 3SG-hit-PERF-fv
 Mukundi hit someone but I don't know whom ~~he hit~~

The wh-constituent *nuu* 'who' in (34) is coreferential with the NP *mntu* 'someone'. The ellipsis site ~~*a-ring-ir-e*~~ 'he hit' is the verb whose morphology includes the participant of the action. The agent of the action of the ellipsis site (omitted constituents) is the wh-constituent *nuu*, which is in a topic position in relation to the ellipsis site but available from the preceding the antecedent clause. There are two clauses involved where one, that is, the clause *Mukundi a-ring-ir-e mu-ntu* 'Mukundi hit someone' is fully represented at the phonological form level while the other one, that is, the clause *nuu a-ring-ir-e* 'whom ~~he hit~~' is partially represented at the phonological form level. The fact that the latter clause requires direct input from the preceding ~~one~~ clause for its meaning undermines the autonomy of syntax which requires that a sentence express complete meaning by virtue of its internal structure (Barton, 2006:16 and Culicover and Jackendoff, 2005:7–8).

The interpretation of ellipsis in sentences such as (35) below involves the similar enrichment of the logical form to form an explicature.

- (35) *Mukundi e-e-nd-ag-a ku-ri-a n-ama*
 Mukundi 3SG-tns-love-IMP-fv inf-eat-fv NC4-meat
Indi Munene a-t-e-end-ag-a ku-ria n-ama
 but Munene 3SG-neg-tns-like-IMP-fv ~~inf-eat-fv~~ ~~NC4-meat~~
 Mukundi wanted to eat meat but Munene didn't

Speaker B: *Wana ni* [*n-ka-thi-i* ——— *gu-a*
 Even me [1SG-tns-go-fv NC10-ASSOC
~~-*cucu*~~]
 grandmother]
 Even me [~~I will visit my grandmother/father~~]

Speaker C: *Wana mo* [*ma-ka-thi-i* ——— *gu-a*
 Even them [3PL-tns-go-fv NC10-ASSOC
~~*cucu*~~]
 grandmother]
 Even them [~~they will visit my grandmother/father~~]

The structure in (36) is an instance of a TP ellipsis in which the domain of interpretation of the missing constituent is the discourse. The TP *nkathii gua cucu* ‘I will visit my grandmother’ is omitted in speaker B’s response. For speaker B, the phi-features of the ellipsis site are identical to those of the antecedent constituents as required by the principle of the recoverability of deletion, which requires that no information is lost through a syntactic operation. However, for speaker C, the phi-features of the ellipsis site, that is, the TP *makathii gua cucu* ‘they will visit my grandmother’ mismatch those of the antecedent constituents despite the fact that the sentence converges at the logical form. This shows that a discourse-level ellipsis is possible regardless of the phi-features of the ellipsis site. This undermines the recoverability of deletion principle which requires that there be no feature conflict between two elements where one is substituting for another through an operation.

In addition, the referent of the omitted NP *cucu* ‘grandmother’, in (36) needs to be resolved before the sentence can express a full propositional content. The logical form of (36) does not provide information regarding whether the NP

cucu ‘grandmother’ refers to the same entity for both speaker B and C or different entities in which each of the speakers refers to a separate entity with the possibility that there are different grandmothers involved. The truth conditional meaning of each of the above elliptical structures can be resolved once the reference for the NP *cucu* ‘grandmother’ is determined based on the intentions of each of the speakers in (36). The truth conditional meaning of (36) cannot be resolved by simply copying the antecedent linguistic structure into the ellipsis site at the logical form level of interpretation but by identifying the intended referent of the NP *cucu* ‘grandmother’, as intended by the speaker, as well as by identifying the speaker of the sentence. This way, the logical form account encounters difficulties in accounting for the truth conditional properties of speaker B and C responses (36).⁷⁶ In this kind of ellipsis, the ellipsis site is the TP but the domain of the interpretation is the discourse structure.

Even in question-answer sentences, the preceding discourse provides adequate constituents for the recovery of the missing constituents, as can be seen in (37a–b).

- (37a) Speaker A: *Mau mau* *ni* *m-a-ch-ir-e?*
 Freedom fighters be 3PL-tns-come-PERF-fv
 Did freedom fighters come?

⁷⁶ According to Merchant (1999:75), the structure of an elliptical construction is provided by the syntax but the component of grammar issues instructions to the phonological component at the interface not to pronounce it so that it receive a null phonetic representation.

- Speaker B: *Ii*
Yes
- (37b) Speaker C: *A-r-ir-e* *mbi?*
3SG-eat-PERF-fv what
What did he eat?
- Speaker D: [NP *ɲ-ama*]
NC4-meat
Meat

B's response in (37a) is the most natural response for A's sentence. This response has no internal syntactic structure but expresses a semantic import of a full sentence. Copying the predicate in the response of speaker B in (37a) A's sentence would be superfluous since this can be traced to the discourse structure unless such copying is required for pragmatic reasons such as [+stress] or [+emphasis]. Thus, the expression *ii* 'yes' in the speaker B's response is true just in case the freedom fighters came and false if otherwise. For B's response to attain its truth conditional meaning, both syntactic and contextual information is required. Syntactically, the TP *ni machire* 'they came' has to be copied from A's utterance and copied in B's utterance. However, the derivation of the truth conditional meaning requires specifying the intended referent for the pronominal morpheme *m-* 'they' on the TP. This information is derived from the context in which B's response is produced. Therefore, the ellipsis site in D's response in (37b) is licensed by the context of the sentence rather than the underlying structure of the expression itself.

Similarly, D's answer is the most natural response to C's question. Therefore, a response like (38) below would be superfluous since the verb *ria* 'eat' including its participant marking morpheme *a-* is available from the context and thus disallowed by the conditions on the economy of derivation.

- (38) [DP [I' Agr [VP *a-a-r-ir-e* [NP *n-ama*]]]]
 [DP [I' Agr [VP 3SG-tns-eat-PERF-fv [NP NC4-meat]]]]
 He ate meat

The NP *nama* in (38b) expresses a full proposition given that the missing constituents are recoverable from the context in which the sentence is produced. Therefore, (38) is ruled out since its semantic contribution can be attained via a much simpler structure in D's response. There are no logical form algorithms that generate the meaning of the ellipsis site as this meaning is determined by the context of the sentence. One property of the structures such as (32–38) is that they cannot occur discourse initially.

There are structures which allow the omission of constituents in the sentence initial position. These are called nonsentential constituents and their interpretation falls within the domain of discourse.⁷⁷ Nonsentential constituents are intuitively complete utterances whose phonological form lacks a full sentential logical form configuration.⁷⁸ They display full syntactic and semantic

⁷⁷ The structures in which constituents are omitted in sentence initial positions are termed nonsentential constructions (Barton, 1990, 2006).

⁷⁸ According to Barton (1990) non sentential constituents are phrasal constituents that do not have the basic constituent structure of a full sentence but which express a full sentential meaning once all pragmatically driven saturation is completed.

independence from their antecedents. Data from Gichuka show that such non-sententials can bear the semantic inputs of full sentences when licensed in appropriate contexts despite the fact that they lack a proper sentential structure.

Here is an illustration:

- (39) Speaker A: [Glancing at someone entering the room]
Mu-alimo *wa-kwa*
NC1-teacher NC1-poss
My teacher

The hearer of (39) does not require the linguistic antecedent within the preceding discourse to determine the meaning or the referent of the NP *Mu-alimo wa-kwa* ‘my teacher’. In the context provided in the parenthesis, (39) does not only denote an NP but it is also an explicature expressing a truth conditional (propositional meaning) such as (40) and (41).

- (40) THIS IS MY TEACHER
(41) THE MAN ENTERING THE ROOM IS MY TEACHER

To supply the missing syntactic units of the NP in (39) is a matter that is beyond the algorithms of the logical form advanced in the Minimalist Program. What is needed is an individual within the context that is salient enough to enrich the logical form of (39) to derive an explicature that yields the required proposition in order to satisfy the truth conditions of either (40) or (41). In arriving at the truth conditional meaning of (39), context plays a licensing role in enriching the logical form of (39). In (39), what is provided by the logical form configuration is a NP which has no way of deriving a proposition on its own. There is no possible or actual world where (39) can yield a determinate proposition that is

true or false due to the absence of a complete syntactic structure. Even if it were to be argued that syntax constrains the structure of the nonsententials (as suggested by Stanley, 2000), context plays a significant role in determining the interpretation of the non sentential speech utterances such as (39).

In addition, consider the scenarios presented in (42–43) in which speakers may use gestures to enrich simple NPs to explicatures with full propositional content.

(42) [Running out of a house] *Njoka!*
Snake

(43) [Pointing at an oncoming car] *Mu-ntu w-a Ibiti*
NC1-person NC1-ASSOC Ibiti
Ibiti's son

The NPs in (42) and (43) are understood as having the following truth conditional meanings, respectively.

(44) [THERE IS A] SNAKE [IN THE HOUSE]

(45) THE SON OF IBITI [IS COMING]

The missing constituents in (42–43) are supplied by enriching the logical form to a fully propositional explicature such as (44) and (45) respectively. In nonsententials such as (42) and (43), the ellipsis site is licensed by the non-linguistic context or perceptions (e.g. gestures) within which the sentence is produced. This is done by appeal to the context within which the non sententials are produced.

5.3 Unarticulated constituents in Gichuka

According to Elugardo and Stainton (2005:21) an unarticulated constituent “is a constituent of a proposition expressed by an utterance, for which there is no corresponding constituent of the expression uttered, neither at the surface nor at any deeper level.” Here is an example of an unarticulated constituent in Gichuka:⁷⁹

- (46) *Ni gu-ku-ur-a* [location]
be 3SG-tns-rain-fv
It is raining [location]

Sentence (46) does not represent a state of affairs in which it is raining everywhere in the world. Without a constituent indicating the location where it is raining, the sentence would not express a truth evaluable proposition. A sentence such as (46) represents a state of affairs in which it is raining at a location identifiable by both the speaker and the hearer at the time of producing the sentence. The location constituent, namely, the complement *here* that is not represented at the logical form level of the sentence is an example of an unarticulated sentence since it is not a constituent of a logical form but it is represented at the level of the propositional form (explicature) of the sentence. According to Elugardo and Stainton (2005:16) “understanding a subsentence is

⁷⁹ This sentence was adapted from Kiryenje (2006:242). The original sentence was *gu-kur-a* ‘it has rained.’

as much a pragmatic affair as understanding conversational implicature or sarcasm: neither is carried out by the language faculty itself.”

Unarticulated constituents may occur in different syntactic forms as shown in the following expressions:

- | | | | | |
|------|--|----------------|---------------|-------------|
| (47) | <i>A-ntu</i> | <i>mo-nthe</i> | <i>ma-r-i</i> | <i>Weru</i> |
| | NC1-person | NC1-all | 3PL-be-fv | Weru |
| | All the people [from this region] were at Weru | | | |

In (47), the unarticulated constituent is the PP *from this region*. This constituent is not bound by any constituent within the logical form of the sentence but it is licensed by the context in which the sentence is produced.

There is consensus that unarticulated constituents exist in natural languages of the world.⁸⁰ The point of departure is whether their presence is grammatically or pragmatically constrained. Stanley (2000, 2002) accounts for the meaning of unarticulated constituents grammatically while Sperber and Wilson, (1986), Recanati, (2003), and Carston, (2002) provide a context-driven approach. The conversation below shows that the context of the sentence plays a role in licensing the presence of unarticulated sentences at the level of the propositional form.⁸¹

- | | | | | |
|------|--|-------------------|-----------|-------------------|
| (48) | <i>Ma-ch-ir-e</i> | <i>ku-on-an-a</i> | <i>ta</i> | <i>Kathathani</i> |
| | 3PL-come-PERF-fv | inf-see-rec-fv | like | Kathathani |
| | They later came to meet at a place like Kathathani | | | |

⁸⁰ See for instance, Perry (1986) for a thorough discussion of the unarticulated constituents in natural languages.

⁸¹ This conversation was taken from an oral narrative narrated to the researcher at Kauthini village in the County of Tharaka Nithi.

- (49) Badger: *Ng-u-it-ag-ir-a* *uki. Ni atia*
 1SGtns-call-IMP-for-fv honey. foc what
wa- ruth-ir-e?
 2SG-do-PERF-fv
 I have been inviting you to come for honey. What happened?
- (50) Lion: *N-t-e-egu-a*
 1SG-neg-tns-hear-fv
 I didn't hear
- (51) Lion: *Wana ni ni-ng-u-it-ag-ir-a j-ama*
 Even me foc-1SG-obj-call-IMP-ben-fv meat
na u-ka-m-bir-a u-t-i-ku-end-a
 and 2SG-PERF-obj-tell-fv 2SG-tns-neg-want-fv
j-ama cia-a
 NC4-meat NC4-poss
 Even me, I invite you for meat and you tell me that you do not want my meat
- (52) Badger: *Hari n-t-e-egu-a*
 No ISG-neg-tns-hear-fv
 No, I didn't hear

The logical form of (50) and (52) represents a state of affairs where the speaker did not hear anything. Therefore, (50) and (52) are true just in case the property encoded by the verb *igua* 'hear' is applicable to the NP in the topic position of the sentence, that is, if the speaker of (50) and that of (52) did not hear. However, a deeper scrutiny of (50) and (52) raises fundamental questions in regard to their ability to satisfy the truth conditions: first it is not clear from the logical form of (50) and (52) what it is that the two speakers did not hear. This may lead to over-generation of multiple meanings such as the following:

- (53) The speaker says he did not hear anything
 (54) The speaker says he did not hear such a story

(55) The speaker says he did not hear such news

Clearly, (50) and (52) do not convey a determinate meaning that can be evaluated on the basis its truth conditional properties. For (50) and (52) to satisfy the truth conditions in an actual or possible world, an unarticulated constituent has to be supplied. In (50) and (52), the unarticulated constituents are expressed in the explicatures in (56) and (57) respectively:

(56) Lion: *N-t-e-egu-a* *[u-ki-mb-it-a]*
1SG-neg-tns-hear-fv [2SG-tns-obj-invite-fv]
I didn't hear [you (the badger) inviting me]

(57) Badger: *Hari n-t-e-egu-a* *[u-ki-mb-it-a]*
No 1SG-neg-tns-hear-fv [2SG-tns-obj-invite-fv]
No, I didn't hear [you (the lion) inviting me]

In (56) and (57) the unarticulated constituent *[u-ki-mb-it-a]* '[you calling me]' is supplied to the structure of the sentences at the level of the derivation of the full propositional meaning as opposed to the level of the generation of the logical form of the sentence. This missing material is not syntactically represented but has to be supplied pragmatically via the free enrichment of the logical form of these sentences. The determination of the semantic content of the sentences with unarticulated constituents is determined by the context in which the sentence is produced. The requirement to supply this unarticulated constituent is obligatory for sentences to convey a determinate truth evaluable propositional structure, as can further be seen in (58a – b).⁸²

⁸² These sentences were taken from a narrative at the Kamuguongo village, County of Chuka.

(58a) *Mu-thee a-a-mbat-ir-w-e baria Weru*
 NC1-father 3SG-tns-hold-PERF-pass-fv there Weru
 My father was arrested at Weru

(58b) *A-a-bir-w-a Chuka e-r-w-a*
 3SG-pst-take-pss-fv Chuka 3SG-tell-pass-fv
u-yu ni mu-kuru a-ti-ka-thaik-w-e
 NC1-this be NC1-old 3SG-neg-tns-tie-pass-fv
 (When) he was taken to Chuka it was agreed that he should not be
 detained because he was old

Sentence (58b) cannot be analyzed as either true or false since its logical form yields underspecified the meaning. It simply communicates that the man under reference is old. One needs to consider the context of the sentence in order to supply the unarticulated constituent so that the intended meaning of the sentence approximates the meaning that “the man is [too] old [to be imprisoned].” These unarticulated constituents are not constrained by any morphological particle in the sentence and hence they are supplied by the context to determine the intentions of the speaker in uttering (58b). In this case, the speaker intended the sentence to convey the proposition that the man under reference was “too old to be imprisoned.” Here, the unarticulated constituent resulting from the enrichment is a constituent of the propositional form and is thus significantly absent in the logical form of (58). Thus, the unarticulated constituent had to be pragmatically supplied to derive a propositional content that is truth evaluable (Carston, 2002).

Unarticulated constituents are represented at the propositional form level of interpretation since they are necessary for the sentence to express a truth

evaluable meaning. Even in ordinary speech situations, unarticulated constituents seem to have no logical form correlates as can be seen the following sentences. Here is a demonstration of unarticulated constituent in the form of an adverbial in (59) and verb complement NP in (60).

(59) *E-eng-w-a* *nk-a-thi-i* *ku-rimi-a* *kuria*
 3SG-chase-pass-fv 1SG-tns-go-fv inf-work-fv where
nk-a-rib-w-a
 1SG-tns-pay-pass-fv
 When she was sent away [from the school] I would go and look for
 some jobs where I would be paid

(60) *Nd-a-thi-i* *n-a-thukum-a* *n-ka-bir-a*
 1SG-pst-go-fv 1SG-pst-work-fv 1SG-tns-take-fv
 Whenever I worked, I would take [the money to the school]

In (59), the unarticulated constituent is the location (PP) where the patient of the action encoded by the predicate *eng-a* ‘chase’ used to be sent away from, that is, the school. The location constituent is not represented at the logical form level but it is present at the level of interpretation (propositional form) of (59). Sentence (60) also bears an unarticulated constituent where the complement, that is, verb complement NP *the money* and the PP *to the school* are not represented at the logical form but are present at the propositional level of interpretation.

Sentences such as (59) and (60) occur in situations where the context is rich enough to provide additional constituents against which the semantically incomplete logical form can be enriched to an explicature appropriately. In this case, context provides a structure on the basis of which the logical form yields a

truth conditional meaning. Therefore, contextual information interacts with syntax at any stage of interpretation of sentences. Therefore, the semantic interpretation for (59–60) is derived by the construction of strings of words using both syntax and context as they both arise incrementally during sentence interpretation. The interpretive output of sentence such as (59) and (60) becomes a combination of the instructions of both syntax and context. Though the structure in (59) and (60) has an internal constituent structure, and hence contains legitimate logical form configuration, it fails to encode a truth-evaluable propositional meaning. The truth conditional meaning of such sentences is attained once the logical form is enriched to an explicature through pragmatic process of free enrichment. In this case, the information regarding the location in (59) and both the location and the complement of the verb *bira* ‘take’ in (60) is a constituent of an explicature resulting from the enrichment of the logical form through the context. It is this explicature that derives the truth conditional meaning of the sentence.

5.4 Summary to chapter five

This chapter has shown that in Gichuka, the quantifier *-onthe* ‘all’ occupies the post nominal position just like other modifiers such as adjectives, while the quantifier *wa* ‘every’ occupies the prenominal position within sentences. The chapter has shown that sentences with QNPs in Gichuka display semantic underdeterminacy in relation to definite versus indefinite distinctions,

generic versus nongeneric, as well as proportional versus cardinal distinctions. The logical form account of the quantifier interpretation proposed in (May, 1985, Chomsky, 1981, 1995a, Hornstein, 1994, Huang, 1994 and Larson and Segal, 1995) fails to offer an accurate account of the truth conditional meaning of quantified sentences in Gichuka. Specifically, it is not capable of resolving semantic indeterminacies related to the generic, dual, plural, proportional, cardinal and definite meaning of quantified expressions.

With regard to elliptical constructions, grammatical structure alone cannot adequately account for their interpretation in Gichuka. Contextual information plays an important role not only in determining the reference for the NPs that occupy syntactic positions occurring within the ellipsis sites but also in constraining the interpretation of the entire elliptical construction. Context also plays a major role in enriching the constituents of elliptical constructions as well as those of discourse initial non-sentential constituents.

Finally, the logical form cannot be extended to the licensing of unarticulated constituents in Gichuka. These are licensed by context, which plays a role in enriching the logical form representations to generate explicatures from which a fully propositional meaning is derived.

CHAPTER SIX

TOWARDS A SYNTAX—PRAGMATICS APPROACH TO SENTENCE INTERPRETATION

It has been argued from the previous chapters that the logical form, as expounded in Chomsky's Minimalist Program, fails to adequately account for the meaning of a number of constructions in Gichuka in terms of their truth conditional (propositional) meaning. Specifically, the present study has suggested that the Minimalist approach to interpreting sentence meaning faces serious difficulties in accounting for the truth conditional meaning of Gichuka sentences with anaphoric constructions, (bound and free) pronominal elements, lexically represented NPs, quantified expressions, elliptical constructions and unarticulated constituents.

This chapter aims to propose a more adequate approach to interpreting the meaning of the constructions discussed. The approach that will be proposed is one that integrates both grammatical and contextual (inferential) information that play a significant role in specifying the truth conditional meaning of sentences. The chapter will only analyze data that are relevant to the specification of truth conditional meaning, in order to justify the resulting conclusions by proposing a syntax—pragmatics approach to interpreting sentence meaning.

The chapter is structured as follows: the first section provides an overview of the problems of the logical form pointed out in the previous chapters. The second section examines the syntax – pragmatics solutions to the inadequacies of the logical form in accounting for sentence meaning. Here, the interaction of the lexicon and contextual information is presented. The third section demonstrates the derivation of propositional forms (explicatures and implicatures) through context-driven processes such as saturation and enrichment. In this section, the role of the propositional forms in accounting for the truth conditional meaning is discussed. The fourth examines the implications of context for the Minimalist Program in accounting for the meaning of sentences, while the last section outlines the major tenets of the new syntax–pragmatics approach to sentence meaning being suggested in this study.

6.1 Overview of the inadequacies of the logical form

The problems of logical form identified in the preceding chapters result from the fact that natural language sentences are less explicit in relation to the meaning they represent. As such, language users have to rely on the contextual information to derive the truth conditional (propositional) meaning of some of the sentences. This section presents two main problems that the logical form encounters in accounting for the sentence meaning: they have to do with reference assignment and enrichment.

the main constituent of the entire sentence. At the level of the logical form interpretation, the subject-marking morpheme *m-* ‘they’ in (1) is construed as the benefactive of the action encoded by the verb *tuma* ‘build’. However, the sentence fails to yield a definite propositional content due to the fact that pronominals such as *m-* ‘they’ and anaphors such as *e-* ‘themselves’ in the verb *tuma* ‘build’ lack a descriptive content of their own. The hearer of (1) cannot specify what the bound pronominal *m-* ‘they’ and the reflexive morpheme *e-* ‘themselves’ refer to since these only provide some morphological features that limit the choices of the referent to the feature specification [+animate, + third person, and + plural]. In (1), the bound pronominal *m-* ‘they’ and the reflexive morpheme *e-* ‘themselves’ refer to the same entity and hence the two are coreferential at the level of logical form representation as illustrated in (5).


(5a) *M-e-tum-ir-a* *n-omba*
 ↑
 ┌───┐
 3PL-tns:ref-build-ben-fv
 They built a house for themselves

In (5), the bound pronominal morpheme *m-* ‘they’ binds the reflexive morpheme *e-* ‘themselves’ hence forming a chain in which the former is the head of the chain. However, the referent of the head of the chain, that is, the referent of the bound pronominal *m-* ‘they’, is not integrated in the structure of (5a). Hence, the sentence fails to yield the propositional content/meaning. Now, consider (5b) and (5c) for a demonstration of how bound pronominals and anaphors are assigned referents in such sentences.

(5b) *Mu-ruthi na n-thegere m-a-tum-it-e*
 NC2-lion and NC4-badger 3PL-tns-build-PERF-fv
u-rata
 NC7-friendship
 The lion and the badger were friends

(5c) XP_1 *M₁-e-tum-ir-a* *n-omba*
 3PL-tns:ref-PERF-tell-ben-fv NC4-house
 They built a house for themselves

In (5c), the referent of the bound pronominal *m-* ‘they’ is understood to be the compound NP *Mu-ruthi na n-thegere* ‘the lion and the badger’ in (5b) so that (5c) is interpreted as having the structure in (5d).

(5d) NP_1 *m₁-e-tum-ir-a* *n-omba*

 3PL-tns:ref-PERF-tell-rec-fv NC4-house
 They built a house for themselves

Since the NP_1 in (5d) refers to an NP in (5b), as opposed to any antecedent within the structure of (5d), determining the truth conditional (propositional) meaning of a sentence with a bound pronominal such as *m-* ‘they’ as well as an anaphor such as a *e-* ‘themselves’ requires reference to the context of the sentence as opposed to only the knowledge of the logical form rules such as the binding rules proposed in Chomsky (1995).

Just like the bound pronominal *m-* ‘they’ in (5d) refers to an NP understood in context, the bound pronominal morpheme *tu-* ‘they’ in (2) above refers to an entity that is anchored in the context, as opposed to an NP in a logical form position of a sentence, as shown in (6).

not bear a clausal configuration and hence fails to bear a propositional meaning at the syntactic level of representation. In the absence of an appropriate context (8) does not represent any state of affairs since it lacks an appropriate syntactic structure of a sentence. Sentence (9) is underspecified at the level of the logical form interpretation in terms of the specific location where drizzling is taking place and therefore bears no propositional meaning.

6.2 The interaction of the lexicon with context

In section 6.1, the present study provides a brief overview of the inadequacies of the logical form in accounting for the truth conditional (propositional) meaning of sentences in Gichuka. This section proposes a syntax—pragmatics approach to accounting for the propositional meaning of a wide variety of sentences in Gichuka that rests on two pragmatic processes: saturation and enrichment.

6.2.1 Lexicon and saturation

In order to determine the truth conditional meaning of sentences such as (1–4) above, reference to contextual information becomes an integral part of sentence interpretation. The combination of the linguistic information and contextual information in the derivation of the propositional meaning of sentences is referred to as saturation. Once all the linguistic elements in a sentence are assigned semantic values, the sentence becomes a full proposition that expresses a definite state of affairs. In relation to this suggestion, consider

(1) above repeated here as (10) for an illustration of the saturation of linguistic elements in the derivation of the propositional content for a sentence with bound pronominals.

- (10) *M-e-tum-ir-e* *n-omba*
 3PL-tns:ref-cut-PERF-fv NC4-house
 They built a house for themselves

As has been shown in section 6.1, the bound pronominal morpheme *m-* ‘they’ refers to an entity that is not integrated within the logical form of (10). In order to specify the propositional meaning of (10), the referent of the bound pronominal morpheme *m-* ‘they’ has to be assigned from the context since the pronominal lacks a descriptive content of its own. Assigning reference for the bound pronominal morpheme such as *m-* ‘they’ in (10) involves retrieval or construction of an appropriate conceptual representation that provides an input for further inferencing. For instance, consider a situation where a sentence such as (11b) is produced in the context of (11a) as illustrated with the following examples.

- (11a) *Mu-ruthi na n-thegere m-a-tum-it-e*
 NC2-lion and NC4-badger 3PL-tns-build-PERF-fv
u-rata
 NC7-friendship
 The lion and the badger were friends

- (11b) NP₁ *m-e-tum-ir-a* *n-omba*
 3PL-tns:ref-cut-PERF-fv NC4-house
 They (x) built a house for themselves (x) at time t

The first step in recovering the propositional meaning of (11b) involves the hearer’s identification of intended referent for the bound pronominal *m-* ‘they’

for the bound pronominals such as *m-* ‘they’, anaphors such as *e-* ‘themselves’ and the lexical NP *p-omba* ‘house’ for sentences such as (11b), the hearer follows the path of least effort; or rather, they follow this path unless it already seems likely that to them that the resulting interpretation will be pragmatically unacceptable. One of the defining features of proposition in (11d) is that all the constituents have been assigned semantic values so that the sentence expresses the truth conditional meaning.

In addition to specifying the propositional meaning for sentences with anaphors and bound pronominals, reference assignment also plays a role in specifying the propositional meaning of sentences with lexically represented NPs as can be illustrated with (12) below.

- | | | | |
|------|------------------|-----------------|-----------|
| (12) | <i>Ka-bugu</i> | <i>ka-a-r-i</i> | <i>aa</i> |
| | NC9-hare | 3SG-tns-be | here |
| | The hare is here | | |

For a nonnative hearer who does not understand (12), the sentence bears no truth conditional meaning. In other words, it does not represent any state of affairs in the actual or possible world unless it has been developed into a proposition. The understanding of (12) begins by first recovering the propositional meaning (thought) expressed in it. To derive the propositional meaning, one has to check which individual (entity) in the actual or possible world of discourse is the denotation of the NP *kabugu* ‘hare’. This suggests that the actual referent of the NP *kabugu* ‘hare’ has to be identified from the context of discourse and assigned to the NP. The next step is to check the denotation of

the verb *ka-a-ri* 'is' and verify that the set contains a pair such that the first member is the denotation *ka-bugu* and the second member is the denotation of *aa* 'here'. In addition, the tense of the verb *a-r-i* 'is' has to be determined since it is necessary for determining the propositional meaning of the sentence given that the truth of (12) changes depending on the time at which it is produced. Once all this has been determined, (12) bears the propositional meaning expressed in (13).

(13) THE HARE IS HERE

Now, consider a synonym of (12) exemplified in (14a), for a demonstration of the relations between the syntactic constituents of the (12) and the propositional meaning expressed.

(14a)	<i>Sungura</i>	<i>i-i-r-i</i>	<i>baba</i>
	Hare	NC9-tns-be	here
	The hare is here		

(14b) is the propositional meaning expressed by (14a). Notice that (12) and (14a) are synonymous.

(14b) THE HARE IS HERE

Regardless of the differences of the lexical items between (12) and (14a), both sentences are synonymous since they represent identical state of affairs at the propositional level of representation. As long as the denotation of the NP *sungura* 'hare' in (14a) picks out the same referent with the denotation of the NP *ka-bugu* in (12) and the denotation of the verb *i-i-r-i* 'is' contains a pair such that the first member is the denotation *sungura* 'hare' and the second member is the

denotation of the adverb *baba* ‘here’, then (12) and (14a) express an identical proposition (thought) and hence bear the same propositional meaning, that is, the one in (13) or (14b). From the point of view of truth conditional meaning the proposition expressed by (12) and (14a) is true if and only if the entity *hare* referred to by the NP *kabugu/sungura* ‘hare’ in (12) and (14a) is at the location referred to by the adverb *aa/baba* ‘here’ at the time *t* of producing the sentence as illustrated with (15) where S stands for the sentence and P stands for the state of affairs in the actual or possible world.

- (15) S (entence) is true if and only if P (roposition) expressed is
consistent with state of affairs represented by S (entence)

The interpretive mapping in (15) can be reduced to (16) below.

- (16) S is true if and only if P

(15) and (16) postulate that a sentence is true if and only if the state of affairs in the actual or possible world hold true as expressed by the proposition encoded by the utterance of that sentence.

Saturation also plays a significant role in the recovery of the propositional meaning of elliptical structures. Consider (4a) and (4b), repeated here as (17) and (18) respectively.

- | | | | |
|------|--|------------------|-----------|
| (17) | <i>M-a-rut-ag-a</i> | <i>mi-chinga</i> | <i>ku</i> |
| | 3PL-tns-get-IMP-fv | NC2-guns | where |
| | Where were they getting the guns [from]? | | |

- (18) *N-ti-ku-meny-a* *baria* *ma-rut-ag-a* Φ
 1SG-neg-tns-know-fv where 3PL-get-IMP-fv
 I do not know where they used to get

Sentence (18) is a response to (17). In Gichuka, the *wh*-constituents such as *ku* ‘where’ in (17) are generated in-situ. Since the NP *mi-chinga* ‘guns’ is mentioned in the previous sentence, it is contextually salient and, hence, not phonologically represented at the interface in (18). In deriving the truth conditional meaning of (18), the hearer has the task of combining the pronounced structure with the linguistic context provided by (17) in order to supply the missing NP *michinga* ‘guns’ from (17) so as to arrive at the propositional meaning in (19).

- (19) *N-TI-KU-MENY-A* *BARIA* *MA-RUT-AG-A*
 1SG-neg-tns-know-fv where 3PL-get-IMP-fv
 [MI-CHINGA]
 [NC2-guns]
 I DO NOT KNOW WHERE THEY USED TO GET [THE GUNS]
 FROM?

In (19), the complement of the verb *ruta* ‘get’, that is, the NP *michinga* ‘guns’ is supplied through a pragmatic process of saturation and has no phonological form correlate within the structure of the pronounced sentence because the subcategorization features of the verb *ruta* ‘get’ in (19) require that it occurs with an internal object at the logical form configuration. This requirement is violated in (18) despite the fact that the derivation converges at the logical form. In (19), the sentence is understood as having the NP *mi-chinga* ‘guns’ as the patient of the action encoded by the verb. This constituent is supplied once the entire NP at the sentence final position in (18) is supplied with the intended NP via the

context provided by (17) to yield the intended truth conditional proposition as shown in (19).

6.2.2 Lexicon and enrichment

According to Recanati (2007) the process of (free) enrichment refers to a “contextual process that affects the content without being triggered by a linguistic property of the expression whose content is affected” (p.10). Enrichment is integral to deriving propositional forms from lexical entries by supplying the missing concepts to the linguistic expressions in order for the latter to bear a truth propositional meaning. This process occurs in the derivation of truth conditional meaning from linguistic expressions containing quantified expressions, nonsententials and unarticulated constituents. Once the enrichment has applied, the sentence expresses a propositional meaning and bears the property of being true or false (Lycan, 2000:81). Data from Gichuka suggest that the domain of the quantifier in sentences with QNPs is constrained via enrichment to specify the intended class of the NP that restricts the domain of the quantifier, as shown in (20a).

(20a)	<i>A-ntu</i>	<i>m-onthe</i>	<i>m-e-ekar-ag-a</i>	<i>Weru</i>
	NC1-people	NC1-all	3PL-tns-live-IMP-fv	Weru
	All people were living at Weru			

In (20a), the quantifier *-onthe* ‘all’ denotes the idea that all NPs with the feature specification [+ human] lived in the location *l*, that is, *Weru* at the time *t*. This is captured by the following logical form denotation:

(20b) For all x, x is [+ human], x lived at Weru

On this semantically underspecified interpretation, the universal quantifier *monthe* 'all' denotes more people than is actually intended to denote in (20a). Therefore, decoding the meaning represented by the logical form would not yield a truth propositional meaning. The propositional meaning that (20a) was intended to express is represented by (20c).

(20c) *A-NTU* *M-ONTHE* [*M-A* *I-TURA* *R-IRI*]
NC1-people NC1-all [NC1-ASSOC NC5-village NC5-this]
M-E-EKAR-AG-A *WERU*
3PL-tns-stay-IMP-fv Weru
ALL PEOPLE [FROM THIS VILLAGE] WERE LIVING AT WERU

In (20c), the concepts of the propositional meaning in the square brackets (*M-A I-TURA R-IRI*, 'FROM THIS VILLAGE'), are generated by processes that are beyond the constraints of the logical form. (20c) is intended to refer to a specific group of people anchored in the speaker's mind at the time of producing the sentence and therefore assumed to be understood by the hearer as well. The additional concepts, that is, *M-A I-TURA R-IRI* 'FROM THIS VILLAGE' in (20c) is inferred at the level of the explicature (propositional form representation). At this level of interpretation, the propositional content expressed by (20c) is enriched and the sentence can be verified as either true or false depending on the context as suggested by the propositions in (21a) and (21b).

(21a) Yes, it is true that all people from this village were living at Weru

(21b) No, it is not true that all people from this village were living at

Weru. There were people from this village who lived in Chuka.

That (20b) can be true or false points out to the fact that there is a pragmatically salient universal quantifier “which supplies the quantifier domain and quite probable also an ability to provide some justificatory reconstruction of how the intended primary meaning is derived” (Carston, 2006:36). It is therefore the more specific (20c), rather than the more general (20a), that forms the basis upon which the latter is judged to be either true or false. (20c) is therefore the explicature of (20a). Deriving the explicatures such as (20c) from (20a) requires that the latter is enriched via the context.

Enrichment also constrains the propositional meaning of sentences with nonsentential constituents. Data from Gichuka shows that nonsententials such as (8) repeated here as (22) are licensed by the features of the context such as pointing rather than their constituent structure alone.

(22) Speaker [pointing at a book]
Mb-uku *y-a* *mu-alimo*
 NC4-book NC4-ASSOC NC1-teacher
 Teacher’s book

The structure in (22) is a nonsentential and therefore it does not convey a truth evaluable proposition by virtue of its logical form configuration. However, when a speaker points at a book and produces (22), it expresses a proposition in a context such as when the speaker intends to show the hearer what the teacher’s book looks like or to indicate that what he is holding is the teacher’s book. Stanley (2000:405) classifies these kinds of linguistics expressions as examples of syntactic ellipses. He argues that though there is no linguistic antecedent

preceding (22), actions such as gestures of the speech participants raise their linguistic antecedents to saliency. In this case, it is the context that determines the meaning of the ellipsis site in (22). Without an appropriate context, such a phrase may not express a proposition at all.

In deriving a proposition from (22), there is no morpho-syntactic unit in the logical form to constrain the proposition expressed. Specifically, there is no constituent in the logical form that requires to be copied in the structure; rather the speaker must use his knowledge of the discourse situation to generate the proposition from the nonsentential constituent. In (22), there is no logical form correlate (context-invariant feature) to guide the hearer in deriving an explicature such as (23).

- (23) *[I-no ni mb-uku y-a mu-alimo*
 [NC4-this be] NC4-book NC4-ASSOC NC1-teacher
 [This is the] teacher's book

The additional constituents *i-no ni* 'this is' in (23) are derived by enriching the structure of (22) via the context to derive an explicature in (23). The resulting explicature expresses a proposition and can be judged as being either true or false depending on the context as can be seen in (24–26) below.

- (24) This is the teacher's book
 (25) I have found the teacher's book
 (26) The teacher's book looks like this

Nonsententials do not inherently communicate propositions. What determines the derivation of their propositional content is the intention of the speaker. Even once all grammatical features of (22) are analyzed; it does not derive any

propositional content. Sentence (22) for instance, fails to derive a propositional content even after full grammatically–driven saturation has been completed. The understanding of such nonsententials as (22) is a pragmatic matter rather than a syntactic matter (Elugardo and Stainton, 2005:16).

Data from Gichuka further suggests that enrichment also constrains the interpretation of sentences with unarticulated sentences such (9), repeated here as (27).⁸³

(27)	<i>Ni</i>	<i>gu-ku-nyunyu-a</i>	[location]
	be	3SG-tns-rain-fv	
	It is drizzling [location]		

The logical form of (27) fails to encode one critical constituent of the sentence: the location. Clearly, (27) does not encode the proposition that IT IS DRIZZLING ANYWHERE or EVERYWHERE in the universe. Rather, it expresses the meaning that it is drizzling at a location *l* and time *t*, as shown in the logical form of (28).

(28) It is drizzling at location *l* at time *t*

Since the semantic values of *l* and *t* are unspecified at the level of the logical form in (28), the sentence fails to yield a truth conditional meaning at this level of representation. The truth conditional meaning of (27) is derived from the sentence once the semantic values of the variable *l* and *t* are assigned via the context, as can be seen in (29).

⁸³ This sentence was taken from (Kiryenje, 2006).

- (29) It is drizzling at location *l* [where *l* = *Kathathani*] at time *t* [where *t* = *today*]

The concepts *Kathathani* and *today* have no phonological and logical form correlates but are supplied through the process of free enrichment; thus the sentence yields the propositional form in (30).

- (30) IT IS DRIZZLING AT KATHATHANI TODAY

Once the concepts *KATHATHANI* and *TODAY* are integrated into the structure of the sentence, a full propositional meaning is derived that can be assigned a truth conditional value. The truth conditional value of (30) changes depending on the location of the speaker as well as on the time of the utterance. What data in (27–30) suggest is that some sentences are inexplicit in relation to the propositional meaning they express and, as a consequence, are also inexplicit in relation to the propositions they express. In other words, there exists no one-to-one mapping between the structure of the sentence (form) and the structure of the propositional form expressed by that sentence (Fodor, 2001, p. 11).

6.3 Propositional forms: explicatures and implicatures

Both saturation and enrichment result in the derivation of the propositional forms from syntactic structures. Propositional forms express the propositional (truth conditional) meaning of sentences and are either a result of the development of the logical form of a sentence (in the case of explicatures) or a result of recovering, via inferences, linguistically absent constituents of the propositional content of the sentence (in the case of implicatures).

The process of saturation develops the logical form of a sentence to derive explicatures. This is due to the fact that the logical forms are semantically underspecified and hence fail to determine the truth conditional meaning of sentences. Therefore, they are not adequately specified for the mapping of form and meaning of sentences. They require to be contextually enriched to determine their full propositional meaning, as can be illustrated in (31).

- (31) *Suleimani a-a-ret-ir-e ma-untu mo-nth-e aa*
 Suleimani 3SG-tns-bring-PERF-fv NC7-thing NC-all-fv here
 Suleimani brought everything here

Semantically, the adverb *aa* 'here' encodes the location of the speaker at the time of producing the sentence. However, in (31), the adverb *aa* 'here' is semantically underspecified for the truth conditional interpretation of the sentence in the sense that it does not refer the specific spot where the speaker was at the time of producing the sentence. Rather, it is pragmatically narrowed to encode a particular county, sub-county, location, sub-location, village, etc. The interpretation on which the speaker means 'the person under reference brought everything to this village' would also entail the interpretation of the county, sub-county, location, sub-location, village, and so on, as illustrated in (32).

- (32) *SULEIMANI A-A-RET-IR-E MA-UNTU MO-NTHE*
 Suleimani 3SG-tns-bring-PERF-fv NC7-thing NC-all-fv
I-TURA R-IRI
 NC5-village NC5-this
 SULEIMANI BROUGHT ALL THINGS TO THIS VILLAGE

Sentence (31) will therefore achieve more contextual effects on the interpretation provided by the explicature in (32) than on interpretation on which the speaker means the specific spot where he was at the time of producing the sentence.

Saturation also constrains the derivation of the meaning of sentences that bear multiple semantic representation, such as (33) below.

- | | | | | |
|-------|------------------------------------|-----------------|-----------|----------------|
| (33) | <i>Mukundi</i> | <i>a-a-r-i</i> | <i>na</i> | <i>mu-anki</i> |
| | Mukundi | 3SG-tns-have-fv | with | NC2-fire |
| (33a) | Mukundi has fever | | | |
| (33b) | Mukundi is in possession of a fire | | | |

Whereas the NP *Mukundi* in (33a) is semantically assigned the semantic role of the experiencer at the propositional level of meaning, the NP *Mukundi* in (33b) is assigned the semantic role of the possessor. Therefore, (33) yields the propositional meaning of either (34) or (35), depending on the context in which it is produced.

- | | |
|------|------------------------------------|
| (34) | MUKUNDI HAS FEVER |
| (35) | MUKUNDI IS IN POSSESSION OF A FIRE |

Therefore, whether the propositional meaning of (33) is either (34) or (35) is determined once the utterance of the sentence is determined by reference to the context. What the above data suggest is that explicatures are needed to specify the meaning of sentence in terms of the state of affairs either in the actual or the possible world. Explicatures such as (34) or (35) are either true or false depending on the contexts within which sentences that express them are produced. For instance, an ambiguous sentence such as (33) above will be true if the entity encoded by the NP *Mukundi* in the world of discourse is consistent

with the properties encoded by the predicates in (34) or (35) which depends on the context in which the sentence is produced. This suggests that when a sentence is true or false, “it is only because the proposition it expresses is true or false” (Lycan, 2000:81). Propositions are therefore intrinsic truth conditions of utterances of sentences and hence make sentences bear a determinate truth conditions.

Let us now turn to the role of enrichment in the derivation of explicatures and implicatures. Unlike saturation, which only plays a role in the derivation of explicatures, enrichment derives both explicatures and implicatures at the level of the propositional form. Consider the derivation of an explicature in the derivation of the propositional meaning of quantified expressions with negative quantificational constituents in (36).

(36)	<i>Guku</i>	<i>gu-a-kar-i-e</i>	<i>ugu</i>	<i>gu-t-i</i>	<i>a-ntu</i>
	Here	3SG-tns-be-mood-fv	that	inf-neg-fv	NC1-people
	There were no people [living] here				
S2	<i>A-ntu</i>	<i>m-a-ri</i>		<i>Weru</i>	
S2	NC1-people	3PL-tns-be		Weru	
	People were [living] in Weru				

In (36), the sentence represents a state of affairs in which not a single person existed in the location referred to by the location encoded by the adverb *guku* ‘here’. In this case, the sentence expresses a semantically indeterminate meaning since this is not the intended proposition. On the contrary, the speaker intends to represent a state of affairs in which there were no ordinary people citizens living in the location he is referring to, but the only people who lived there were

the freedom fighters. Therefore, the truth conditional meaning intended in (36) is represented by the propositional form in (37).

(37S1) *GUKU GU-A-KAR-I-E UGU GU-T-I*
 Here 3SG-tns-be-mood-fv that inf-neg-fv
A-NTU [M-A KAWAIDA]
 NC1-people [NC1-ASSOC ordinary]
 THERE WERE NO ORDINARY CITIZENS LIVING IN THIS
 VILLAGE

(37S2) *A-NTU [M-A KAWAIDA] M-A-R-I WERU*
 NC1-people [NC1-ASSOC ordinary] 3PL-tns-be-fv Weru
 THE ORDINARY CITIZENS WERE LIVING AT WERU

The propositional form in (37S1) is the enriched form of the logical form of (36). In enriching the meaning of (36) to the explicature in (37S1), a lexical entry such as *guku* ‘here’ in (36) is enriched to yield the concept ‘THIS VILLAGE’ at the propositional form level. Hence, (37S1) can be judged either to be true or false depending on which village the speaker makes reference to. In (37S1) and (37S2) the constituents (*M-A KAWAIDA* ‘ORDINARY’) is not generated by syntactic operations that apply during the derivation from the numeration to the interface (logical form and phonological form); they are generated at the level of the propositional meaning by means of a pragmatic process of enrichment which takes place through reference to the preceding discourse topic.

Enrichment also plays a role in the derivation of implicatures. In the process of deriving implicatures, the hearer derives a meaning that is not traceable to the lexical items that constitute the logical form. Consider (38a–b):

(38a) *Maitu m-a-mb-uri-a nt-tuk-ir-w-e ku*
 Mother 3PL-tns-obj-ask-fv 1SG-get late-PERF-pass-fv where
 My parents asked me where I got late

(38b) *Nd-a-m-er-a ni η-ombe i-mwe ci-ur-ir-e*
 1SG-tns-obj-tell-fv be NC4-cows NC4-some 3PL-lose-PERF-fv
 I told them that some cows got lost

(38b) is the answer to (38a). The concept communicated in (38b) is more specific than the general concept expressed by the linguistically encoded meaning which represents a state of affairs in which some unspecified number of the cows that the speaker had at time *t* could not be traced. Instead of producing the morpheme encoding a specific location as a response to (38a), the speaker opts for (38b). (38b) provides an appropriate answer as to *where* he was and *why* he was in that location at that specific time. While the presence of the wh-constituent *ku* 'where' in the logical form of (38a) requires that (38b) provides the location of the speaker, (38b) instead provides an explanation as to why the speaker got late. Despite the fact that there is an apparent information gap between (38a) and (38b), the latter is not infelicitous in relation to the former because it generates more contextual effects and hence provides additional information, such as the idea that some cows got lost, to mean that the speaker got late while looking for the lost cows. This additional information eventually offsets the processing efforts required for processing (38b), thereby maximizing the understanding of the utterance by producing more cognitive effects and more relevance.

Implicatures are also derived from sentences such as (39) below. Data from Gichuka suggests that there are sentences whose lexically represented NPs is determined by implicatures, as can be seen in the following example.

- (39) *N-a-thi-ir-e* *cukuru. Mu-alimo* *a-a-r-i*
 1SG-tns-go-PERF-fv school. NC1-teacher 3SG-tns-be-fv
mu-ruaru
 NC1-sick
 I went to the school. The teacher was sick

In (39), there is no mention of the noun *mu-alimo* 'teacher' in the first sentence. In deciding the intended referent for the NP *mualimo* 'teacher', the hearer will need to go beyond mere decoding of the preceding sentence and specify the intended referent for the NP *mualimo* 'teacher' by using his encyclopaedic knowledge about *teachers* and *schools*. Here, the hearer of (39) constructs an assumption such as the one in (40).

- (40) Schools have teachers
 Explicature: The school where the speaker went had a teacher or teachers

The concept *MU-ALIMO* encoded by the NP *mu-alimo* in (40) has an encyclopaedic entry consisting of the denotation of the entity that instantiates it, such as: a school is a place where knowledge is imparted, and there are teachers and students in schools. Therefore, the implicature in (40) becomes accessible through the encyclopaedic entry that a school may have a teacher.⁸⁴ Once this implicature is retrieved from the memory, the speaker is able to construct a

⁸⁴ For a full technical discussion of the relationship between bridging and relevance in sentence interpretation, see Carston (2006) and Matsui (2000).

hypothesis that there was a teacher at the school where the speaker went and that this teacher is the intended referent for the NP *mualimo* in (39). This process is also labelled bridging. Bridging assumptions are implicatures (Matsui, 2000). This bridging assumption yields the propositional form in (41).

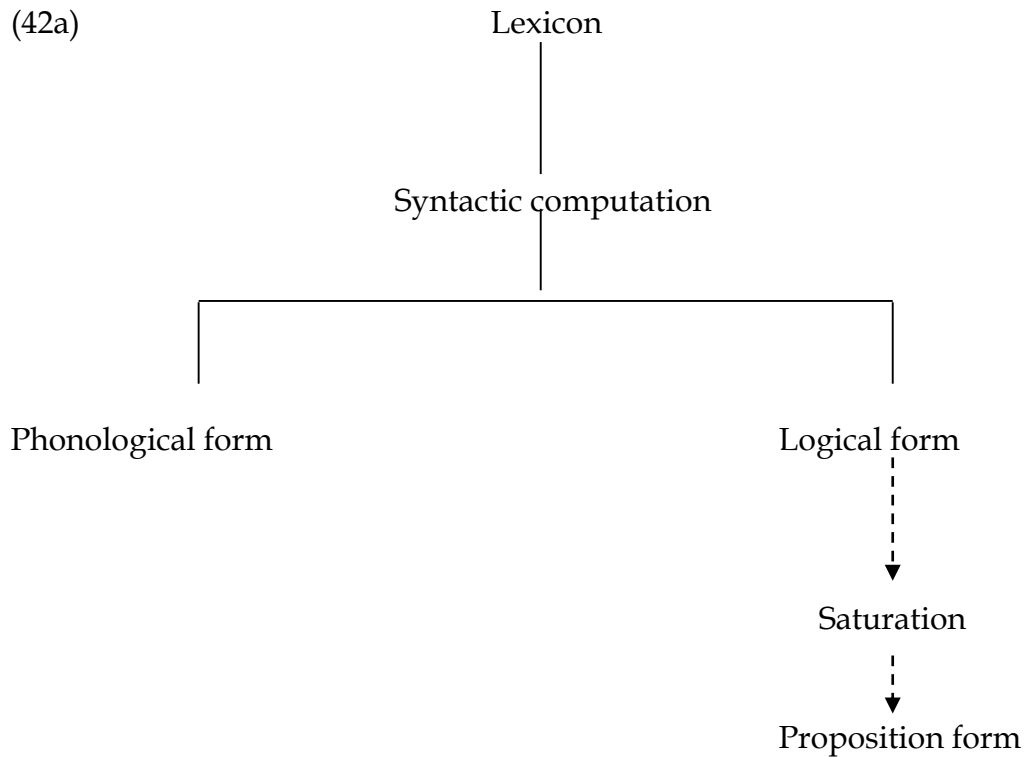
- (41) *Mu-alimo* *W-A* *CUKURU IRIA* *N-A-THI-IR-E*
 NC1-teacher NC1-ASSOC school that 1SG-tns-go-PERF-fv
a-a-r-i *mu-ruaru*
 3SG-tns-be-fv NC1-sick
 THE TEACHER [FROM THE SCHOOL THAT I VISITED] WAS
 SICK

The concept *FROM THE SCHOOL THAT I VISITED* in (41) is integrated into the semantic structure of the sentence at the propositional form level of interpretation to specify the truth conditional meaning of the sentence. It is only at the level of the explicatures such as (41) that (39) can yield a truth conditional meaning.

6.4 Implications for the role of context in the Minimalist Program

Based on the analyses presented above, three observations can be made: first, the logical forms of some sentences fail to encode the truth conditional meaning. Second, some sentences express the truth conditional meaning only by virtue of their propositional form representations. Propositional forms are a function of both the syntactic computation and inferential processes, and not the former alone as argued in Chomsky's generative grammar (1965, 1972, 1977, 1981, 1995a, 1995b and 1995c). As suggested in section 6.2, the grammar of a sentence generates the truth conditional meaning at the level of the

propositional form rather than at the level of the logical form. This observation calls for a re-analysis of the computational process. The present study therefore proposes two changes related to the computation system. The first change is related to the integration of the saturation into the computational system as can be seen in the schematic diagram in (42a).⁸⁵

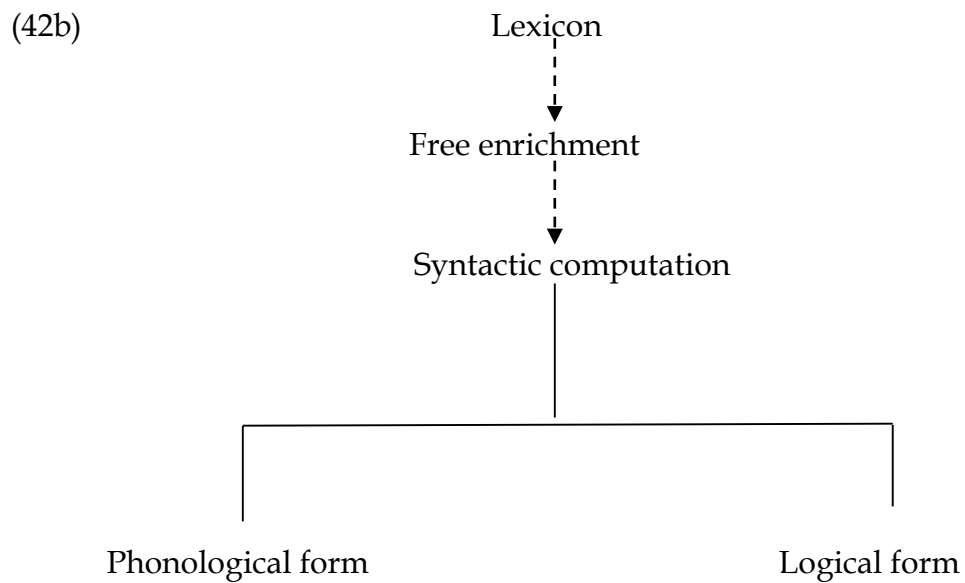


As suggested in (6.1.1) above, saturation occurs during the derivation from the lexicon to the propositional forms in sentences containing anaphors (reflexives and reciprocals), (bound and free) pronominals, elliptical expressions and lexical NPs. Here, (42a) suggests that saturation of the logical forms for sentences with

⁸⁵ The dotted lines in the diagrams indicate the inferential processes while a complete line indicates the syntactic processes.

anaphors, (bound and free) pronominals, elliptical constructions and lexical NPs occurs after *numeration* has applied.

The second proposal for the change in the computational system concerns the integration of free enrichment in the derivation from the lexicon to the propositional form. In this case, lexical items are enriched via contextual information before they enter *numeration* as can be seen in (42b).⁸⁶



In line with the two proposals above in regard to the accounting of the meaning for the truth conditional meaning of linguistic expressions with quantified expressions, nonsententials, unarticulated constituents as well as those whose interpretation require bridging assumptions, the diagram in (42b) suggests that

⁸⁶ The dotted lines in the diagrams indicate the inferential processes while a complete line indicates the syntactic processes.

The assignment of the referent of the reflexive prefix *e-* 'themselves' and that of the bound pronominal morpheme *a-* 'he' in (43) requires the hearer to refer to the most salient entity within the discourse structure. Additionally, fixing the semantic value/referents for the bound pronominals in (43) requires reference to the context of the sentence. If the semantic value of *a-* 'he' is *muntu wa Ibiti* 'Ibiti's son', this value is likely to change on another occurrence. Every instance of the use of the bound pronominals such as *a-* 'he' and reflexive morphemes such as *e-* 'themselves' requires the assignment of a different semantic value/referent. The task of the hearer is to track this morpheme and keep pairing it with its new semantic value as provided for by the context of the sentence. In doing so, the hearer searches through the discourse structure and identifies the entity that is the most salient and assigns it the intended referent. Once this referent is identified, any further search for another referent is disallowed by the comprehension heuristic. In (43), the semantic values of the bound pronominals must be identical with those of an entity that is not integrated within the sentence structure but anchored within the discourse structure. In order to co-index the bound pronominal morpheme such as *a-* 'he' in (43) with their discourse referents, the hearer has to identify the intended referent that is consistent with the principle of relevance as this is the one that will achieve the greatest contextual effects. The semantic representation of (43) has two implications: first, the domain of interpretation for a sentence such as (43) is the main verb, that is, the verb *tema* 'cut'. This has two consequences: first, the main

verb bears both the syntactic and pragmatic features that are obligatory for the truth conditional meaning of the sentence; second, the morphology of the verb *tema* ‘cut’ encodes referents such as the agent of the action that are anchored in the context of the discourse rather than in syntactically controlled sentence positions. The fact that the morpho-syntactic features of the main verb *tema* ‘cut’ bear discourse-controlled morphemes such as *a-* ‘he’ and *e-* ‘themselves’ leaves no room for the autonomy of syntax, as claimed by Chomsky (1995a).

For a sentence such as (44) below, the intended referent has to be identified through reference assignment in order for it to yield the intended propositional content.

(44)	<i>Mugure</i>	<i>ni</i>	<i>mu-alimo</i>
	Mugure	be	NC1-teacher
	Mugure is a teacher		

For (44) to derive a truth conditional meaning, the hearer has to identify the intended referent for the NP *Mugure* and assume that this is the referent that was intended by the speaker. This forms the premise upon which the truth conditional properties of the sentence should be judged. To arrive at the correct interpretation, the hearer has to identify the referent that meets the criterion of the consistency with the principle through the saturation of the NP *Mugure* until the one that is consistent with the criterion of consistency with the principle of relevance is arrived at. In other words, proper nouns are also semantically

unspecified and therefore determining their truth conditional meaning is completed through pragmatic saturation.⁸⁷

Saturation is also important in specifying the meaning of other elliptical constructions such as (45).

- (45) Speaker C: *A-a-r-ir-e* *mbi*
 3SG-tns-eat-PERF-fv what
 What did he/she eat?
- Speaker D: [NP *n-ama*]
 NC4-meat
 Meat

In (45), only the NP *n-ama* ‘meat’ is pronounced and the rest of the sentence receives a null phonological representation. In interpreting (45), the hearer of D’s response enriches its lexical entry by use of the VP in C’s question as the immediate context so that the missing constituents in D’s logical form yield the intended interpretation shown in (46).

- (46) *A-R-IR-E* *n-AMA*
 3SG-eat-PERF-fv NC4-meat
 HE ATE MEAT

Once the reference of the bound pronominal morpheme *a-* ‘he’ has been assigned, (56) expresses a truth conditional propositional meaning.

The diagram in (42a) further suggests that the derivation moves from the lexicon through numeration to the logical form via syntactic computation. The logical form has the capacity to undergo logical processing but it is semantically

⁸⁷ For a full technical discussion on the reference assignment for lexically represented NPs, see Sperber and Wilson (1986:205-217) and Wilson (1992:176 –9)

incomplete and therefore fails to yield any determinate propositional content. According to Sperber and Wilson, for any representation of a natural language to be true, it “must represent a state of affairs in a possible or actual world, whose existence would make it true.” (1986:72). At the level of the logical form indicated in (42a), a sentence fails to express the truth conditional meaning and hence has to be completed through saturation. Saturation ensures that the intended reference values are assigned to linguistic elements such as bound and free pronominals and lexically represented NPs within the sentence structure. Moreover, it ensures that conceptual information is supplied in sentences with elliptical structures in order for them to yield the propositional meaning. In addition, saturation determines the choice of the intended semantic representation among the possible candidates for ambiguous sentences. (42a) further suggests that logical forms are templates that are amenable to contextual saturation but not adequate for mapping the form and the meaning for linguistic expressions. They are templates that must be completed through contextual saturation in order for the sentence to bear the truth conditional meaning. According to Sperber and Wilson, each instance of a logical form is a “schema, which must be completed and integrated into an assumption about the speaker’s informative intention, and can be as complex as the speaker cares to make it (1986:175).

Turning to the diagram in (42b), the derivation from the lexicon to propositional forms for sentences containing nonsententials, quantified

expressions, and unarticulated constituents and implicatures involves the enrichment of the lexical entries before they enter in the *numeration*. For instance, consider the case of the nonsentential constituent in (47).

(47) Speaker A: [pointing at an oncoming car]
Mu-ntu *w-a* *Ibiti*
 NC1-person NC1-ASSOC Ibiti
 Ibiti's son

Speaker B: *t-i* *we*
 Neg-fv he
 It is not he

Syntactically, speaker A's utterance in (47) is a genitive NP. Thus, this cannot express a truth conditional meaning. However, in an appropriate context such as pointing, (47) may represent different states of affairs, as exemplified with (48a – c) below.

- (48a) THE ONCOMING CAR BELONGS TO IBITI'S SON
- (48b) THE PERSON DRIVING THE ONCOMING CAR IS IBITI'S SON
- (48c) THE PERSON APPROACHING THE SPEAKER AND HEARER'S LOCATION IS IBITI'S SON

While the lexical entry of speaker A's utterance only encodes the genitive-possessive relationship holding between the NP *muntu* 'son' (possessee) and the NP *Ibiti* (possessor), the truth conditional meaning derived from the sentence differs significantly from the semantic genitive-possessive relations derived from syntactic computation. Though the NP *car* is not represented at the lexical entry of A's utterance, the referent *car* is the most salient entity in the context and therefore central to the genitive-possessive relation. The propositional meaning such as that illustrated in (48d)

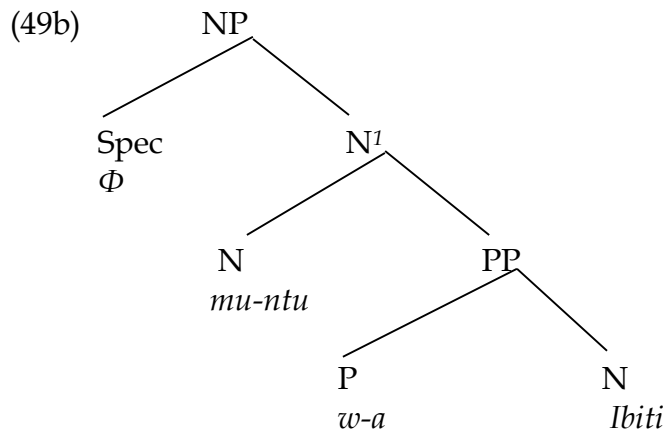
(48d) THE PERSON APPROACHING THE SPEAKER AND THE HEARER'S LOCATION IS IBITI'S SON

is derived by enriching the lexical entry of the possessive NP *mu-ntu w-a Ibiti* 'Ibiti's son' using the encyclopaedic knowledge that cars are driven by people and people own cars rather than vice versa. The act of pointing in (47) supplies the additional contextual cues for further inferencing to guide the hearer on the intended meaning of the genitive NP such as *muntu w-a Ibiti* 'Ibiti's son' in (47).

The derivation from the lexicon to the logical form for a genitive-possessive NP such as (47), repeated here as (49a), is shown in (49b).

(49a) *Mu-ntu w-a Ibiti*
 NC1-person NC1-ASSOC Ibiti
 Ibiti's son

The pronounced structure of (49a) has the logical form representation in (49b).



At the level of the logical form representation in (49b), the possessive NP *muntu wa Ibiti* 'Ibiti's son' in (49b) does not bear propositional meaning and therefore it cannot be judged as either true or false. In both (49a) and (49b), the derivation from lexicon to propositional form is attained via reference to the context of the sentence such as pointing, as pointed out in (48d). The idea is that for

nonsententials, each of the lexical item within the lexicon is substituted by its own pragmatically modulated (enriched) concept before numeration in order for the lexical item to yield a truth conditional meaning.

The derivation of implicatures in conversational situations involves the enrichment of lexical entries in order to derive the truth conditional meaning from sentences, as shown in (50a) below.

- (50a) Speaker A: *Tu-ka-thi-i gu-a cucu ruyu*
 1PL-tnsgo-fv NC7- ASSOCgrandmother tomorrow
 Shall we visit our grandmother tomorrow?
- Speaker B: *N-a-r-i ku igoro*
 1SG-tns-be-fv there yesterday
 I was there yesterday

In (50a), speaker B's response is interpreted as a rejection of A's request. B's response simply expresses the proposition that the speaker will not visit the grandmother, as schematized in (50b).

- (50b) Implicature/propositional meaning: B WILL NOT VISIT THE GRANDMOTHER

The implicature in (50b) derives from B's response in (50a). Therefore, B's response is a case of implicature which comes as an indirect answer to A's question and thus requires little or no input from the logical form of A's response. Structures such as (47) and B's response in (50a) suggest that nonsententials, such as *mu-ntu w-a Ibiti* 'Ibiti's son' and sentences such as *n-a-r-i ku igoro* 'I was there yesterday' are labels for concepts that can be enriched to yield a propositional meaning that is directly mapped onto the meaning

intended by the speaker. Such examples suggest that the semantic values for lexical items are fixed in the course of the enrichment of the derivation of sentence meaning as opposed to the view that lexical items have a fixed set of semantic markers through which they can be assigned semantic representation via decomposition. In other words, Chomsky's (1995a:237) suggestion that the lexicon determines the property of lexical items as defined by universal grammar has to be relaxed to accommodate for the fact that there are some sentences (such as those involving nonsententials, quantified expressions, unarticulated constituents and implicatures) where free enrichment precedes numeration in the determination of the truth conditional meaning of linguistic expressions such as (47) and B's response in (50a). This reanalysis is required in order to incorporate the fact that the features of context that are not determined by the universal grammar play a significant role in constraining the truth conditional meaning of linguistic expressions.

Now, consider a quantified expression such as in (51) for a demonstration of the interplay of grammar and pragmatics in accounting for their meaning.

- (51) *Ci-ana* *ci-onthe* *ni* *nd-uaru*
 NC1-children NC1-all be NC1-sick
 All the children are sick

Clearly, (51) does not represent a state of affairs in which all the children in the universe are sick at the time of producing the sentence. Rather, the universal quantifier *cionthe* 'all' has to be enriched in order to derive an interpretation that is intended by the speaker, that is, the interpretation that there is a salient group

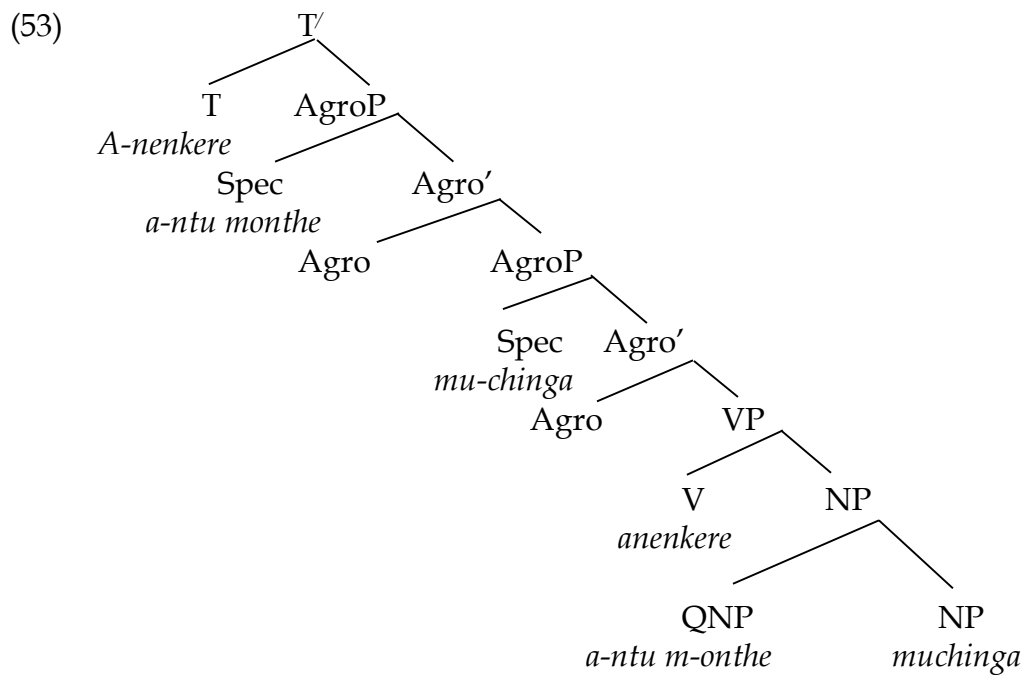
of children that the speaker refers to and that this is the group that is intended to be the domain of the restriction of the universal quantifier–*cionthe* ‘all’. The quantifier *cionthe* ‘all’ in (51) falls within the category of other context-dependent expressions which must be enriched in order to derive the propositional meaning that is intended by the speaker in all quantified expressions. Thus, the truth conditional meaning of the quantified expression is assigned once the domain of the quantifier has been enriched to yield the unique propositional form intended by the speaker. Rather than treating quantifiers as functional categories with only the feature specification [+ strong] and hence triggering a syntactic operation at pre spell-out (Chomsky, 1995a:292), the quantifiers also falls within the class of other context-dependent expressions whose meaning is determined via enrichment of their meaning of the sentences in which they occur. The domain of the quantifier varies across contexts and thus the truth conditional meaning of quantified expressions is determined by the intentions of the speaker rather than the intrinsic syntactic and semantic features of the universal quantifier.

In line with the above postulations, a quantified expression such as (52) below has a semantically indeterminate logical form as shown in (53).

(52)	<i>A-a-nenker-e</i>	<i>a-ntu</i>	<i>mo-nthe</i>	<i>mu-chinga</i>
	3SG-tns-give-fv	NC1-person	NC1-all	NC2-gun
	He gave all the people a gun			

In (52), the lexical items have only formal and semantic properties. For instance, a verb such as *nenkera* ‘give’ in (52) licenses two argument positions as can be

see with the presence of the indirect object QNP *antu monthe* ‘all people’ and the direct object NP *muchinga* ‘gun’. Semantically, the indirect object QNP *antu monthe* ‘all people’ is specified for the feature [+quant, + plural] while the direct object NP *muchinga* ‘gun’ has the feature specification [–plural]. Even after all the grammatically driven analysis has applied, the logical form of (52), as presented in (53) below, bears no propositional meaning.



In spite of the semantic features of the lexical items such as *nenkera* ‘give’, *antu monthe* ‘all people’ and *muchinga* ‘gun’ in (53), the logical form fails to adequately specify the propositional meaning of the sentence. For (53) to derive a propositional meaning, the logical form elements, that is, the lexical items, are enriched and mapped onto the propositional form by context where each of the lexical elements is assigned a new propositional value so that the sentence derives the explicatures in (54) below.

- (54) *A-A-NENKER-E* *A-NTU* *MO-NTHE* *MU-CHINGA*
 3SG-tns-give-fv NC1-person NC1-all NC2-gun
 He gave all the people a gun

It is at the propositional level of representation such as (54) where the propositional meaning of phrases and sentences are specified in order for the sentence to attain its truth conditional properties. For instance, the QNP *a-ntu monthe* ‘all people’ is enriched by identifying the intended referent for the NP *a-ntu* ‘people’. This involves the retrieval of the conceptual representation that uniquely identifies the intended referent of the NP *a-ntu* ‘people’ that satisfies the truth conditional meaning of the entire sentence. In this case, it is the contextual information anchored in the mind of the speaker/hearer or the discourse structure that restricts the scope of the quantifier *monthe* ‘all’ rather than the semantics of the NP *a-ntu* ‘people’ itself. For instance, if the preceding discourse made reference to a section of people within location *l*, then the quantifier would be interpreted as having scope over this specific group of people due to the recency of mention.

Enrichment not only accounts for the meaning of universal quantifiers but also of existential quantifiers. Consider the specification of the meaning of the quantifier *i-mwe* ‘some’ in (55).

- (55) *Nd-a-m-er-a* *η-ombe* *i-mwe* *ni* *ci-ur-ir-e*
 1SG-tns-obj-tell-fv NC4-cows NC4-some foc 3PL-lose-PERF-fv
 I told them that some cows had got lost

The QNP *η-ombe i-mwe* ‘some cows’ in (55) is an existential quantifier. Clearly, this NP does not represent a state of affairs where a number of cows that there

are in the universe got lost. The concept expressed by the QNP is pragmatically enriched to refer to a specific number of the cows that the speaker of (55) had at the time of producing the sentence. Thus, the explicature of (55) is represented by (56).

(56) ...*D-OMBE* *I-MWE* [*I-RIA* *ND-A-R-I*
 ...NC4-cows NC4-some [NC4-those 1SG-tns-have-fv
 NA *CI-O*] *NI* *CI-UR-IR-E*
 with NC4-them] be 3PL-lose-PERF-fv
 SOME OF THE COWS [THAT I HAD] GOT LOST

The embedded complementizer phrase (CP), *I-RIA ND-A-R-I NA CI-O* ‘THAT I HAD’ in (56) has no linguistic correlates at the level of logical form. The entire CP is supplied through the enrichment of the logical form of (55) in order to derive the propositional meaning of the sentence. The entire embedded CP is not represented within the structure of the logical form but is necessary for determining the propositional meaning of (55).

For (42b), the present study suggests that linguistic expressions such as nonsententials, quantified expressions and unarticulated constituents undergo (free) enrichment within the lexicon before they undergo the numeration (syntactic computation) in order to yield a truth evaluable meaning. What the above examples suggest is that lexical items bear syntactic, phonological, semantic and conceptual properties before they enter the numeration. They are received and processed by the input systems as repositories of these features (Sperber and Wilson, 1886:71). The conceptual information of the lexical items is then integrated with the rest of the information derived from the other input

systems such as acoustic, visual, and other perceptual systems and is then subjected to the inference rules within the central processing systems (Sperber and Wilson, 1986:72). This proposal has the consequence that a genitive NP such as *mu-ntu w-a Ibiti* 'Ibiti's son' in (47) is a nonsentential and undergoes free enrichment through the central processes such as inferences in order for it to express a truth conditional meaning which is dependent on the context in which it is produced.⁸⁸

Just like the derivation of the truth conditional meaning of nonsententials, the derivation of truth conditional meaning for sentences containing unarticulated constituents and quantified expressions is also not traceable to any syntactic rules such binding variables but by the context which supplies the missing propositional concepts to derive a truth evaluable meaning. For these sentences, the propositional meaning is attained via enrichment of the lexical items in order for the sentence to express a definite state of affairs. In deriving the propositional meaning, the conceptual information has to be enriched before the expressions enter *numeration*. The resulting logical form level of representation in (42b) is the 'enriched logical form' since it contains conceptual information derived from the central processing systems (context) in the sense of Sperber and Wilson (1986:71–2). Without this conceptual information, the

⁸⁸ According to Sperber and Wilson, central processes are inferential in nature and thus constrain the conceptual representation system (1986:72). Free enrichment is one of the inference processes that occur within the central system.

sentence fails to represent a state of affairs in actual or possible world and hence does not express any truth conditional meaning.

Following the above proposals regarding (42a) and (42b), the study suggests that Chomsky's (1995a) Minimalist syntax is the syntax of the logical form that is derived via numeration only. It fails to adequately account for the mapping form-meaning correlations in sentences. Context, as it has emerged throughout the study, plays a significant role in mapping the form (lexicon and logical form) to the truth conditional meaning of sentences. The process of saturation and enrichment of the linguistic expressions via contextual information is fast, automatic, and takes place within the sub-personal systems (Sperber and Wilson, 1986:73, Carston, 2002:7).

In the light of these proposals, Chomsky (1995a) does not need to shift from formalism to functionalism. What a syntactician such as Chomsky, who is regarded as a formalist needs to do is to reanalyze the structure of the lexicon to include conceptual properties of the lexical items rather than focus only on their semantic and formal properties. The proposal that lexical items bear conceptual properties presupposes that they are individually amenable to inference rules such as saturation and enrichment and hence have the capacity to constrain the truth conditional meaning of the sentences within which they occur. Further, formalists need to agree with the fact that there are some sentences in natural languages whose logical forms lack the capacity for mapping form-meaning correlations.

6.6 Summary to chapter six

This chapter has looked at how saturation of logical forms plays an important role in the specification of the truth conditional meaning of sentences with anaphors (reflexives and reciprocals), bound and free pronominals, and lexically represented NPs. Second, it has also looked at how the pragmatic process of enrichment constrains the interpretation of sentences with quantified expressions, nonsententials, unarticulated constituents as well as those whose interpretation requires bridging assumptions.

The chapter has proposed a modification of Chomsky's (1995a) computational system to account for the derivation of truth conditional meaning for all those types of sentences with anaphors (reflexives and reciprocals), (bound and free) pronominals and lexically represented NPs. Specifically, it has proposed that the derivation moves from the lexicon to the logical form via numeration and then from the logical form to the propositional form (explicatures) via saturation.

With regard to the derivation of the truth conditional meaning of sentences containing quantified expressions, nonsententials, unarticulated constituents as well as those whose interpretation requires bridging assumptions, the study has proposed that the derivation moves from the lexicon to the logical form via the process of enrichment. The study has proposed that the output of the enrichment of the lexical items is the enriched logical form that represents the truth conditional meaning of sentences.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS FOR FURTHER RESEARCH

7.1 Summary of research findings

The study set out to find out how a relationship between the context and grammar in specifying the sentence meaning can be established. It pursued the following research objectives:

1. To examine the extent to which the truth conditional meaning of sentences with (bound and free) pronominals was spelled out at the logical form
2. To investigate the extent to which the truth conditional meaning of sentences with lexically represented NPs was spelled out at the level of logical form
3. To verify the extent to which the truth conditional meaning of sentences with quantified expressions was determined by the context in which the sentences occur
4. To verify whether sentences with unarticulated constituents were represented with their complete meaning at the logical form
5. To suggest a modification of the Minimalist Program in order to propose an approach that integrates both the competence model and the model of sentence interpretation.

The study used data that was collected through semi-structured interviews with a sample of native speakers. Simple and complex sentences in Gichuka were recorded and uploaded on a computer where they were replayed, transcribed and analyzed in order to seek answers to the research questions. With regard to the first objective, it emerged that the logical form alone could not account for their truth conditional meaning since it was arrived at through the assignment of reference to pronominal constituents.

The second objective was pursued through the analysis of the meaning of sentences containing lexically represented NPs in sentences. The study found out that the verb in Gichuka was the only constituent of the sentence in which anaphoric expressions and bound pronominals occur. In such sentences, there was a shift in the domain of interpretation from the domain of the sentence to the domain of the verb. Further, the study found out that lexical representation of the participants of the action was not obligatory for both transitive and intransitive verbs in sentences containing anaphors and pronominals since, the participants of the action were encoded in the verb and their referents are recoverable from the context and, not the syntactic and semantic properties of the logical form.

The presence of diverse morphological processes such as inflection and derivation that take place within the verb present serious difficulty to basic principles of the universal grammar such as the theta criterion that are held to apply at the logical form level of representation. For instance, once the

participant of the verb was encoded by a morpho-syntactic unit with the verb, lexical representation of the participant is disallowed unless such a lexical item bears an additional pragmatic feature such as [+focus]. Thus, the participant marking on the verb resulted in valence reduction, leaving room for the language users to rely on contextual information to assign the intended semantic value to the morpho-syntactic units incorporated into the verb. This was shown with reflexive and reciprocal constructions. The number of lexically represented NPs were reduced. Once this happened, hearers relied on contextual information to resolve the semantic value of sentences with these constituents in order to assign them the truth conditional meaning. The presence of valence increasing or reducing processes was identified in this study as one of the main sources of difficulty for any grammatically driven approach to accounting for the meaning of sentences. This was so because assigning the truth conditional meaning to sentences with anaphors and pronominals required an obligatory reference to discourse structure, hence leaving little or no room for the autonomy of syntax.

The third and the four objectives were pursued by analyzing quantified expressions and sentences whose interpretation depended on unarticulated constituents. It emerged that logical forms were inadequately specified to derive the truth conditional meaning for sentences containing quantified expressions and unarticulated constituents. For instance, determining the scope of

(universal) quantifiers in sentences with QNPs required the restrictor NP to be enriched in order to specify the meaning intended by the speaker.

The specification of the meaning of sentences with unarticulated constituents has been shown to pose challenges to the logical forms. Unarticulated constituents are supplied to the structure of sentences via enrichment. It emerged that unarticulated constituents lacked syntactic antecedents in the logical form of the sentences in which they occur. They were therefore generated at the level of the propositional form rather than at the level of the logical form. This took place through the process of the enrichment syntactic structures of the sentences to derive the propositional meaning intended by the speaker. The study therefore concluded that there were no logical form rules to constrain the interpretation of the unarticulated constituents.

Further, the study has shown that logical forms, unlike propositional forms, are underspecified for the truth conditional meaning of sentences. Contextual information such as knowledge of the discourse topic, spatial and temporal relations as well as perceptual processes are obligatory for the derivation either from the lexicon to propositional forms or from logical forms to propositional forms. Linguistic expressions, as it has emerged, bear truth conditional meaning by virtue of their propositional forms rather than their logical forms.

As a result of the above difficulties, the fifth objective was pursued by suggesting for the incorporation of two pragmatic processes in accounting for sentence meaning: The first was saturation. This focused on sentences containing constituents such as anaphors (reflexives and reciprocals), bound and free) pronominals, elliptical constructions and lexically represented NPs. Saturation completes the logical form of the sentence by assigning referents to these types of constituents. The second is enrichment. This concerned the use of top-down processes to enrich linguistic expressions in sentences with nonessentials, quantified expressions, unarticulated constituents, as well as sentences which require bridging assumptions (implicatures) to derive the truth conditional meaning. Enrichment modulates the lexical items by assigning them conceptual representations before they entered numeration. These processes have been proposed because the truth conditional meaning of a sentence is a function of both syntax and pragmatics, and not of the former alone, as has been argued throughout the Chomskyan tradition. Linguistic expressions attain truth conditional (propositional) meaning once they undergo saturation or enrichment in order to derive their propositional form, which is a representation that maps sentences to their truth conditional meaning.

7.2 Areas for further research

Due the limitations of space, time and scope, there are certain aspects of the language that could not be analyzed in detail. The morphology of the verb

and its complex interrelations with the sentence meaning could not be exhausted. The study did not delve into complete technical analysis of grammatical noun classes and the morphophonemic processes that assign them phonetic representations. This presented difficulties in analyzing the data especially when various morphological units were fused at the level of the phonetic representation. There is need therefore for a further analysis of the morphology of Gichuka using a synchronic description. It has been shown in this study that due to the complex nature of the morphology of the language, there is domain shift in the domain of interpretation from the clause level to the verb. It has emerged that in some sentences, the verb is the domain of interpretation since the arguments of the verb are incorporated within the morphological systems of the verb. In view of this, it is recommended that a morphological phenomenon of the language be examined and its relationship with the pragmatics be made more explicit using a syntax—pragmatics approach, taking into account saturation and enrichment rather than a syntax—semantics approach.

Additionally, since this study was both morpho-syntactic and pragmatic, it has been assumed all along that the subject and object position in Gichuka is not obligatory. For instance, the analysis of bound pronominal morphemes in sentences with incorporated NPs suggests an SOV word order while that of sentences with lexically represented NPs suggests an SVO word order. It is recommended that research be done on this area to determine the underlying

word order of Gichuka since, as it emerged in chapter three; the [Spec—Agrs] position in most sentences is integrated into the verb. There is thus the need to undertake a morpho-syntactic analysis of Gichuka in order to determine the underlying word order of the language and its implications for the understanding the truth conditional meaning of the sentences.

7.3 Contribution to the field of study

Gichuka is a thinly documented language. So, the contribution of this study should first be seen as an endeavour to document the language. To this end, chapters 3, 4 and 5 provide a detailed syntactic, semantic and pragmatic description of Gichuka sentences with anaphors, bound and free pronominals, lexical NPs, elliptical structures and Quantified expressions. The study provides a more systematic and comprehensive description of the syntactic, semantic and pragmatic properties of Gichuka sentences than any other conducted on the language so far.

Since the study analyzed both syntactic and pragmatic aspects of Gichuka sentences, it sheds new light on the treatment of their structure and meaning. The syntax-pragmatics approach suggested in the study can be extended to the analysis of the relations between the structure and meaning of sentences in other Bantu languages.

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TEXTS FROM WHICH THE DATA ANALYZED WERE DRAWN

APPENDIX 1: Narrative (animal story)

URATA WA SIMBA NA NTHEGERE

(THE FRIENDSHIP BETWEEN THE LION AND THE BADGER)

NARRATOR: STEPHEN MUGOH NKUGA

Date of the interview: 21 November 2012 at 8.45am

Place of Interview: Kamuguongo village, Tharaka–Nithi County, Kenya

- Ru-gono ru-u ni mu-ruthi ma-tum-it-e*
NC6-story NC6-that be NC2-lion 3PL-build-PERF-fv
u-rata. Mu-ruthi ni simba na n-thegere
NC7-friendship. NC2-lion be lion, and NC4-badger
That story is about the friendship between the lion and the badger
- Riu i-k-ir-an-a weu u-urag-ag-a η-ombe*
Now 3PL-PERF-tell-rec-fv you 2SG-kill-IMP-fv NC9-cow
u-ka-nd-umi-a n-ama
2SG-FUT-obj-give- -fv meat
They had agreed that you who kill cows, you will give me some meat
- N-thegere na y-o y-o i-ror-ag-a mi-atu,*
NC4-badger and NC4-it NC4-which 3SG-harvest-IMP-fv NC2-beehive
ma-buba NC5-mama, u-nd-um-i-e u-ki
NC5-beehive NC5-these, 2SG-obj-give- mood honey
And the badger which harvests beehives, these beehives, you will give me the honey
- Riu ka-bugu ni ke-gu-ir-e. Ka-ri ba-ntu*
Now NC9-hare foc 3SG-hear-pst-fv. NC9-be NC10-somewhere
mu-buro-ni. Ka-ri ba-ntu ki-anda
NC2-river-loc. 3SG-be NC10-somewhere NC3-valley
Now the hare heard. It was somewhere along the river. It was somewhere [in] the valley

5. *Riu ni rio n-thegere ye-t-ir-e mu-ruthi.*
 Now foc then NC4-badger 3SG-call-PERF-fv NC2-lion.
"Ii mu-ruthi ii ii i-ch-ir-a uki."
 EMP NC2-lion EMP EMP 2SG-come-goal-fv NC4-honey
 It is at this time that the badger called the lion. "Lion come for the honey"
6. *N-ti-kuri-a ma-uki ma-ku. Riu mu-ruthi*
 1SG-neg-want-fv NC6-honey NC9-poss. Now NC2-lion
Na u u-ku-ambat-a η-ombe
 And it 3SG-PERF-catch-fv NC4-cow
 I don't want your honey. And then the lion caught the cow
7. *Ii n-thegere ii i-ch-ir-a n-ama.*
 EMP NC4-badger EMP imper-come-for-fv NC4-meat.
N-ti-kuri-a ma-nyama ma-ku
 1SG-neg-want-fv NC9-meat NC9-poss
"Badger, come for the meat." "I don't want your meat"
8. *N-thegere i-ti-ku-igu-a. Mu-ruthi na-u u-ti-ku-igu-a*
 NC4-badger 3SG-neg-IMP-hear-fv. NC-lion and-it 3SG-IMP-hear-fv
kae ni u-gu-it-ir-w-a uki
 that foc 3SG-IMP-call-ben-pass-fv honey
 The badger cannot hear [what the lion is saying] and the lion cannot hear
 that it is being asked to come for the honey
9. *Ka-bugu ka-ri aa. Ga-ku-urag-a u-rata.*
 NC9-hare NC9-be here. NC9-inf-kill NC7-friendship.
Buria gu-nkigia na mu-ntu a-ka-ret-ag-a
 Way inf-mod with NC1-person 3SG-fut-bring-IMP-fv
n-gutu
 NC4-gossip
 The hare is here, killing the friendship. Like the way there can be
 someone (somewhere) spreading gossip

10. *Ti n-thegere i-k-ug-a. Ni ka ga-ku-urag-a*
 Neg NC4-badger 3SG-IMP-say-fv. Foc because 3SG-IMP-kill-fv
u-rata u-ria riria wi-gu-chag-a
 NC7-friendship NC7-that when 2SG-hear-IMP-fv
n-gutu
 NC4-gossip
ti m-bega
 neg NC4-good
 It is not the badger that is saying. It is because it (the hare) is killing that
 friendship just like you hear that gossip is not good
11. *Riu ni rio ma-ch-ir-e ku-on-an-a ta*
 Now be when 3PL-come-PERF-fv inf-see-rec-fv like
Kathathani, kana Chera. Yia! Ngu-it-ag-ir-a uki ni atia
 Kathathani, or Chera. Excl. 1SG-call-IMP-for-fv honey foc
 what
wa-ruth-ir-e
 2SG-do-PERF-fv
 Now they came to meet at a place like Kathathani or Chera. I have been
 asking you to come for honey. What did you do?
12. *li n-te-gu-a*
 EMP 1SG-neg-hear-fv
 I never heard
13. *Na ni wa-m-bir-ir-e uki n-ti-kuend-a*
 And foc 2SG-obj-tell-PERF-fv honey 1SG-neg-want-fv
 And you told me that you don't want the honey
14. *Wana niu ni-ng-u-it-ag-ir-a n-ama na*
 Even me foc-1SG-obj-call-IMP-ben-fv NC4-meat and
u-ka-m-bir-a u-ti-ku-enda n-ama cia-a
 2SG-PERF-obj-tell-fv 2SG-neg-want-fv NC4-meat NC4-poss
 Even me I call you for meat and you tell me that you do not want my meat
15. *Hari, n-t-e-e-egu-a*
 No, 1SG-neg-tns-hear-fv
 No, I have never heard

16. *Riu ni rio ma-ir-an-ir-e m-urag-i u-rata*
 Now foc when 3Pl-tell-rec-PERF-fv NC1-kill-nom NC7-friendship
u-yu we-tu baria u-g-et-an-a uri n-thegere
 NC7-this NC7-our where 2SG-tns-call-IMP-fv you NC4-badger
w-it-an-e mbere
 2SG-call-IMP-fv first
 It is at this time that they agreed on how to catch the killer of their
 friendship. When you call as badger, you call first
17. *Riu ni rio ye-tan-ir-e. ii Mu-ruthi ii,*
 Now foc when NC4-call-PERF-mood. EMP NC2-lion Emp
i-ch-ir-a uki.
 mood-come-for-fv honey.
N-ti-kuri-a ma-uki ma-ku"
 1SG- neg-want-fv NC9-honey NC9-poss
 It is at this time that it (the badger) called out. "Lion, come for the honey."
 I do not want your honey."
18. S1 *N-thegere ya-chon-er-a bo.* S2 *baria ye-gu-ir-ir-a*
 S1 NC9-Badger 3SG-enter-PER-fv there. S2 where 3SG-ear-tns-
 ASPfv
mu-gambo. Cho. S3 Sungura ya-umbuk-a. Ya-um-a
 NC2-sound. Excl. S3 hare 3SG-fly-fv. NC4-leave-fv
 S1 The badger entered there S2 where it heard the voice. The hare then
 got out and ran away
19. S5 *Ci-eng-an-a* S6 *ci-eng-an-a.* S7 *ci-eng-an-a.*
 S5 3PL-chase-ref-fv S6 3PL-chase-ref-fv. S7 3PL-chase-ref-
 fv.
 S8 *ci-eng-an-a.* S9 *ci-eng-an-a*
 S8 3PL-chase-ref-fv S9 3PL-chase-ref-fv
 They chased each other. They chased each other. They chased each other.
 They chased each other. They chased each other....
20. S1 *Sungura i-ku-a-ambat-a kabugu.* S2 *Na ku-l-a.*
 S1 Hare 3SG-PERF-pst-catch-fv hare. S2 And inf-eat-fv.
I-i-kina-ri-a
 3SG-tns-PERF-eat-fv
 The hare [badger] grabbed the hare and ate it

21. *Riu ni rio u-rata wa-ciok-ir-e*
 Now foc when NC7-friendship 3SG-return-PERF-fv.
w-a ci-o i-ri ci-iri
 NC7-ASSOC NC4-them 3SG-be NC4-two
 It is at this point that the friendship between the two [of them] was restored

22. *W-a gu-it-ir-w-a uki i-ka-a*
 NC7-ASSOC inf-call-for-pass-fv honey 3SG-go-fv
ku-rum-a uki na yo i-ka-a ku-rum-a n-ama
 inf-eat-fv honey and it 3SG-go-fv inf-bite-fv NC4-meat
y-a-mbat-a η-ombe
 3SG-tns-catch-fv cow
 The kind of friendship where the lion would go and have a bite when the badger harvested honey and similarly where the badger would go and have a bite the lion killed a cow

APPENDIX 2: Historical narrative about colonialism

WAKI WA CUKURU YA MUTEMBE NA CIA MATURA MARIA

MIRIGICIRITIE

**(THE CONSTRUCTION OF MUTEMBE PRIMARY SCHOOL AND THOSE
IN THE SURROUNDING VILLAGES)**

NARRATOR: STEPHEN MUGOH NKUGA

Date of the interview: 21 November 2012 at 9.15am

Place of Interview: Kamuguongo village, Tharaka–Nithi County, Kenya

1. *Cukuru ci-a-tum-ag-w-a ni a-ntu mama*
School 3SG-pst-build-IMP-pass-fv by NC1-people these
m-a kanitha
NC1-ASSOC church
Schools were being built by Christians
2. *Ni mo ma-ruth-ag-a ta maa Suleiman w-a John*
be they 3PL-do-IMP-fv like likes Suleiman NC1-ASSOC john
It was people like Solomon (John's father) who used to build schools
3. *U-yu w-a Njiniti nua we mu-ene*
NC1-this NC1-ASSOC Janet Foc himself NC1-owner
ma-untu mo-nth-e aa nuntu foc we w-ona-on-ag-a
NC7-thing NC-all-fv here because it him NC-see-see-ASP-fv
John, this Janet's son, himself is the one who brought about most of the
things here (around this place) because he was the only one who was
enlightened

4. *Wana cukuru i-no y-a Mutembe ni we*
 Even school NC4-this NC4-ASSOC Mutembe be him
we-t-ir-i-e. E-t-ag-i-a a-thungu
 3SG-request-PERF-mood-fv. 3SG-request-IMP-mood-fv NC1-Europeans
 He is even the one who requested for Mutembe primary school. He was
 requesting [for schools] from the colonialists
5. *Ni we we-t-ir-i-e ni tu-rum-w-e*
 Be him 3SG-request-PERF-mood-fv foc 2PL-give-pass-mood
cukuru tu-u-mi-ak-e Mutembe baria Lillian a-r-i.
 school 1PL-tns-obj-build-fv Mutembe where Lillian 3SG-be-fv.
S2 Ni bo be-t-ag-w-a Mutembe.
 S2 be there 3SG-call-IMP-pass-fv Mutembe
S3 Ku-thi-i nau i-r-i nau ni ru-tere
 S2 inf-go-fv where 3SG-be there foc NC6-side
ru-a Magumoni
 NC6-ASSOC Magumoni
 He is the one who requested that we be given the permission to build the
 school at Mutembe where Lillian lives. That is the place which used to be
 called Mutembe. Where the schools is currently located is along the
 borders [of Mutembe] and Magumoni
6. *Wana ya-ndik-it-w-e Gitareni naa*
 Even 3SG-write-PERF-pass-fv Gitareni this side
 It [Mutembe primary school] was registered under Gitareni [location] on
 this side
7. *Riu nuntu sub-chief uu wa-r-i ku,*
 Now because sub-chief who NC1-be-fv there,
Gakubi w-a Kamunyu, riu nirio
 Gakubi NC1-ASSOC Kamunyu, now when
barua cia-ret-ir-w-e ku-a-ur-w-a
 letter 3PL-bring-PERF-pass-fv inf-tns-ask-pass-fv
nuu w-i-ich-i Mutembe. S2 We a-ug-a
 who 3SG-tns-know-fv Mutembe. S2 He 3SG-say-fv
ni w-i-ch-I ni i-ret-w-e.
 foc 3SG-tns-know-fv foc 3SG-bring-pass-fv.
S3 Riu ni rio ya-tum-ir-w-e baria
 S3 Now be when 3SG-send-PERF-pass-fv there
 When the letter authorizing the establishment of the school was brought,
 it was asked whether there was anyone who knows Mutembe and the
 then sub-chief by the name Gakubi son of Kamunyu said he knew
 [Mutembe] and then the school was constructed there.

8. *Ni a-thungu ma-ndik-ag-a. Tu-u-ret-er-w-e*
 Foc NC1-Europeans 3PL-employ-IMP-fv. 1PL-tns-bring-ASP-pass-fv
mu-ntu u-yu ni we mu-nene
 NC1-person NC1-this be him NC1-leader
 It is Europeans who were employing [the chiefs and assistant chiefs]. We would be brought someone [and would be told that] this is [our] leader
9. *Riu Suleimani ni we w-on-a on-ag-a aa nuntu ni*
 Therefore Suleimani foc he 3SG-see-fv see-IMP-fv here because foc
we u-thom-ith-it-i-e mu-ntu w-a
 he 3SG-read-cause-PERF-cause-mood NC1-person NC1-ASSOC
Ibiti
 Ibiti
 Therefore, it is Suleiman who was a bit enlightened here [in this village] since he is the one who educated the son of Ibiti
10. *Riu ni we wa-baul-ir-e Mu-ntu w-a*
 Therefore foc he 3SG-succeed-PERF-fv NC1-person NC1-ASSOC
Ibiti
 Ibiti
 Therefore it is the Son of Ibiti who succeeded [in education from this village]
11. *Nuntu gu-ku ku-ari na mi-ago mi-ngi muno*
 Because NC10-here inf-be with NC2-pleasures NC2-many very
wana nyi-imbo wana n-chobi wana i-bata
 even NC4-songs even NC4-beer even NC3- festivities
ii ci-ari Chuka i-no ci-ari nene
 which NC3-be Chuka NC4-this NC3-be big
 Because there were so many worldly pleasures such as great traditional songs, drinking beer and circumcision festivities in Chuka [these prevented people from going to schools]
12. *Ni ch-io cia-gir-ag-i-a a-ntu ma-a-a cukuru*
 Foc NC3-they 3PL-prevent-IMP-ASP-fv NC1-person 3PL-tns-fv school
 They are the once that kept people out of school
13. *Riu Suleimani ni we wa-ret-ag-a ka-utheri*
 Therefore Suleimani foc he 3SG-bring-IMP-fv NC9-light
 It is therefore Suleimani who was contributing to development [around this area]

14. *I-no y-a Kithura na yo*
 NC4-this NC4-ASSOC Kithura and it
y-a-nenk-an-ir-w-a ba gu-tum-a ni mu-ntu
 3SG-tns-give-mood-ben-PERF-fv where inf-build-fv by NC1-person
u-gu-it-w-a Nthiga
 3SG-IMP-call-pass-fv Nthiga
 The land where Kithura [primary school] is built was given by someone
 by the name Nthiga
15. *Nthiga u-ria u-chi-er-e muthoni w-a*
 Nthiga NC1-who 3SG-sire-ASP-fv in-law NC1-ASSOC
Amos, kunjuri wa-ke. Riu ithe ni we
 Amos, great grandparent NC1-poss. Therefore father foc he
w-i-it-ag-w-a Itira
 3SG-tns-call-IMP-pass-fv Itira
 Nthiga, the great grandfather father of Amos' in-law is therefore is the
 once whose name was Itira
16. *Riu ni we wa-rum-an-ir-i-e ki-gwanja*
 Therefore foc he 3SG-give-mood-PERF-ASP-fv NC3-land
gi-a gu-ak-w-a riu gi-ak-w-a ni
 NC3-ASSOC inf-build-pass-fv therefore 3SG-build-pass-fv by
maa baba
 our fathers
 He is therefore the one who gave out the land for the construction [of
 Kithure primary school] and therefore our fathers built it there
17. *N-turia i-no tu-ra-ak-ir-e riu.*
 NC4-turia NC4-this 2PL-tns-build-PERF-fv now.
I-no Kiamuchii ni yo n-kuru ti Nturia na ni yo n-kuru
 NC4-this Kiamuchii be it NC4-old than Nturia and be it NC4-old
ti maa Mutembe
 than likes Mutembe
 We built Nturia [primary school] recently. Kiamuchii [primary school] is
 the oldest school around and it is older than Nturia [primary school] and
 Mutembe [primary school]

18. S1 *Kamuguongo* *ga-ka* *tu-u-ra-ak-ir-e* *igoro*
 S1 *Kamuguongo* NC4-this 2PL-tns-build-PERF-fv yesterday
 S2 *Wa* *riu* *n-ki-thom-ith-ag-i-a* *mama maa*
 S2 Just recently 1SG-IMP-educate-ben-ASP-mood-fv these mine
 S3 *Wana* *n-ka-rut-ag-a* *ciringi* *ngiri*
 S3 Even 1SG-IMP-give-IMP-fv shillings thousand
i-g-ak-w-e
 3SG-tns-future-build-pass-fv
 We built [Kamuguongo primary school] the other day as I was just
 educating my [own children] and even contributing a thousand shillings
 towards its construction
19. *I-ra-mbiriri-e* *wa* *i-ndi* *i-nu*
 3SG-PERF-start-fv just NC4-time NC4-that
 It [kamuguongo primary school] started just that time

APPENDIX 3: Colonialism and the People of Chuka

ANTU MA CHUKA NA THIRIKARI YA MUTHUNGU
(THE PEOPLE OF CHUKA AND THE COLONIAL GOVERNMENT)

NARRATOR: STEPHEN MUGOH NKUGA

Date of the interview: 21 November 2012 at 9.45am

Place of Interview: Kamuguongo village, Tharaka—Nithi County, Kenya

1. *Chuka ni ku tu-E-ekar-ag-a*
Chuka be where 1PL-tnsstay-IMP-fv
We used to stay in Chuka [[town] before independence]
2. *Guku gu-a-karie ugu guti a-ntu. A-ntu*
Here inf-tns-be that without NC1-people. NC1-people
m-a-ri Weru
3PL-tns-be-fv Weru
There were no people [living] here. People were [living] in Weru
3. *Hari gu-akari ugu wana njogu i-kina-ch-a guku*
No inf-be that even elephants NC4-PERF-come-fv here
Ri tu-a-ch-a batiru guku u-gi-ch-a
When 1PL-PERF-come-fv patrol here 2SG-IMP-come-fv
nua mai m-a nj-ogu
only dung NC4-ASSOC NC4-elephant
There were no people living in this place. When we came for patrols here what we used to see was only elephant dung
4. *Indi maa tu-a-bur-ag-a me-kar-ag-a aa baba Nturia*
But those 1PL-pst-beat-IMP-fv 3PL-stay-IMP-fv here Nturia
But for those we used to fight they used to stay here at Nturia [village]

5. *Mama ma-ngi me-kar-ag-a ki-thaka-ni m-a*
 These other 3PL-stay-IMP-fv NC3-bush-loc NC1-ASSOC
mau mau.
 mau mau
A-ga-ku-on-a ni gu-gu-it-a na e
 3SG-cond-obj-see-fv be inf-obj-kill-fv and him
wa-mu-on-a u-mu-it-e
 2SG-obj-see-fv 2SG-obj-kill-fv
 The others were mau mau and they used to live in the bush. If they saw you they would kill you and vice versa
6. *Tuiu tu-a-r-i mu-ena w-a thirikari*
 We 1PL-tns-be-fv NC2-side NC2-ASSOC
 government
na mo m-a-ri mu-ena w-a
 and they 3PL-tns-be-fv NC2-side NC2-ASSOC
gu-chu-a wiathi
 inf-see-fv independence
 We were fighting for the [colonial] government and they were fighting for independence
7. *Na mo no m-a-kum-a kuu ma-ga-ch-a guku*
 Even they also 3PL-tns-come from-fv there 3PL-tns-come-fv here
wana mo
 even them
 They [Kikuyus] would also travel from their place and come here to fight alongside us
8. *Wana Njeru Mutoi nua m-a-ch-ag-a guku*
 Even Njeru Mutoi also 3PL-tns-come-IMP-fv here
 Even [people like] Njeru Mutoi used to come here
9. *Ta hekaheka i-ngi m-a-ret-a guku*
 Like commotion NC4-another 3PL-tns-bring-fv here
y-a kuma Gikuu. Y-a-ri-a nd-egwa
 NC4-ASSOC from Kikuyu. 3SG-tns-eat-fv NC4-bull
i-no Baa Mbogoni. M-a-kind-a nd-egwa ci-iri
 NC4-these here Mbogoni. 3PL-tns-kill-fv NC4-bull NC4-two
 There is another mess they brought from Kikuyu [land] that ate two bulls at Mbogoni

10. *Ka-rumbeta i-ki-rum-ag-a au muno.*
 NC9-trumpet 3PL-tns-blow-IMP-fv there very.
Riu ma-ke-r-ag-a a-rithi thi-ini mu-gir-e
 Now 3PI-tns-tell-IMP-fv NC1-shepherds go-mood 2PL-bring-fv
thirikari baria Itugururu i-ch-e
 government there Itugururu NC4-come-fv
 The air was filled with the trumpet sounds. They [the mau mau fighters] were telling the shepherds to go and bring the government [soldiers] from Itugururu to come where they were staying
11. *Mu-u-bur-e riboti thirikari i-i-ch-e.*
 2PL-tns-send-fv report government 3SG-tns-come-fv.
li mi-chinga m-e na yo
 EMP NC2-gun 3PL-have and
 them
 You ask the government to come. And they had very dangerous guns
12. *Mu-thungu a-thim-a au na ndurumeni*
 NC1-European 3PL-measure-fv there with binoculars
ugu a-on-a ba-ti-tony-ek-a
 that 3SG-see-fv 3SG-neg-enter-IMP-fv
 When the whiteman viewed the place using binoculars he discovered that the place could not be broken into
13. *N-ti-ku-meny-a baria ma-rut-ag-a. Ma-mwe*
 1SG-neg-tns-know-fv where 3PL-get-IMP-fv. NC1-some
ni ma-a-ruth-ag-a tutua uboro
 be 3PI-tns-make-IMP-fv home-made guns
 I do not know where they used to get [the guns]. Some used to make home-made guns
14. *Kenyatta e-kar-a nthi. A-ug-ir-e Harambee.*
 Kenyatta 3SG-sit-fv down. 3SG-say-PERF-fv Harambee.
Harambee. Harambee.
 Harambee. Harambee.
 When Kenyatta [became the president [of the republic of Kenya]the said Harambee three times

15. *A-ug-ir-e* *wi-athi* *u-y-u* *kenda*
 3SG-say-PERF-fv NC4-freedom NC4-this-fv so
u-bot-ek-a *tu-ikir-e* *mu-ti* *gi-turo* *ki-mwe*
 3SG-manage-stative-fv 1PL-put-fv NC2-tree NC3-shoulder NC3-one
 He said that in order to manage this freedom we needed to place it in the hands of one ethnic community
16. *A-ta-ug-a* *Ikamba.* *A-ta-ug-a* *Njarugu.*
 3SG-neg-say-fv Kamba. 3SG-neg-say-fv Luo.
A-ta-ug-a *guu kungi* *nuuntu* *mama ni* *mo*
 3SG-neg-say-fv area other because these be they
ma-cher-ir-i-e *wiathi*
 3PL-see-PERF-for-fv independence
 He did not mention a Kamba. He did not mention a Luo. He did not mention any other tribe since it is only these three tribes that fought for independence
17. *Riu* *n-ki-meny-ga-a* *ugu* *niu* *wana* *ta*
 Therefore 1SG-tns-know-IMP-fv that me even like
maa Raila ma-ku-rungam-a *n-ti-mu-ikir-ir-a* *muti.*
 those Raila 3PL-tns-stand-fv 1SG-neg-put-for-fv vote.
N-ka-ri-w-a *ni* *ki-rum-i* *gi-a* *Kenya...*
 1SG-fut-eat-pass-fv by NC3-curse-NOM NC3-ASSOC Kenya...
 Now that I know this I cannot vote for people like Raila who are vying since by doing this Kenyatta's curse would come to kill me
18. *Indi* *mugikuu* *Uhuru* *ni* *we* *n-gw-et-e.*
 But Kikuyu Uhuru be him 1SG-hold-tns-fv.
Na-a-chiok-i-a *ku-ri* *mu-ene*
 1SG-tns-return-ASP-fv inf-be NC1-owner
Riu *ti* *gu-tangatang-a* *ii* *tu-thur-e* *maa*
 Therefore neg inf-waver-fv EMP 2PL-elect-fv likes
Raila *maa* *Kalonzo* *Musyioka.*
 Raila likes Kalonzo Musyioka.
I-kamba *ri-a-ug-ag-a* *Chuka* *i-i-ku-thir-w-a*
 NC4-kamba 3SG-tns-say-IMP-fv Chuka 3SG-tns-finish-pass-fv
ni *ki* *mau mau* *ri* *m-e-igu-a* *mbomu* *i-ki-rurum-a*
 by way mau mau When 3PL-tns-hear-fv bombs 3PL-tns-explod-fv
 But I will vote for a Kikuyu like Uhuru since by doing so I will be returning the leadership to its owner. Therefore it should not be wavering with the likes of Raila and Kalonzo. People of Ukambani were saying that people of Chuka were being destroyed by the ways of the mau mau when they heard bombs exploding

19. *Riu ni bu gua kari ugu*
Therefore be how it be that
That is how things were at the time

APPENDIX 4: A third person story

KUTHOMITHIRIA MUANA CUKURU YA IKAWA

(EDUCATING A CHILD IN IKAWA SECONDARY SCHOOL)

NARRATOR: EUSTANCE MUTEKI KAMAGURU

Date of the interview: 21 November 2012 at 7.30am

Place of Interview: Matuntuni village, Tharaka—Nithi County, Kenya

1. *Joy a-a-thom-ag-ir-a* *Ikawa Secondary*
Joy 3SG-tns-study-IMP-fv *Ikawa Secondary*
Joy was studying at Ikawa Secondary school
2. *A-a-thom-ag-ir-a* *Kamuguongo primary*
3SG-study-IMP-fv *Kamuguongo primary*
She was studying at Kamuguongo primary school
3. *A-a-um-a* *au a-kina-thi-i* *Ikawa Secondary*
3SG-tns-come from-fv *there* 3SG-tns-go-fv *Ikawa Secondary*
From there she proceeded to Ikawa secondary school
4. *Ga a-a-it-ir-w-e*
Foc 3SG-tns-call-PERF-pass-fv
She was invited [to join] Ikawa Secondary school]
5. *Tu-a-ir-ag-w-a* *mu-ntu a-rib-e* *bichi*
1PL-tns-tell-IMP-pass-fv *NC1-person* 3SG-pay-fv *fees*
mu-aka *mu-gima*
NC2-year *NC2-full*
We were being told to pay the school fees for the entire year

6. S1 *Lakini* *niu n-a-thi-ir-e* *n-a-ir-a* *mu-alimo*
 S1 But me 1SG-tns-go-PERF-fv 1SG-tns-tell-fv NC1-teacher
 S2 *Mu-aka* *mu-gima ti m-bot-a.* S3 *Kwogu*
 S2 NC2-Year NC2-whole neg 1SG-be able-fv. S3 So
n-ka-rib-ag-a *buria* *n-ka-bot-a*
 1SG-fut-pay-IMP-fv way 1SG-tns-be able-fv
 But I went and told the teacher I can't manage to pay for the whole year.
 So I will pay according to my abilities
7. *li* *mu-alimo* *a-a-mb-itikir-i-a*
 EMP NC1-teacher 3SG-tns-obj-accept-mood-fv
 The teacher allowed me [to pay according to my abilities]
8. S1 *Nd-a-thi-i* *n-a-thukum-a* *i-bandi* *kana*
 S1 1SG-pst-go-fv 1SG-pst-work-fv NC3-plots or
n-a-thukum-a *ma-thaa* *n-ka-bir-a*
 1SG-pst-work-fv NC5-hours 1SG-tns-take-fv
 Whenever I went and worked for wages I would take [the money to the
 school]
9. *Rimwe* *n-a-thi-i* *n-a-ndik-w-a* *mi-eri* *i-ri*
 Sometime 1SG-tns-go-fv 1SG-tns-employ-pass-fv NC2-month NC2-two
ku-a *mu-ntu* *w-it-ag-w-a* *Mu-ntu*
 NC7-ASSOC NC1-person 3SG-call-IMP-pass-fv NC1-person
w-a *Ibiti*
 NC1-ASSOC Ibiti
 At one time got a job in [the home] of a person by the name the son of
 Ibiti
10. *Wana* *m-bia* *i-r-i* *nini* *a-ka-nd-um-i-a*
 Even NC4-money 3PL-be-fv little 3SG-fut-ben-give-mood-fv
ta *ma-gana* *ma-tano* *n-ka-ir-w-a* *éter-a*
 like NC5-hundred NC5-five 1SG-tns-tell-pass-fv wait-fv
na *mu-ana* *nua* *u-ku-ing-w-a*
 and NC1-child still 3SG-tns-chase-pass-fv
 Besides the fact that the salary was little he would give me like five
 hundred [shillings] and would then tell me to wait [for the rest of the
 money] and the child was still being send from the school to collect
 money

11. *A-ing-w-a nk-amb-a gu-tiganiri-a nk-a-thi-i*
 3SG-chase-pass-fv 1SG-start-fv inf-leave-fv 1SG-tns-go-fv
ku-amb-a ku-rimi-a kuria nk-a-rib-w-a
 inf-start-fv inf-do odd jobs-fv where 1SG-tns-pay-pass-fv
 When she was sent out of [school] I would leave [the place where I used
 to work or what I was doing] and go and look for some jobs else where I
 would be [paid]
12. *li n-a-thi-i na mu-ana wa-kwa pole pole*
 EMP 1SG-tns-go-fv with NC1-child NC1-mine slowly
 slowly
Nd-a-chok-a Mu-thenya u-mwe n-a-bir-ir-a mu-alimo
 SG-tns-return-fv NC2-day NC2-one 1SG-tns-ben-fv NC1-teacher
u-gu-it-w-a Zachary Mbaka n-giri ci-iri
 3SG-tns-call-pass-fv Zachary Mbaka NC4-thousand NC4-two
 I continued educating my child slowly. Then one day I took two thousand
 shilling to one teacher by the name Zachary Mbaka
13. *A-mb-uri-a i-no ni ci-aki?*
 3SG-obj-ask-fv NC4-these be NC4-what
 He asked me what this money was for
14. *Nd-a-mu-ir-a mu-alimo i-no ni-na*
 1SG-tns-him-tell-fv NC1-teacher NC4-these 1SG-have
cio ni cio u-batie gu-uki-a
 them foc them 2SG-should inf-take-fv
 I told him you should receive what I have
15. *A-ki-ri-a kiu i-ka-gur-a n-ka-igu-a*
 3SG-tns-eat-fv that 3SG-fut-buy-fv 1SG-fut-modal-fv
n-ku-ret-a ci-ingi
 1SG-tns-bring-fv NC4-other
 By the time she eats what they [this money] will buy I will have brought
 another [money]
16. *li tu-a-ri-a ugu mu-ana a-ch-a gu-kiny-a*
 EMP 1PL-tns-talk-fv that NC1-child 3SG-come-fv inf-tns-arrive-fv
form three Zachary a-ch-a ku-ring-w-a tranchiba
 form three Zachary 3SG-come-fv inf-kick-pass-fv transfer
 We agreed like that and the child came to reach her third form and then
 Zachary was transferred

17. *U-ngi a-kina-chok-a a-kina-ch-a*
 NC1-another 3SG-PERF-return-fv 3SG-PERF-come-fv
 Another one [a new head teacher] then came
18. *Na we a-gu-ch-a riu n-kina-thi-i*
 And him 3SG-tns-come-fv therefore 1SG-tns-go-fv
n-kina-mu-on-a
 1SG-tns-obj-see-fv
 And when he came I went and met him
19. *N-kina-mu-ir-a mu-alimo niu n-ka-rib-ag-a mbia*
 1SG-tns-him-tell-fv NC1-teacher me 1SG-fut-pay-IMP-fv
 money
pole pole buria n-ku-bo ...
 slowly slowly way 1SG-tns-...
 I told him I will be paying the school fees according to my ability
20. *Tu-a-ri-a na mu-alimo wa-kwa*
 1PL-tns-speak-fv with NC1-teacher NC1-poss
tu-e-ele-an-w-a
 1PL-tns-understand-ref-pass-fv
 We talked with my teacher and understood each other
21. *Riu wana ku-ri indi n-a-bir-ag-a*
 Therefore even there-be time 1SG-tns-take-IMP-fv
n-chamba n-ka-gur-ir-w-a na bo ma-ka-ri-a
 NC4-cockrel 1SG-tns-buy-ben-pass-fv and there 3PL-tns-eat-fv
na mo ma-ka-nenker-a mbia
 and they 3PL-tns-give-fv money
 Therefore there were times I would take cockerels to them and they would eat and give me money
22. *Riu mwisho mu-ana a-kina-ruth-a ki-gerio*
 Therefore end NC1-child 3SG-tns-do-fv NC3-examination
 At the end the child sat for the [national] exam
23. *A-riki-a riu n-kina-chiok-a riu a-kin-on-a*
 3SG-finish-fv then 1SG-tns-return-fv then 3SG-tns-see-fv
barua y-a ku-thi-i college
 NC4-letter NC4-ASSOC inf-go-fv college
 When she finished she received a letter of admission from college

24. *A-riki-a* *a-thi-ir-e* *a-a-ndik-w-a*
 3SG:tns-finish-fv 3SG-go-PERF-fv 3SG-tnsemploy-pass-fv
i-barua *bua Nairobi*
 NC3-jobs in Nairobi
 When she finished [he secondary education] she went and got casual jobs
 in Nairobi
25. *Ni rio* *a-chiok-et-e* *a-ka-nenker-w-a* *M-Pesa* *i-nene*
 Foc when 3-return-PERF-fv 3SG-tns-give-pass-fv M-Pesa NC4-big
y-a *mu-ntu* *a-kina-thi-i* *gu-ntu*
 NC4-ASSOC NC1-person 3SG-tns-go-fv NC7-somewhere
 And then she got a job in an M-pesa business and owner left it with her
 and went
26. *Riu* *a-ka-rigw-a* *i-nto* *i-no*
 Therefore 3SG-tns-lack knowledge-fv NC3-things NC3-these
cio-nthe *ri* *n-ku-mu-ir-a* *ni* *a-ch-e*
 NC3-all when 1SG-tns-her-tell-fv foc 3SG-tns-come-fv
a-thi-i *cukuru* *a-ka-bir-a* *ku*
 3SG-go-fv school 3SG-tns-take-fv where
 She did not know what to do with all the things she was taking care of
 when I was telling her to go to school
27. *Na ni riu* *n-ka-igu-a* *hapana* *ti* *bu*
 And me therefore 1SG-tns-feel-fv no neg that
nuntu *wira* *u-yu* *ti* *u-mu-ruth-ir-a*
maisha
 because job NC4-this neg 3SG-her-build-ben-fv life
ma-e
 NC4-ASSOC
 I felt that this is not the right thing because this job will not help her
28. *Nuntu* *riu* *barua* *a-a-r-i* *na* *yo* *y-a*
 Because now letter 3SG-tns-have with it
 NC4-ASSOC
ku-thi-i *cukuru.* *Ni-m-e-end-a* *a-a-thi-i* *cukuru*
 inf-go-fv school. Foc-1SG-tns-want-fv 3SG-tns-go-fv school
 Because she had the college [admission] letter and I wanted her to go to
 school

29. *Ni bo na-mu-ring-ag-ir-a n-ka-mu-ir-a*
 Foc then 1SG-her-ring-IMP-ben-fv 1SG-tns-her-tell-fv
ni-a-a-thi-i a-on-e bolisi
 foc-3SG-tns-go-fv 3SG-see-fv police
A-a-ndik-ithi-e i-nto i-nu a-a-be-w-e
 3SG-tns-register-CAUS-fv NC3-things NC3-those 3SG-tns-give-pass-fv
abstract
 abstract
 It is then I called her and told her to go and report to the police, have the things documented and be issued with an abstract
30. *Ni kenda a-a-ch-e a-a-thi-i cukuru*
 Foc so 3SG-tns-come-fv 3SG-tns-go-fv school
 So that she can come and go to school
31. S1 *Ng'ina w-a e a-a-tw-a ngaari*
 S1 Mother NC1-ASSOC her 3SG-pst-climb-fv vehicle
 S2 *a-a-thi-i ku-mu-on-a kuu*
 S2 3SG-tns-go-fv inf-OBJ-see-fv there
 Her mother went to see her there [at Nairobi]
32. S1 *A-a-thi-i mu-iritu a-e-t-w-a.*
 S1 3SG-tns-go-fv NC1-girl 3SG-tns-call-pass-fv.
 S2 *A-thi-i m-a-ri-a*
 S2 3SG:tns-go-fv 3SG-tns-talk-fv
 When he/she went the lady was called. They went and talked
33. *A-ur-w-a ni cukuru u-ku-end-a kana*
 3SG-ask-pass-fv be school 2SG-tns-want-fv or
u-ti-ku-end-a cukuru. A-a-ug-a hari
cukuru
 2SG-neg-tns-want-fv school. 3SG-tns-say-fv no
 school
Ni-na bata na yo ni wira u-u-nj-ob-et-e bariku?
 1SG-have need with it be work 3SG-tns-obj-tie-IMP-fv where?
baba
 Here
 She was asked whether or not she wanted to go to school and she said that she wanted it only that work was tying her there
34. *A-a-ir-w-a wira w-a mu-ntu ti wa-ku*
 3SG-tns-tell-pass-fv work NC1-ASSOC NC1-person neg NC4-poss
 She was told that another person's work is not yours

35. *Wira w-a mu-ntu u-u-ti-gu-tethi-a maisha.*
 Work NC1-ASSOC NC1-person 2SG-tns-neg-tns-help-fv life.
Kwogu u-u-batie ku-thi-i cukuru
 So 2SG-should inf-go-fv school
 Someone's work cannot help you succeed in your life. So you should go to school
36. *Ni rio Mu-ene a-ring-ir-w-e thimu*
 Foc when NC1-owner 3SG-ring-past-pass-fv phone
 That is when the owner [of the M-Pesa business] was rung
37. *A-kina-ch-a. A-kina-ug-a ng-u-itikir-i-a*
 3SG-tns-come-fv. 3SG-tns-say-fv 1SG-tns-agree-CAUS-fv
mu-ntu ni a-a-thi-i cukuru
 NC1-person foc 3SG-tns-go-fv school
 Then he came and said that I have allowed the person to go to school
38. *A-mu-nenker-a i-nto ci-a e*
 3SG-OBJ-give-fv NC3-things NC3-ASSOC his
 She gave him his things
39. *Riu mu-iritu a-kina-ch-a. A-a-ch-a riu*
 Then NC1-girl 3SG-tns-come-fv. 3SG-tns-come-fv then
n-kina-bangabanga-a buria a-ku-thi-i cukuru
 1SG-tns-arrange-fv how 3SG-tns-go-fv school
 Then the girl came. I then organized how she would go to school
40. *Ma-buku na-mo ni m-bia.*
 NC5-book NC5-them be NC4-money.
Ma-ra-ri ma-gana ma-nana wa i-buku
 3PL-tns-be NC5-hundred NC5-eight each NC5-book
 Books themselves cost money. Each book cost eight hundred shillings
41. *Ni rio a-a-thi-ir-e cukuru na*
 Be when 3SG-tns-go-PERF-fv school with
ma-buku ma-ria n-abot-ir-e ku-gur-a
 NC5-book NC5-those 1SG-able-PERF-fv inf-buy-fv
 She then went to school with those books that I was able to buy
42. *Riu nua ka a-ra-thi-i mbere ku-thom-a*
 Therefore foc still 3SG-tns-go-fv ahead inf-study-fv
 She is now going on with her studies

APPENDIX 5: A historical account of the people of Chuka

MAU MAU NA ANTU MA CHUKA

(THE MAU MAU FREEDOM FIGHTERS AND THE PEOPLE OF CHUKA)

NARRATOR: PHARIS GITIRA

Date of the interview: 21 November 2012

Place of Interview: Kamuguongo village, Tharaka—Nithi County, Kenya

1. *Mu-ntu* *u-ria* *n-chi-er-w-e*
NC1-Person NC1-who 1SG-born-PERF-pass-fv
a-a-it-ag-w-a *Gitira* *ta* *ni*
3SG-tns-call-IMP-pass-fv Gitira like me
The person whom I was born after is called Gitira like me

2. *Na* *ke* *ga* *a-chiar-it-w-e* *mu-thungu* *u-ria*
And him foc 3SG:tns-born-PERF-pass-fv NC1-European NC1-who
w-e-t-ag-w-a *Hitler*
3SG-pst-call-IMP-pass-fv Hitler
He himself was born after the white man called Hitler

3. *Ri-itwa* *Gitira* *ni* *ria* *mu-thungu* *u-ria*
NC5-name Gitira foc be NC1-whiteman
NC1-who
w-a-ch-ir-e *guku*
3SG-come-past-fv here
The name Gitira belongs to the English man who came here

4. *Mu-ngeretha* *u-ria* *w-a-r-i* *gu-ku* *tene*
NC1-English NC1-who 3SG-tns-be NC10-here long ago
w-e-t-ag-w-a *Hitler*
3SG-tns-call-ASP-pass-fv Hitler
The English man who was here long time ago was called Hitler

5. *Riu u-yu ni we w-e-t-ir-w-e*
 Therefore NC1-this foc him 3SG-tns-call-PERF-pass-fv
ri-itwa r-iu nuntu wa mu-thungu u-nu
 NC5-name NC5-that because of NC1-white man NC1-th
gu-ch-a
 inf-come-fv
 This is the one who was called that name because of the coming of that
 white man
6. *Riu na ni n-gi-ciar-w-a n-e-t-w-a*
 Therefore and me 1SG-tns-born-pass-fv 1SG-pst-call-pass-
 fv
Hitler
 Hitler
 And therefore when I was born I was named after Hitler
7. *N-a-it-w-a Gitira*
 1SG-tns-call-pass-fv Gitira
 I was named Gitira
8. *Riu ni bu gu-kar-i ugu ka-binda-ni ka-u*
 Therefore be that inf-be-fv that NC9-time-loc NC9-that
 That is how things were during that time
9. *Riu n-kin-et-w-a Gitira bu cucu*
 Therefore 1SG-tns-name-pass-fv Gitira way grandfather
a-a-it-ag-w-a
 3SG-tns-call-IMP-pass-fv
 Therefore I was named after my grandfather
10. *Na we cucu a-a-ri mu-nini mu-thungu*
 And him grandfather 3SG-tns-be NC1-young NC1-white man
u-nu a-gu-ch-a riu ni rio na
 we
 NC1-that 3SG-tns-come-fv therefore foc when and
 him
a-kina-chiar-w-a Hitler u-nu w-a-ch-a
 3SG-tns-born-pass-fv Hitler NC1-who 3SG-tns-come-fv
 And when my grandfather was young he was named after Hitler who
 had just come

11. *Riu niu ng-i-kur-a nd-e-ethirir-a. Wana i-thaka*
 Therefore me 1SG-tns-grow-fv 1SG-tns-found. Even NC3-bush
i-no ni cia-we
 NC3-these be NC3-his
 Therefore I found this as I was growing up. Even these lands are his
12. *A-tum-an-a a-ug-a niu nenker-w-e*
 3SG-send-ASP-fv 3SG-say-fv me give-pass-fv
ki-thaka guku
 NC3-bush here
 He passed the message that I be given a land here
13. *Nuntu a-a-t-ar-i na ka-ana g-a*
 Because 3SG-tns-neg-have-fv with NC9-child NC9-ASSOC
ka-bichi riu ni niu a-a-ug-ir-e
 NC9-male Therefore foc me 3SG-tns-say-PERF-fv
n-e-nker-w-e ki-thaka guku
 1SG-tns-give-pass-fv NC3-bush here
 Because he did not have any other male child he recommended that I be
 given a land here
14. *Riu ni rio a-a-ku-ir-e. A-a-gu-ku-a*
 Therefore foc when 3SG-tns-die-PERF-fv. 3SG-tns-die-fv
ni rio tu-a-tur-ir-e tu-ekar-a emergency
 be when 1PL-tns-live-PERF-fv 2PL-stay-fv emergency
i-kina-ch-a
 3SG-tns-come-fv
 It is then that he died. After he died, the state of emergency was declared
15. *Emergency i-gu-ch-a niu ku-nyu-a ku-a a*
 Emergency 3SG-tns-come-fv me inf-drink-fv NC12-ASSOC poss
ku-a mu-ma ni n-a-u-kund-ir-e
 NC12-ASSOC NC2-oath foc 1SG-tns-obj-drink-PERF-fv
tu-ki-rithi-a
 2PL-tns-graze-fv
 When emergency came, my taking of the oath happened while we were
 grazing
16. *Tu-gu-kund-a tu-ki-rithi-a nda-ch-a*
 2PL-tns-drink-fv 2PL-tns-graze-fv 1SG-come-fv
guku mu-chii
 here NC2-home
 When we took the oath as we were grazing I came home

17. *Nd-a-kiny-a* *gu-ku* *mu-chii* *nd-a-ur-w-a*
 1SG-tns-arrive-fv NC10-here NC2-home 1SG-tns-obj-ask-pass-fv
Ni ku n-tuk-ir-w-e na η-ombe
 Foc where 1SG-be late-PERF-fv with NC4-cows
 When I arrived at home I was asked why I got late with cows
18. *Nda-me-r-a* *ni-ka* *η-ombe* *i-mwe*
 1SG-obj-tell-fv foc-because NC4-cows NC4-some
ci-u-ur-ir-e
 3PL-tns-lose-PERF-fv
 I told them that some cows got lost
19. *N-ti-ku-end-a* *ku-mbur-a* *tu-ra-r-i* *na*
 1SG-neg-tns-want-fv inf-confess-fv 2PL-tns-be-fv with
a-ntu ma-ria m-a mau mau
 NC1-people NC1-those NC1-ASSOC mau mau
 I did not want to confess that we were with mau mau people
20. *Riu tu-a-nyu-a mu-ma ni rio tu-enuk-ir-e*
 Therefore 2PL-tns-drink-fv NC2-oath be when 2PL-return-PERF-fv
 It is after we took oath that we went back home
21. *Mbere w-a-amb-e u-r-w-e buria w-i-it-ag-w-a*
 First 2SG-tns-start-fv 2SG-ask-pass-fv how 2SG-tns-call-IMP-pass-fv
 First you are asked what your name is
22. *U-u-ciok-e mu-ma u-yu u-ge-uki-a*
 2SG-tns-proceed-fv NC2-oath NC2-this 2SG-tns-proceed-fv
w-i-ibit-e ni mu-ngeretha tu-ku-end-a
 2SG-tns-swear-fv be NC1-whiteman 2PL-tns-want-fv
a-a-tham-a guku
 3SG-tns-migrate-fv here
 You proceed with then oath you then go on to swear that it is the white man we want to leave [our country]
23. *A-thi-i a-a-chiok-a ku-a o*
 3SG-go-fv 3SG-tns-return-fv NC10-ASSOC their
 We want him to leave and go back to his [own country]

24. *Mbere mbere ku-nyu-a mu-ma u-chu ni w-a-amb-e*
 First first inf-drink-fv NC2-oath NC2-that be 2SG-tns-start-fv
w-a-mbat-e mu-thetu u-g-e u-u-ti-umbur-a
 2SG-tns-touch-fv NC11-soil 2SG-say-mood 2SG-tns-neg-disclose-fv
ki-ama gi-ki
 NC3-group NC3-this
 The first thing in taking the oath was that you start by holding the soil
 and confess that you would not disclose this secret
25. *Riu ni rio tu-ebit-ith-ir-w-e tu-ambat-it-e*
 Then be when 2PL-swear-cause-PERF-pass-fv 2PLhold-PERF-fv
mu-thetu nuntu ni Kenya tu-u-r-i
 NC2-soil because be Kenya 2PL-tns-be-fv
 It is then that we were sworn in while holding the soil because we are in
 kenya
26. *U-kina-ir-w-a u-ti-ka-ir-e mu-ntu kana*
 2SG-tns-tell-pass-fv 2SG-neg-tns-tell-fv NC1-person whether
u-ra-r-i mu-ma-ni
 2SG-tns-be-fv NC2-oath-loc
 You are ordered not to tell anyone that you are from taking oath
27. *Wana u-ke-gu-a a-ar-i ibagu*
 Even 2SG-tns-be-fv 3SG-tns-be-fv father
 Even if it is your father
28. *Riu ni rio tu-a-ch-ir-e ku-on-a n-tuku*
 Then be when 2PL-tns-come-PERF-fv inf-see-fv NC4-day
i-mwe a-ntu ma-ch-a utuku
 NC4-one NC1-people 3PL-come-fv night
tu-a-ukir-w-a
 2PL-tns-wake-pass-fv
 It is then that one day we saw some people who came and woke us up
29. *Nuntu niu n-a-ikar-ag-a ku-a mu-thee*
 Because me 1SG-tns-stay-IMP-fv NC10-ASSOC NC1-father
 Because I was staying in my father's [house]

30. *Ma-ch-a m-a-uki-a maitu m-a-mb-uki-a.*
 3PL-come-fv 3PL-tns-wake-fv mother 3PL-tns-me-wake-fv
Ma-kina-mb-uri-a anga guku ni ku ku-enu
 3PL-tns-me-ask-fv so here be place NC10-poss
 They came, woke up my mother and myself. Then they asked me whether
 this was my home
31. *N-a-m-e-er-a ii gu-ku ni ku*
 1SG-tns-them-tell-fv yes NC10-here be place
gu-etu
 NC10-poss
 I told them that this is our home
32. *Riu ni w-i-ich-i ma-ria maitu ma-ku-rigw-a*
 Now foc 2SG-tns-know-fv NC1-those mother 3PL-tns-lack knowledge-fv
ni ka m-a-meny-an-ir-a ku na mu-ana
 be how 3PL-tns-know-ref-ASP-fv where with NC1-child
 My parents could not understand how the mau mau and the child had
 come to know each other
33. *Maitu m-a-bir-w-a kuu mu-ruruku-ni.*
 Mother 3PL-tns-take-pass-fv that NC2-muruku-loc
Ma-gu-u-kund-a
 3PL-tns-obj-drink-fv
 My parents were taken in that Mururuku tree. They took it [oath]
34. *Ni rio maitu a-mb-ur-ag-i-a*
 Be when mother 3PL-me-ask-IMP-mood-fv
ii weu u-t-a-nyu-a mu-ma
 EMP you 2SG-neg-tns-drink-fv NC2-oath
 That is when my parents asked me how comes that I had not been asked
 to take oath
35. *Nd-a-m-er-a niu n-tuku i-ria nd-a-mu-ir-ag-a*
 1SG-tns-obj-tell-fv me NC4-day NC4-that 1SG-tns-obj-tell-IMP-fv
η-ombe i-ku-ur-a ni u wira
 NC4-cows 3PL-tns-lose-fv be it work
tu-a-rut-ag-a na Ciankari na
Gitonga
 2PL-tns-do-IMP-fv with Ciankari and
Gitonga
 I told them that the day I was telling you that the cows had gotten lost
 that is work Ciankari, Gitonga and myself were doing

36. *Ga tu-a-nyu-nyag-a mu-ma*
That 2PL-tns-drink-IMP-fv NC2-oath
We were taking oath [that time]
37. *Riu ni rio mu-thee na we*
Then be when NC1-father and he
a-a-chiok-ir-e a-a-mbat-w-a
3SG-tns-return-PERF-fv 3SG-arrest-pass-fv
It was then that my father was arrested
38. *A-a-mbat-ir-w-a baria ru-gongo ru-ria*
3SG-tns-arrest-ASP-pass-fv there NC6-ridge NC6-that
a-a-um-it-e Weru nuntu m-a-r-i
3SG-tns-leave-IMP-fv Weru because 3PL-tns-be-fv
ma-ku-bir-w-a Weru
3PL-tns-take-pass-fv Weru
He was arrested across that ridge as he was coming from Weru since they had been taken to Weru
39. *A-a-bur-ir-w-e mb-uro n-ene a-a-ciok-a*
3SG-beat-PERF-pass-fv NC4-fight NC4-big 3SG-tns-return-fv
ku-a thirikari e-e-r-w-a ni-a-nyu-it-e
NC10-ASSOC government 3SG-tns-tell-pass-fv foc-3SG-drink-PERF-fv
mu-ma
NC2-oath
He was beaten terribly when he went back to the government and it was realized that he had taken oath
40. *A-a-bir-w-a Chuka e-r-w-a a-ti-ka-thaik-w-e*
3SG-tns-take-pss-fv Chuka 3SG-tell-pass-fv 3SG-neg-tns-tie-pass-fv
u-yu ni mu-kuru
NC1-this be NC1-old
He was taken to Chuka it was agreed that he should not be detained because he was old
41. *Nuntu we ka a-reg-et-e nj-uri i-ria*
Because him be 3SG-refuse-PERF-fv NC4-secret NC4-that
y-a thirikari
NC4-ASSOC government
Because he had refused to cooperate with the government

42. *We e-e-nd-ag-a gu-ikar-a gi u-kuru-ni*
 He 3SG-tns-want-IMP-fv inf-stay-fv in NC7-old-loc
u-ria w-a-r-i u-kuru
 NC7-which 3SG-tns-be-fv NC7-old-fv
 He wanted to associate with the traditions of his people
43. *Riu ni rio t-u-ekar-ir-e gu-a-ch-a*
 Therefore be when 1PL-tns-stay-PERF-fv 3SG-tns-come-fv
gu-tuik-a manjeshi i-ku-thir-a
 inf-be-fv emergency 3SG-tns-finish-fv
 We stayed for a while and the emergency period ended
44. *Riu ni rio tu-enuk-ir-e guku*
 Therefore be when 1PL-go back-PERF-fv here
mi-chii. Mu-thungu a-a-bot-w-a
 NC2-home NC1-white man 3SG-tns-defeat-pass-fv
 It is then that we came back home when the white man was defeated
45. *Riu ugu ni bu manjesi ya-ka-r-i*
 Therefore that be that emergency 3SG-tns-be-fv
 That is how the state of emergency period was