

**PARAMETRIC VARIATION IN THE
ACQUISITION OF ENGLISH AS AN
ADDITIONAL LANGUAGE**

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A dissertation submitted in partial fulfilment for the degree of Master of Arts,
University of Nairobi.

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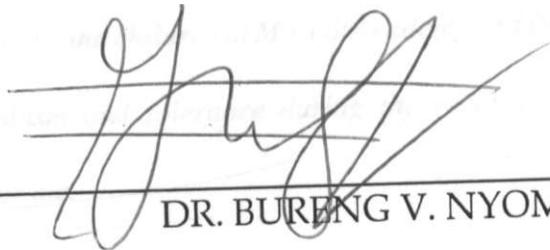
DECLARATION

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



LILLIAN K. KAVITI

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



DR. BURENG V. NYOMBE

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Lt/Cian %atunge %aviti

My, 1993.

Jameson Mweu Musyoki (1901-1993).
In Loving memory.

ABSTRACT

One of the fundamental goals of a theory of grammar is to define precisely how a child acquires competence of the languages to which she is exposed. This study examines the syntactic development of twenty children acquiring English as an additional language. The framework adopted is the Parametric approach to Universal Grammar advanced by the Government-Binding theory.(Chomsky 1981).

Within this theory, language acquisition is viewed as a process of setting the parameters of Universal Grammar at a value which corresponds with the linguistic data provided by the child's speech community. In essence, the principles and parameters of Universal Grammar constrain the possible hypotheses a child may form on the structure of the language she is acquiring.

The parameters investigated in this study are the **Head and Determiner [Specifier] parameter, the WH-movement parameter and the Pro-drop parameter**. It will be observed that the children's grammar differs from the corresponding adult grammar in English with respect to the value selected for each of the four parameters under analysis. In addition, the empirical results of the investigation reveal that the structure of children's sentences, though frequently ill-formed in English, are consistently well within the limits defined by principles of Universal Grammar. It is significant to note that some of the utterances collected exhibited the structure of existing human languages, and in particular, the grammar of Kikamba.

The central claim of this study is that some of the properties of syntactic development are effects of the setting (and mis-setting) of the parameters of Universal Grammar. This investigation on the structure of children's intermediate grammars further provides empirical support for the theory of Markedness as it relates to Syntactic development.

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Key to Symbols and Abbreviations

S	-	SENTENCE
NP	-	NOUN PHRASE
VP	-	VERB PHRASE
AP	-	ADJECTIVAL PHRASE
PP	-	PREPOSITIONAL PHRASE
N	-	NOUN
V	-	VERB
A	-	ADJECTIVE
P	-	PREPOSITION
Intr.pro.	-	INTERROGATIVE PRONOUN
INFL	-	INFLECTIONAL NODE
COMP	-	COMPLIMENTIZER
ti	-	TRACE
e	-	EMPTY CATEGORY
0	-	MOVE ALPHA
S.B.	-	SUBJECT
O.B.	-	OBJECT
S.A.	-	SUBJECT AGREEMENT MARKER
Foe.	-	FOCUS MARKER
Tns.	-	TENSE
Vrt.	-	VERB ROOT
Agr.	-	AGREEMENT
AUX	-	AUXILLIARY
pro	-	NULL SUBJECT EMPTY CATEGORY

CHAPTER ONE

1.0: Introduction

...The problem [of language acquisition] is precisely to determine how the child determines that the structure of his language has the specific characteristics that empirical investigation leads us to postulate, given the meagre [and often degenerate] evidence available to him. (Chomsky 1967:8)

Chomsky's models in linguistics have consistently endeavoured to place linguistic theory within the context of Language Acquisition. As such, the linguist's task involves not only describing language knowledge (or competence), but also accounting for its origin. This relationship is established through the goal of *Explanatory adequacy* that any linguistic theory is required to attain. In Chomsky's own words:

...a theory of Linguistic structure that aims for Explanatory adequacy incorporates an account of Linguistic Universals, and it attributes tacit knowledge of these Universals to the child... who approaches the data with the presumption that they are drawn from a language of a certain well defined type; his problem being to determine which of the possible languages is that of the community in which he is placed. Language-learning would be impossible unless this were the case. (Chomsky 1965:27)

The model of language acquisition adopted in this study points to an autonomous area of the mind devoted to language knowledge referred to as the *Language Faculty* (cf. Chomsky 1982a:7). *Universal Grammar* was proposed as an abstract theory of this language module which consists of a system of universal Principles and Parameters.

The *Government Binding theory* (which is the framework of relevance to this study) describes knowledge of language as an interlocking set of modules consisting of these Principles and Parameters. The basis of this theory is that while the Principles of *Universal Grammar* lay down the conditions that all natural languages have to meet, the Parameters account for the subtle variations between languages.

Universal Grammar asserts that at some fundamental level, all human languages (including children's early grammars) conform to a particular pattern. Consequently, the variations between languages are systematic and predictable. In essence, knowledge of any language involves knowing how it conforms into the general properties with which the Language Faculty is equipped.

The present study investigates the underlying Principles and Parameters in the acquisition of English as an additional Language. My attention will be focussed on the *Parametric variation* that exists between the grammar of Kikamba (a Bantu language that originates from the Eastern province of Kenya) and English and the effect this has on the acquisition task of English. As shall be observed, the Parametric settings of **Universal Grammar** have powerful effects on the grammar of any language, yielding languages as diverse as English, Kikamba or even Japanese that share common Linguistic universals, but differ in the values selected for each of the parameters of Universal Grammar.

1.2: Synopsis of the Chapters

My paramount concern in this study is to examine the possibility that the acquisition of English involves the setting of Parameters in one of the permitted ways laid down by Universal Grammar. The aim is to test the explanatory potential of the parametric approach in defining some of the salient features in children's syntactic development.

I should emphasize that although this investigation examines the speech behaviour of twenty children, my conclusions on the degree of parametric influence from a first language will only be addressed with reference to the grammar of Kikamba. The rest of the utterances collected from non-Kikamba speaking children will, however, be useful in the assessment of whether any settings in the children's grammar possibly represents the unmarked (default) values of Universal Grammar.

The first Chapter includes the tenets which cumulatively formed the fundamental basis of the Research proposal for this Dissertation. The most salient sections are the Statement of the Research Problem, the Objectives and Scope of the Study, the Methodological assumptions as well as a concise review of the Government/Binding framework and related Literature.

Chapter 2 is devoted to a discussion of the theoretical assumptions underlying the four parameters under Investigation. Using empirical data from existing natural languages (and specifically from the grammar of English and Kikamba), I will exemplify the effects of setting each of the parameters of Universal Grammar within the limited range laid down by Universal Grammar. The primary goal of this Chapter is to develop (vff the theoretical basis within which to examine the acquisition data in this investigation.

Chapter 3 concentrates on the general arrangement of phrasal elements and the word-order found in the children's simple sentences. The relevant parameters in this chapter are the **Head** and **Determiner (Specifier)** parameters. The application of the **Endocentric Requirement** and the **Projection Principle** will also be seen to have significant effects on the structure of the children's sentences.

Chapter 4 examines the structure of interrogatives constructions in the children's grammar. My main interest will be the position of Wh-words and auxiliaries in the

construction of Wh-questions. The important parameter in this Chapter will be referred to as the **WH-Movement parameter**.

Chapter 5 examines the manifestation of the **Pro-drop parameter** in the children's speech. Of particular concern in this chapter is the optionality of lexical subjects exhibited by pro-drop languages which also occurred in the acquisition data collected for this investigation.

Chapter 6 centres on the concept of **Syntactic Markedness** as it relates to the settings manifested in the children's utterances. The final section of this Chapter incorporates my overall conclusions for this investigation.

It is worth noting that within the G.B. framework, the setting of parameters performed on the basis of **Linguistic Evidence** from the languages exposed to a child. As such, each of the chapters devotes a section to discussing the nature of the Linguistic evidence provided by the grammars of English and Kikamba responsible for inducing the specific settings found in the children's grammars.

In addition, each of the chapters incorporates a brief examination of the adult grammar of English and Kikamba with regard to word-order, question formation, and the possibility of Null-subject declaratives in Kikamba. The purpose of this is to demonstrate that certain structural "errors" that the children make, albeit ill-formed in the grammar of English, indeed represent the structure of existing human languages and hence, are well within the limits provided by Universal Grammar.

1.2: The Research Problem

The study investigates the syntactic development of twenty children between the ages "two to five years acquiring English as an additional language. The theoretical

framework to be adopted is the Parametric approach to **Universal Grammar** postulated in the Government/Binding theory.

Previous research on Child language has dwelt primarily on the difficulties encountered in the acquisition of one language in a mono-lingual environment. In addition, most of the studies carried out within the Parametric model have concentrated on addressing the problems faced by two distinct groups of language-learners, namely:

- Children acquiring English as a first language in a mono-lingual environment;
- Competent speakers of a first language learning English as a second language.

The question of how children acquire English even before they have acquired full competence in their respective first languages has received less emphasis. I therefore seek to address this significant knowledge gap, for there is a crucial need to investigate how adequately the *Language Faculty* copes with the acquisition of two (and even more) languages in a multi-lingual setting such as Nairobi.

My problem will also entail verifying whether the Principles and Parameters of *Universal Grammar* as proposed by the G.B. theory are actually utilized by children acquiring English as an additional language. The pertinent question here is: are these principles and parameters as universal as proclaimed by the theory?

Research findings based on the Parametric approach propose that there are apparently some "logically possible" errors that children never make because their hypotheses on the grammar of any language will inevitably be constrained by Principles of **Universal Grammar**.(cf. Hyams 1986)... With reference to the acquisition of an additional language, there is the possibility that certain grammatical "errors" made by the language learner can, indeed, be attributed to the structural properties of a first language. In this sense, my problem further entails validating how much mutual influence there can be from the parametric values set in a first language:- in this case, from the grammar of Kikamba.

Finally, if children's grammars are believed to be constrained by Principles of *Universal Grammar* (like all natural languages), then this raises the empirical possibility that there can actually be a degree of *Parametric Variation* between the children's intermediate grammars and the adult grammar in English. In greater detail, the theory predicts that the parametric values manifested in the children's utterances, even if unpermissible for the structure of English sentences, reflect the structure of existing human languages.

Ultimately, I propose to authenticate whether the syntactic relations and categories which define adult grammars in the G. B. theory _ are legitimate parameters in the analysis of children's grammars.

1.3: Objectives of the Study

The first objective will be to distinguish the parameters of *Universal Grammar* that have been established as manifesting a degree of *Parametric variation* in the grammar of natural languages. These consist of the following:

(i) The Head parameter;

Values:-**Head initial**

-Head final

(ii) The Determiner parameter;

Values:-**Determiner initial**

-Determiner final

(iii) The WH-Movement parameter;

Values:-**Movement at S-structure**

-Movement at Logical Form

(iv) **The pro-drop parameter;**

Values:-**pro-drop**

-Non-pro-drop

The second objective will be to identify the settings for each of these parameters in the children's grammars.

The third objective will be to substantiate the Parametric differences between the children's grammars and the corresponding adult form in English.

The fourth objective is to verify if the structure of the children's sentences falls within the limits laid down by *Universal Grammar* (ie. whether the children's initial hypothesis of the grammar of English manifests the structure of an existing human language).

The fifth objective will be to give a comprehensive description of the kind of linguistic evidence from the exposure to the grammar of both Kikamba and English that could conceivably have induced the specific parametric settings manifested in the children's speech.

The final objective will be an attempt to stipulate the possible marked and unmarked parametric settings for each of the four parameters of relevance to this Study.

1.4: Hypotheses

The study seeks to verify the empirical possibility that during the course of syntactic development, children's early grammars in the acquisition of English systematically differ from the corresponding adult grammar with regard to the value specified for each of the four parameters of Universal Grammar. This being the case, the structure of a child's early grammar can be defined as displaying the effects of particular settings (or mis-settings) for the parameters of *Universal Grammar*.

My first hypothesis is that:

The early grammars of children acquiring English as an additional language will differ from the corresponding adult grammar with regard to the value set for the parameters of Universal Grammar.

The second hypothesis stems from the observation made by Hyams (1983) that grammatical development is a continuous process in the sense that, all of the intermediate (early) grammars fall consistently within limits laid down by principles of Universal Grammar. Consequently, any restructuring attempts in the acquisition process will be within clearly defined limits. As such, each of a child's early grammars will be expected to display the structure of an existing human language.

The second hypothesis is that:

The syntactic development of children acquiring English as an additional language will be constrained by principles and parameters of Universal Grammar.

(It is predicted that while the intermediate child grammars differ from the adult grammar in any language, these differences are systematic and predictable from the parametric values specified by *Universal Grammar*).

Lastly, the study seeks to establish whether children with previous exposure to a first language such as Kikamba actually utilize principles and parameters of Universal Grammar in the acquisition of a second language such as English. It should be emphasized that all the children under investigation are still in the intermediate stages of acquiring their first languages in addition to acquiring English. In this sense, it is plausible to assume a degree of parametric influence from the structure of the first language; in this case, from the grammar of Kikamba.

The third hypothesis is that:

Children acquiring English as an additional language will have access to both LI and non-LI values for the parameters of Universal Grammar.

If a child has access to LI values, this implies that she has

Indirect access to the principles and parameters of *Universal Grammar*. The child would then acquire English by initially appealing to the parametric settings found in her LI. As a consequence, the structure of the child's early grammar in English would manifest certain ungrammatical sequences attributable to the structural properties of the LI.

On the other hand, the child may have *Direct access* to the Principles of Universal Grammar which have absolutely no relation to the structure of an LI. In this case, the child would then proceed to set the values for all the relevant parameters without any reference to the grammatical properties of an LI. The parametric values set would in effect, represent the 'unmarked' values of Universal Grammar, (v. Chapter 6 on *Markedness and Parameter-setting*).

1.4.1: Operational and Conceptual definitions

The Parametric approach to Universal Grammar is a relatively new area in the field of Linguistics. As such, there is a need to clearly define all the unfamiliar concepts that are subject to misinterpretation. In addition, these definitions will help to establish the specific frame of reference within which the Research Problem is to be approached. The variables to be tested will also be defined in operational terms.

For explanatory purposes, the three hypotheses will be restated here with all the obscure terms underlined.

Hypothesis 1

The early grammars of children acquiring English as an additional language will differ from the adult grammar with regard to the value selected for the parameters of Universal Grammar.

Early grammars:

In this Study, this alludes to the intermediate grammars which characterizes linguistic competence between the ages 2 to 5 years. The Parametric model views syntactic development as a set of successive grammars schematized as :

So...Sl...Sn...Ss

with **So** signifying the *Initial state* in the acquisition process and **Ss** designating the *Steady state* which, in most cases, refers to the adult grammar.(cf. Chomsky 1981, Hyams 1983, Cook 1988) *Additional language*:

The sample consists of 20 children with previous exposure to at least one other language other than English. I should stress that none of the children under investigation has acquired full grammatical competence in their first languages. The concept of an *additional language* is based on the premise that all the children are currently in the process of simultaneously acquiring Competence of their respective first languages as well as English. As such, I have deliberately refrained from using the expression *Second Language* in reference to the children's acquisition of English because this would presuppose that the children under investigation already have Native-speaker competence in their first languages.

Corresponding adult grammar:

The description of the adult grammar in this study will not always be a perfect depiction of Native-speaker competence of English. The goal will be merely to provide a comprehensive description of the exact model of "Kenyan " English adopted in the children's speech community which may, to some extent, have slight grammatical

variations *vis a vis* the Standard model, (these variations will be pointed out they occur).

Parametric variation:

Universal grammar takes the form of a Parametric system, ie., it contains $\hat{S}_{C\{}$ principles and operations that hold universally. Some of these principles have associated with them a set of possible values which express the limited range within which grammars may vary, subject to each parameter.

(v. Section. 1.3. on the **Research Objectives**).

Hypothesis 2

The syntactic development of children acquiring English as an additional language will be constrained by principles and parameters of Universal Grammar. *

Constraints of Universal Grammar:

The above hypothesis implies a continuous development process which is embedded within the Parametric model. This makes certain empirical predictions about the shape of the intermediate grammars. According to Hyams (1983) children's grammars, though not fully developed, never fall outside the limits (range of values) imposed by parameters of *Universal Grammar*. Stated formally, if the values associated with certain parameter **P** are **X₁...X_n**, the early grammar will assume a value **X_j**, that can be expressed as **n > j > i** for the parameter **P**. (cf. Hyams 1983:5).

Hypothesis 3

Children acquiring English as an additional language will have full access to both LI and non-LI values for the parameters of Universal Grammar.

Access to U.G. principles:

If a child acquiring a single language in a mono-lingual environment is pre-empted to utilize principles of *Universal Grammar* to form a *Core grammar*, it is logjcaj (

assume that these principles will similarly be accessible (albeit in an indirect manner) **to a child** acquiring more than one language in a multi-lingual environment. In the words **of Cook (1991:38)**: *...If the first language learner has at his disposal a Universal Grammar to help him overcome deficiencies in the [linguistic] input, then such principles can also be assumed to be available to the L2 learner on the assumption that the acquisition of a first language does not make them unavailable.*

It is important to note that none of the children under investigation has acquired full competence in any of the languages exposed to them. (It is indeed, credible to assume that the principles of Universal Grammar are operational in the acquisition of English as an additional language).

1.5: Rationale for the Study

Previous studies on Child language carried out locally have proceeded within the earlier Generative theories and in particular, the Standard theory (Chomsky 1965). To the best of my knowledge, no investigation has been carried out on the degree of Parametric influence from the grammar of Kikamba as a LI within the G.B. Framework. It is my hope that this study will provide a principled description of the Acquisition process.

The formal notion of Parametric variation in Language acquisition applied in this study will be observed as yielding a formal procedure for predicting potential problem areas for children acquiring English in a multi-lingual setting such as Nairobi. The most obvious beneficiary of an increased understanding of the Acquisition of an additional language is the Language-teaching profession as a course of insight into the Language-learning process. As Corder effectively points out:

...efficient Language teaching must work with, rather than against natural processes, facilitate and expedite rather than impede learning. (Corder 1981:7)

However, this is only possible if we know what these "*natural processes*" are. The empirical findings of this study will exemplify some of the *natural* ways in which children conceive of the structure of language.

As was briefly mentioned in the Statement of the Problem, most of the earlier studies on Child Language have dwelt chiefly on the acquisition of single languages in **mono**-lingual environments. As a consequence, a number of the rule-systems predicted were typically unique to the language under analysis.(cf. Bluont 1968, Njage 1985, Mutisya 1987).

Yet, underlying the idiosyncrasies of different languages are uniformities of Universal scope. The Study proposes to exemplify some of these Language-universals which are, by their very nature, statements about tendencies shared by all human languages. It is expected the investigation will augment further empirical justification for the research on Universals of Grammar which give rise to the typological differences between human languages.

Finally, the Study aspires to underscore the important link between Applied (Psycholinguistic) based studies on the Language-learning process and the Theoretical G.B. approach to Universal Grammar. It is important to note that a thorough understanding of the acquisition process requires appealing to facts from both Applied Linguistics and Theoretical Linguistics. As such, the present study attempts to integrate the role of the linguistic environment (which has received more emphasis in Applied Linguistics) with the Theoretical principles postulated in the G.B. approach to Universal Grammar.

1.6: Theoretical Framework

Syntactic development in this Study will be defined within the Parametric approach to Universal Grammar proposed in the Government/Binding theory (Chomsky 1981). For expository purposes, this Section is sub-divided into two sections. The first part

entails a brief synopsis of the theoretical assumptions of the **G.B.** theory *per se*. The **second** section incorporates the main tenets of the Parametric model which more directly apply to the Language Acquisition process.

1.6.1: The Government/Binding Theory

The **G.B.** theory describes knowledge of language as an interlocking set of sub-theories consisting of Principles and Parameters. These sub-theories are modular in approach, i.e., they consist of several interacting sub-components each of which exhibit distinct properties. The theory further recognizes four distinct levels of Linguistic representation, viz:

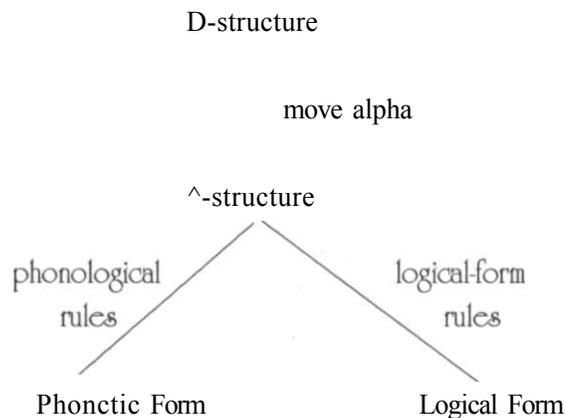
Deep structure level;

Surface structure level;

Phonetic form;

Logical form.

A sentence is considered grammatical if it has a well-formed representation at each of the linguistic levels presented above. This organization of grammar has been referred to as the **T-model** and is schematized as follows:



Subsystems of principles then determine the grammaticality of representations at **each** of the various levels. These Principles are subsumed under the following modules:

X-bar theory: It describes the structure of phrases in the Base component;

Bounding theory: Constrains how far a category may move from its Base-generated position;

θ theory: Deals with the assignment of Semantic roles (θ roles) to elements in a sentence;

Case theory: Assigns Case to Noun Phrases in a sentence;

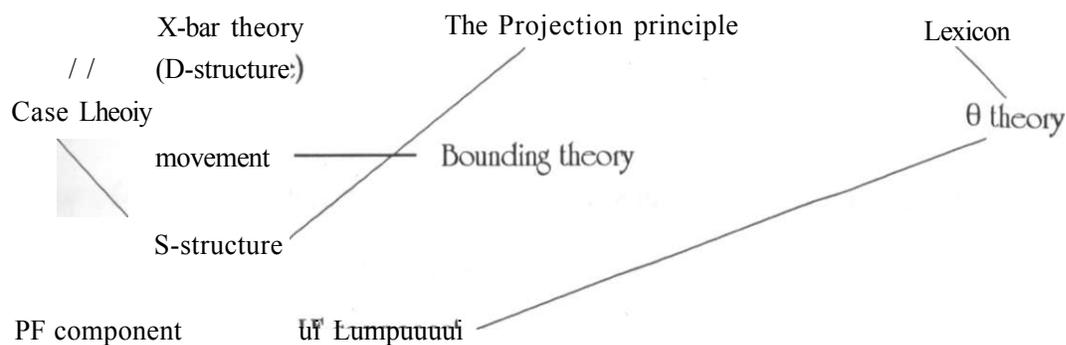
Binding theory: Deals with the reference relationships of NPs, i.e., the relations of Anaphors and Pronominals to their antecedents;

Government theory: In conjunction with the **Case theory** ensures that all NPs in a sentence are assigned Case. (The concept of *Government* refers to particular syntactic relationships between 'governors' and the elements they govern).

Control theory: Deals with the reference of Subjects of infinitive clauses.

The overall G.B. theory consists of an interlocking network of sub-theories in which each module interacts with all the other sub-modules. This, in effect, means that the analysis of a sentence in any language involves principles from each of the modules.

This relationship can be depicted as follows:



The Government/Binding network
(adapted from Cook 1988:26)

With specific reference to the present investigation, we will draw Principles mainly from the **X-bar theory, Bounding theory, and Government theory** to rationalize the structures manifested in the children's sentences. Any other principles will be discussed in so far as they serve to define the specific Parametric settings found in our acquisition data. Further aspects of the G.B. theory will be highlighted in each of the Chapters where they are relevant to the particular analysis proposed.

1.6.2: The Parametric approach to Universal Grammar

Whithin this model, grammatical development is viewed as a process by which principles of *Universal Grammar* constitute a child's innate knowledge concerning the form of grammar in any language. As Schachter (1988:221) observes:

...within this theory, Universal Grammar [U.G.] constitutes the child's a priori knowledge of the form of grammar. It consists of relatively autonomous modules, each characterized by a small number of universal principles.

In essence, *Universal Grammar* is viewed as a part of the *Language Faculty*, which Schachter (opcit) further describes as:

..A Faculty largely independent of, but interacting with other cognitive systems or modules.

A legitimate question to ask ourselves at this point would pertain to the function of these principles.

One of the goals of linguistic research is to obtain a theory of Language that limits the possible hypotheses a child can make concerning the grammar of the language she is acquiring. From a different perspective, the current interest in Linguistic theory in recent years has centred on restricting the descriptive power of the Transformational Mechanism and the rule-systems of languages. In response to this challenge, the G.B.

theory introduces a number of constraints, principles and filters. As relates to Language Acquisition, van Riemsdijk views the role of these constraints and principles as:

...general conditions permitting a sharp reduction in the expressive potential of rules and thereby, decreasing the class of grammars available to the language-learner in view of given data, (van Riemsdijk et al 1986:59)

This is, indeed, a remarkable improvement over previous theories that defined the problem facing a language-learner merely to be the learning of rules in a relatively unrestricted rule-writing system.

In brief, *Universal Grammar* consists of a highly structured and restrictive system of principles genetically endowed to every language speaker and thus, is not determined by differences in the linguistic environment. Nevertheless, these principles do interact with data from the linguistic environment to determine a specific adult grammar. (It is for this reason that each of the Chapters incorporate an account of the type of evidence that the children receive from their Linguistic environment responsible for inducing the the specific parameter-settings identified in the children's grammars).

Recent research on the Parametric approach reveals that principles of *Universal Grammar* vary within a limited range from language to language. This has led to the proposal that there are certain restricted options or '*open parameters*' associated with each of the principles. These parameters are set on the basis of mainly *Positive Evidence* from the specific language being acquired, (cf. Chomsky 1981b, Cook 1988:32).

Based on these facts, it is plausible to assume that languages will differ in subtle ways depending on the value selected for each of the parameters. These settings will further be observed to have a range of consequences in the grammar of any language. It should be noted that the possibilities of Parametric variation (or the values selected for the Parameters of U.G.) are consistently within clearly defined limits. These limited Parameter settings set by the language-learner are presumed to be "*triggered off*"

by the linguistic input or what Chomsky (1965) refers to as the "primary linguistic data" that the learner is exposed to in the linguistic environment. When these parameters are fixed, a **Core grammar** is determined, (cf. Honstein and Lightfoot 1981:38, Chomsky 1981:76, Cook 1981:32).

The G.B. theory divides the grammar of any language into a **Core** and **Periphery** grammar. The **Core grammar** determines the general (universal) properties of language while the **Periphery** accommodates the exceptional or marked properties in the grammar of a language. Consequently, van Riemsdijk et al (1986) defines the G.B. theory as essentially:

...a model for Core grammar that will have to be supplemented by a theory on the Periphery.

(This is viewed largely as a task of a theory of Syntactic Markedness to be discussed in Chapter 5. It is important to note that the scope of this study entails only aspects of the **Core grammar**.)

In summary, a **Core grammar** results when, (based on evidence from the Linguistic environment) a child fixes the parameters of Universal Grammar in one of the permitted ways. Viewed specifically from the perspective of Language Acquisition, the Parametric approach raises the empirical possibility that during the course of grammatical development, the early grammars of any language may systematically differ from the adult grammar with respect to the value specified for a specific parameter of Universal Grammar.(cf. Hyams 1983).

The parameters of relevance to this study are the **Head parameter, the Determiner (Specifier) parameter, the Wh-movement parameter, and the Pro-drop parameter**. The basis of this study is to investigate on the parametric variation (with respect to the above parameters) between the early grammars of children acquiring English and the corresponding adult form.

1.7: The Scope and Limitations of the Study

The study investigates solely on the four parameters outlined in an earlier section and the principles of significance to them. Other principles and parameters of **Universal Grammar** will only be discussed in so far as they illustrate the manifestation of the parameters presented earlier.

Due to time limitations and complexities of data analysis, I have restricted myself to analysing the degree of parametric influence from only Kikamba as a first language. Hence, the parametric influence from other languages other than Kikamba have been systematically omitted pending further research on the parametric model of Language Acquisition.

The empirical findings of this study and the analysis proposed will not, in most cases, reflect the same transformational complexities found in the language of older children and most adult grammars. Notwithstanding, the ultimate goal of the study is to provide an in-depth, holistic and comprehensive investigation on the sample selected. My anticipation that the findings of this study will provide a sufficient reflection of **Universal Grammar** Principles at work.

The Parametric model of Language Acquisition is a relatively new field, having evolved from the G.B. theory in the 1980's. As compared to the overwhelming amount of Literature available on the earlier Generative theories, limited research material was accessible on the Parametric approach to **Universal Grammar**.

I further acknowledge the fact that not all aspects of language structure are subject to parametric variation. My intention is merely to test the explanatory potential of the Parametric approach and to point out (where necessary), the limits of the theory in explaining the acquisition process.

1.8: Literature review

Introduction:

The review of related literature aims at indicating the relevance of the present study to previous research done on Child Language acquisition. Since effective research is based upon past knowledge, the review further attempts to establish a link between this study and previous investigations on how children actually process the linguistic data available to them.

The first Section briefly outlines the tenets of some of the previous theories used to describe child language. It also evaluates the observations and findings made by researchers using these frame-works. (It is important to have a clear understanding of these earlier frameworks and their limitations, as a preliminary to an appreciation of later developments in the description of children's intermediate grammars).

The second Section aims at providing a comprehensive background on the origins of the Parametric Model of Universal Grammar. It is hoped that a critical survey of the existing body of knowledge will provide a clear basis for the research problem at hand.

1.8.1: Evaluation of the Previous Theories on Language Acquisition:

The production, perception and comprehension of language and the mechanisms behind the processes of language acquisition have been the subject of intense controversy and debate. This has given rise to numerous theories on the acquisition process, each having its own distinct emphasis. However, it would be an enormous task to attempt to review all of the theories developed to date on children's grammatical development.

Thus, this Section will evaluate only two of the major descriptive frameworks used; these are the Pivot Grammar (cf. Braine 1963a) and the Standard theory of Transformational Generative Grammar (cf. Chomsky 1965).

1.8.2: Pivot Grammar:

Pivot grammar was postulated by Braine (1963a) as a tool to describe a child's early grammar. According to Cruttenden (1979:35) a child's grammatical development was recognized as beginning with the first appearance of two-word utterances (around 1.6-1.9 months).

At this stage, the types of utterances produced were referred to as 'Holophrastic' utterances and 'telegraphic' utterances. A 'Holophrastic' utterance was described as

"... a single form functioning as a sentence or phrase". (Yule 1985:130).

Telegraphic utterances produced at around two years, were defined as

"... strings of lexical morphemes in sentence - like structures." (Elliot 1981:74).

Pivot grammar was thus recognized as a descriptively adequate tool to describe this basic grammar. It was observed that the child had a set of rules which were clearly different from those in an adult's grammar but nevertheless, could generate a number of simple sentences. The methodology used to describe this grammar was through 'distributional analysis.' (v. De Villiers et al 1978:67).

A distributional analysis first examined the constructions or words that combined together and then searched for any regularities in these combinations. The words that frequently occurred in fixed positions in the child's grammar were referred to as 'Pivots'. The 'not-so-frequent' word that often changed positions were known as 'open words', (v. De Villiers 1978:68).

According to this description, a child learns certain words in specific positions and then structures his sentences around them. The Pivot grammar was an attempt to describe the simple rules a child used to produce a variety of sentences, (cf. Brown and Bellugi 1964, Miller and Garvin 1964, McNeil 1970 a).

Pivot grammar could be viewed as having some degree of descriptive adequacy as a simple and psychologically plausible description of the initial stages in a child's grammatical development.

However, it provides an inadequate explanation for how a child proceeds from using these simple rules to the more complex rules characterizing adult grammar. Recent research on child language further reveals that some sentences do occur that violate the Pivot-grammar rules. Consequently, it has been acknowledged that the Pivot-grammar rules under-represent the facts on child language and are clearly inadequate in specifying which sentences are permitted and which can not occur at all. (v. De Villiers et al 1978:69).

1.8.3: Transformational Grammar and Language Acquisition

A number of studies have used the transformational grammar to explain the process of language Acquisition. These include local studies by Blount (1969) on the acquisition of grammar in Luo, Njage (1982) on the acquisition of phonological structures in Kikuyu, Nyamasyo (1985) on the acquisition of Syntactic structures in a multilingual environment and Mutisya (1988) on the syntactic development of children acquiring Kikamba in a monolingual environment.

The studies on children's syntactic development used the Standard theory of Transformational Generative Grammar expounded by Chomsky (1965) as a model of

description and analysis. Their conclusions were, therefore, founded on the claim by Chomsky (1965) that:

"...any grammar that does not use transformations in generating sentences cannot fulfil the reasonable objectives for a grammar" (Mutisya 1988:12)

What then is a Transformational Generative Grammar?

Briefly, the Standard theory divides grammar into three main components: the phonological, the semantic and syntactic components. The phonological and semantic components are purely interpretive, each using information generated by the syntactic component. The syntactic component specifies for each sentence a deep structure that determines its semantic interpretation and a surface structure that determines the phonological interpretation, (cf. Katz and Postal 1964, Chomsky 1965).

In addition, the syntactic component consists of a Base and Transformational sub-components. The Base sub-component then generates syntactic deep structures which are the input to the transformational sub-component that derives surface structures. Transformational generative grammar (henceforth T.G.G.) further hypothesizes that all transformations are meaning preserving. (Fodor et al: 1974:111)

In relation to language acquisition, each native speaker of a language is regarded as having an 'internalized finite set of rules' which are used to produce and understand an indefinite set of sentences in the language. In Transformational terms, the child is regarded as having:

"... an Innate knowledge of Universal deep structures ... all he has to do is learn the relevant transformations for converting this deep structure into the surface structure realization of his own language", (cf. Mutisya 1988:9).

The T.G.G. further recognizes, the presence of a 'Language Acquisition device' (cf. Chomsky 1965, Katz 1966, McNeil 1966) which consists of a genetically endowed

innate knowledge on the structure of language. McNeil (1966) expounded on this by proposing that:

"... a child comes to the task of learning language with a language Acquisition Device (L.A.D.) which contains the notion of a hierarchy of grammatical categories". (Cruttenden 1979:101).

Standard theory further recognized the L.A.D. as consisting of 'innate knowledge of the Universal deep structure of language', (cf. Mutisya 1988:0).

The acquisition process is, therefore, based on the child's discovery of the deep and abstract (generative) grammar of his language. The child is viewed as acquiring rules of grammar in stages of increasing complexity. As he is exposed to more linguistic data, his generalizations narrow down and his rules get revised until they match those of the adult grammar.

In summary, the standard theory sees a child's language as rule governed' at every stage (cf. Mc.Eloy 1965).

However, over recent years, there has been a gradual shift of focus from linguistic theories that emphasize the acquisition of rule systems, to the study of Universal principles which Chomsky (1982:7) views as occupying

"...a more central position in determining the character and variety of possible human language".

A linguistic theory ideally aims at providing a grammatical description of a native speaker's competence of the language in question. Thus, the explanatory potential of any given theory will be measured by how well the grammar captures and explains language knowledge in terms of properties of the human mind. As Chomsky (1964:29) observes:

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"... a linguistic theory that aims for explanatory adequacy is concerned with the internal structure of the Language Acquisition Device... it aims at providing

a principled basis, independent of any particular language for the selection of a descriptively adequate grammar of each language." (Chomsky 1964:29).

The rule systems of the Standard theory were meant to represent as simply and as elegantly as possible what adult speakers know about their language. However, it was questionable whether the theory adequately described children's intermediate grammars and their degree of competence in the particular language.

Child language typically lacks transformational and inflectional complexities. According to Bowerman (1973:25)

"... using a TG framework to describe child grammars forces us to postulate deep structure constituents and grammatical relations which have not been justified by child language and which [therefore] may not correspond to the characteristics of children's linguistic knowledge".

Needless to say, there was an obvious need for a simpler and more plausible theory to describe child language. Ingram, (1975) defended the view that T.G. grammar was inadequate as a descriptive tool for child language. He observed that the major transformations of English only enter children's speech after six years of age. Prior to age 6, he argued, a transformational grammar was unnecessary to describe children's utterances; thereafter, the child then acquires productive transformational rules, or what Ingram referred to as:

"... the major transformational component of their grammar; the portion concerned with complex sentences". (De Villiers 1978:115).

Studies by Pitcher and Prelinger (1963) revealed that there was nothing in the speech of children below six years to suggest that they know how to use sentence - embedding transformations. Their findings were that children's utterances consist of short simple sentences 'merely juxtaposed together'. De Villiers et al (1978) contended that even at six years of age, a child still has no productive transformational rules, but rather:

t..expressions that masquerade as relative clause constructions". Consequently their conclusions further dismiss the explanatory potential of a T.G. grammar as follows:

"... the T.G. grammar doesn't reveal much on the process of acquisition; it makes predictions that are contrary to observations on the course of stages children go through and the consistent errors they make." (1978:116)

However, it would be extremely shortsighted to completely dismiss the descriptive and explanatory potential of the T.G. grammar. There is no doubt that the emphasis of the Standard theory (and the general goal of early work on T.G. grammar) focused on attaining the requirements of descriptive adequacy. The rule-systems devised made explicit the syntactic relations that native speakers of a language were assumed to 'know' (i.e their competence in a language). Unfortunately, research reveals that the Standard theory (and earlier work on T.G. grammar) may not be as adequate in representing the constrained and limited grammar of a child below five years of age (cf. Bowerman 1973, Ingram 1975, Pitcher and Prelinger 1963, etc).

In addition, although the Standard theory provides an elegant description of the rules that generate sentences in a language, there still is an amount of indeterminacy in this descriptive choice. Several different rules may appear to capture the regularities in child utterances, thus making it difficult to determine which rules children actually follow.

The most widespread criticism of the Standard theory (and generally on the early T.G. grammar) is that it is recognized as a highly "unconstrained" theory on language acquisition. Horrocks (1987) sees this problem as emerging as a result of the expressive power of the transformational mechanism. It was recognized that the transformational component could generate a wide variety of sentences and that 'very disparate phenomena were all being treated as examples of transformational relationships' (Horrocks 1987).

The Standard theory may have attained descriptive adequacy but it is doubtful whether it was explanatorily adequate as a tool to describe early child grammars. In the words of Horrocks (1987:55):

"...in the drive to achieve comprehensive coverage of phenomena by means of exploiting the available technical apparatus to the full, the issue of explanatory adequacy has been overlooked".

A theory that is explanatorily adequate has to be restrictive in the sense of limiting the range of 'technical apparatus' or possible hypotheses available to a child acquiring language to the minimum compatible with adequate descriptive of the data.

The search for highly general constraints restricting the options of grammars available to a child acquiring language led to the conception of the Government and Binding theory and its relation to Universal Grammar.

The Emphasis of work within T.G. grammar has thus shifted away from the development of descriptively adequate rule systems to the development of Explanatorily adequate theories of Universal Grammar which have been seen to occupy a more central role in determining the structure of human language.

* 20/11/93 9:30 pm.

1.8.4: Principles and Parameters of Universal Grammar

Chomsky (1976) formulated the argument that there are Universal constraints on the form that grammars of natural languages could take. These universal constraints were seen as being *"sufficiently removed from the input data"* and as such, were independent of any influences from the linguistic environment. The role of these constraints was to delimit in advance the possible hypotheses a child would adopt in discovering the grammar of his language. As Chomsky (1981b:59) observes on the role of these principles:-

"...Universal Grammar principles function as general conditions permitting a sharp reduction in the expressive potential of rules and thereby decreasing the class of grammars available to the language-learner in view of given data."

It follows from this position, that the earlier views of language acquisition as merely a process of 'Hypothesis-testing' needed to be reconsidered. As White (1981) adequately puts it:

"...it is a reasonable working hypothesis that children's grammars construction is limited by the constraints of Universal grammar so that they don't have to evaluate the full range of grammars that would be logically possible were they working from inductive principles alone". (1981:242).

Universal Grammars then is seen as the solution to what is referred to as "logical problem of language acquisition". A quote;from Ellis (1985:196) elaborates on this:

"...the child needs to be constrained from forming incorrect hypotheses. These constraints are not provided by the input data, so they must be part of the child's biological determined endowment"

A legitimate question to ask ourselves at this point is on the role of Universal Grammar.

There are certain aspects of language structure that people know about their first languages for which there is simply insufficient evidence in the input data. Chomsky (1965) referred to this as "the poverty of the stimulus", i.e. the input data "is insufficiently precise" to characterize the kind of subtle knowledge about language that the child will eventually attain (cf. Chomsky 1981 b, Horstein and Lightfoot 1981, White 1982).

It should be emphasized that the present study does not regard the 'poverty of the stimulus' to mean that the model of language exposed to the child is "degenerate, impaired in performance or 'poorly structured" in the sense of being ungrammatical. What we interpret this to mean, is that every native speaker's competence (in any

language) includes knowledge about ambiguity, paraphrase relations, scope, etc. In essence, knowledge of the grammar of their language which could never have been learnt on the basis of only generalizations from samples of data from the linguistic environment, (cf. Horrocks 1986:20)

Stated simply, there seems to be a discrepancy between what a child hears (linguistic input) and what he eventually attains i.e., full grammatical competence in the language. Cook (1986) contends that this 'mismatch' is dealt with if we assume that Universal Grammar mediates between the input and the grammar constructed by the child. Universal Grammar forms part of the Language Acquisition Device and hence, is available to a child throughout the course of acquisition, (cf. Cook 1986)

What is the content of Universal Grammar?

Chomsky (1976:29) described Universal Grammar as:

"... the system of principles conditions and rules that are elements of properties of all human languages... the essence of human language".

Within the G.B. theory, Universal Grammar takes the form of a parameterized system that contains a set of principles and operations that are Universal. Each of these principles has associated with a set of possible values which Hyman (1983:2) regards as "... expressing the limit range within which grammars may vary with respect to each principle and operation", (cf. Section

The formulation of U.G as a system of parameters implies a revolutionary view of the language acquisition process. In addition, it makes a significant claim about the role played by the input data. Chomsky's (1981b) theory of language acquisition assumes that a child approaches the acquisition task equipped only with Universal Grammar principles of which he refers to as "... a characterization of the child's initial state". (Cook 1986:11).

Thus, syntactic development is viewed as an 'interactive process' in that the principle of Universal Grammar which constitute the child's priori knowledge concerning the form of grammars interact with the data of the child's linguistic environment to determine a particular adult grammar". (Hya/tfs 1983\$).

This 'interactive process' is the basic foundation of the parameter setting model. The fundamental question with this framework is on which aspects of linguistic structure are 'given' and which aspects must be 'learnt' on the basis of exposure to a particular language. Hym s (1983) in her investigation on the Null Subject parameter identified some of the characteristics of a Universal Grammar Principle:

"... where a particular principle or rule either operates across languages or is sufficiently removed from the data so as to be inaccessible to the language learner, it is assumed that the principle has Universal status and, therefore, constitutes part of the child's a priori endowment". (Hy&rrts 1983)

Chomsky further characterizes the 'initial state' of a child's language faculty as endowed with Universal Grammar Principles, each of which has "predetermined set of values". (Cook 1986). In order to arrive at the adult grammar, the child must 'fix' each of the parameters at the value which is correct for his language.

Material from the input data then acts as a 'trigger' to fix the parameters at one of the 'predetermined' values. The grammar determined by fixing U.G. principles and parameters is then referred to as a 'CORE' grammar. (Chomsky 1981 b).

Hymes (1983) regards the grammar of any language as being mainly a CORE grammar with a periphery of marked elements and con\$Uctions.

If the system of parameters is embedded in the language acquisition process, then the choice of one or another of the possible values for a particular parameter will be seen to have varying consequences in different parts of the grammar.

1.8.5: Experimental studies on the parametric model

As mentioned previously, there has been a shift of focus from the study of rule systems to the study of principles which now appear to occupy a 'more central position in determining the character and variety of possible human language' (Chomsky 1982:78).

The parametric model could be said to have evolved from the notion of 'Universal Parameters' (Bach (1965)). His investigation pointed out that certain rules such as wh-movement are given as part of Universal Grammar. He referred to these as 'existence parameters'.

However, it was Chomsky (1965) who explicitly mentioned the possibility of "formal" and "substantive universals" which he defined as "... *the specification in Universal Grammar of fixed, unlearned rules of grammar.*" (Roeper et al. 1988:?) No mention (as yet) was made of any parametric model.

By 1981 however, the parametric model was conceived out of an observation by Chomsky (1981 b) that Universal Grammar consists of a parameterized system containing a set of principles which were Universal. The parameter setting model evolved out of the G.B. Framework and was regarded as providing an explanatory account of the rapidity and uniformity of syntactic development across children speaking different languages. It was also regarded as a principles description of various aspects of the acquisition data including an explanation for '*the absence of logically possible errors that children never make*'. (Hyman 1983)

Thus, by 1981, the parametric model was seen to provide a simpler and more plausible explanation for the acquisition of language. Williams (1981) provided a parameterized model of the base component and gave the head position, and presence vs absence of the specifier and complement as parameters for each phrase. His proposal

was that one of the tasks facing a child was to detect whether the Head parameter in his language was set a 'Head-Initial' position. Positive evidence from the environment was seen to provide the necessary trigger for the specific value of the parameter.

Hymes' (1983) Ph.D. dissertation is the most comprehensive account to date on the acquisition of parameters in the grammars of children acquiring English and Italian. Hymes also highlighted the specific triggering evidence necessary for the resetting of the Null-subject parameter as well as comprehensive evidence on the structure of the AUX component. (Her findings will be of great use to the present study).

Berwick (1985) supplied a formalization of parameter setting in terms of what he referred to as the 'subset principle' defined as follows:

"...when the two settings of a parameter give two different languages L_1 (child's intermediate grammar) and L_2 (adult grammar) and L_1 is a subset of L_2 , then the initial or unmarked setting should be the one giving the smaller language L_1 [child's intermediate grammar]". (Roeper et al 1985)

The subset principle was further considered 'a concrete formalization'¹ of the parametric model. Wexler and Manzini (1984) thus, applied the subset principle to the binding domains of anaphors and pronouns. Their findings shook the foundations of the parametric model. Their conclusions were that parameters are associated with lexical items, not whole grammars as previously thought.

However, this assumption by Wexler and Manzini gives too much credit to the child as a 'mini-linguist'¹. Safir (1984) refuted their conclusions on the grounds that *"...the computations involved are too complicated to attribute [solely] to the child"*. (Roeper et al 1987:iv).

It would be an impossible task to review in detail all the research done to date on the Parametric model. However, the review would be incomplete without mention of the 1st Conference held in Massachusetts in May 1985 on the parametric model. The focus

was on connecting grammatical studies to studies on language acquisition. Of great importance were the following studies-

Kishigauchi and Roeper (1985) on 'Deductive, parameters and the growth of Empty Categories', Borer and Wexler (1985) on 'foe maturation of Syntax'. Solan 91985) on 'parameter setting and The Development of pronouns and Reflexives, and Phinney (1985) on 'The pro-drop parameter in second language Acquisition'. All these studies (especially Phinney's account) will be of great relevance to the present investigation.

1.9: Methodology

This section encompasses the following sub-sections:

- Study area;
- Sample selection and duration of the Investigation;
- Data elicitation procedures;
- Data analysis.

1.9,1: Study area

The study area is Mascot Academy Kindergarten situated in Nairobi. The significance of this choice is that Nairobi is a multi-lingual environment where the average child is exposed to at least two different languages at an early age. The children from the Kindergarten selected receive daily exposure to English and a first language.

1.9.2: Sample selection and duration of Investigation

The sample consists of 20 mentally stable children between the chronological ages 2-5 years. The children selected will have received exposure (either successively or simultaneously) to an LI prior to their exposure to English. The utterances of two children with previous exposure to the grammar of Kikamba will be used to examine the degree of parametric influence from a first language.

It should be emphasized that the medium of communication used by the teachers in the school is English. The utterances recorded from the teachers will be important in so far as they provide a picture of the type of linguistic evidence the children are exposed to which induces the specific parametric settings manifested in the children's speech.

1.9.3: Data elicitation and collection

The study is cross-sectional in approach, with the subjects representing a range of linguistic proficiencies. It is assumed that their aggregate performance at a single point in time will reflect a developmental picture similar to that obtained from a longitudinal investigation on the language development of a single subject over a period of time. (cf. Larsen-Freeman et al 1991:14).

In addition, the investigation is qualitative in orientation, seeking to understand linguistic behaviour from the children's own frame of reference. It is for this reason that the data-elicitation techniques involved consist mainly of unmanipulated observations on the children's natural verbal behaviour.

- The methods used are:

- Participant and non-participant observations:

-Focused descriptive technique:

-Simple verbal tasks.

1.9.4: Participant and non-participant observations

The data of interest in this investigation is the 'natural communication' where children are concerned not with the grammatical form of their utterances, but more with the utterances they are conveying and comprehending.(cf. Krashen 1981:2).

Hence, most of the data consists of the children's natural spontaneous utterances. It is important to note that children below 5 years of age seem to have a negligible amount of interest in consciously apply grammatical rules. Speed and spontaneity in communication seem more crucial in the early stages of the acquisition process.

The purpose of both participant and non-participant observation techniques will be to provide a detailed and comprehensive description of the strategies used by the children as they learn to communicate in English. This involves uninterrupted observation sessions on the children's linguistic behaviour as well as my actual interaction with the children using English as a medium of communication. Audio-recordings of the children's and teacher's speech will be carried out throughout the investigation process.

1.9.5: Focused descriptive technique

This technique is similar to the observation technique but has the added advantage of making the observation sessions more focused in order to narrow down the data-analysis task. As such, the investigation makes no claims of explaining all aspects that influence the language acquisition process.

The role of the technique is to:

- (i) Narrow down the scope of the observation session to the three hypotheses to be tested;
- (ii) Explore the effect of the parametric influence from the grammar of Kikamba as an LI;
- (iii) Limit the observation sessions to solely the manifestation of the four parameters and the related principles mentioned in section. 1.3.

In summary, the technique provides a fixed and focused description of the children's linguistic behaviour as they interact among each other and with their adult interlocutors. Once this focus is established, it will not shift according to the context or situation. Consequently, this will provide for easy comparison of the intermediate grammars under analysis. In addition it makes it simpler to isolate aspects of the **Core grammar** from unpredictable idiosyncratic aspects of the children's linguistic performance, which will be of little relevance to this study.

1.9.6: Simple verbal tasks

It should be noted that few formal language-tests can be successfully administered to children below 6 years of age, because prior to that, children *acquire* rather than *learn* language. In addition, although the children's adult interlocutors do modify their language when communicating with young children, error correction and the explicit teaching of grammatical rules hardly occurs at all. It is also doubtful whether children below 6 years of age have developed the cognitive ability to effectively manipulate their ideas verbally.

I should stress at this point that none of the children has as yet developed conscious awareness of the rule-systems of any of the languages to which they are exposed. It

therefore would be unrealistic and absurd to expect the children to distinguish between grammatical and ungrammatical strings as would be the case in the testing of adult competence.

This being the case, the few tests to be administered will only be considered as providing supplementary information for my inferences on the parametric settings manifested in the children's speech.

The subjects will be motivated to perform some simple verbal tasks that include describing pictures, narrating stories, and responding to and asking questions. The rationale behind this is to get the children to display some of their grammatical competence in English which may not always be explicit in their spontaneous utterances.

1.9.7: Data analysis

Audio recordings as well as a detailed transcription of the children's utterances will be carried out throughout the investigation. The transcriptions will consist of:

- (i) The initial classification of utterances into each respective age group;
- (ii) Classification of each of the utterances into those manifesting each of the four parameters;
- (iii) Comparing the children's grammars with the corresponding adult form;
- (iv) Classifying each of the ungrammatical sequences produced as:
 - Principles of Universal Grammar at work;
 - ¹ -Parametric mis-settings as a result of exposure to the grammar of Kikamba as an LI.
 - A consequence of the child's own unique hypothesis on the structure of English.
- (v) Examining whether each of the intermediate grammars deviates drastically from the constraints of U.G. (ie., the manifestation of any "wild" grammars).

CHAPTER TWO

Theoretical Considerations

2.0: Preliminary Remarks

It was made explicit in the *Theoretical Framework* that the G.B. theory provides a modular approach for the description of grammar. The primary concern of the first section are the principles and parameters constraining linguistic representations at the D-structure level. This will necessitate a concise description of the X **bar theory** which determines the form of the Phrase-structure or base component. In addition, using data from the grammar of Kikamba and English, I will demonstrate the unnecessary redundancy incurred as a consequence of the great variety of Phrase-structure rules presented in the earlier versions of Transformational Generative Grammars (cf. Chomsky 1965). Only then can we be in credible position to wholly appreciate the Explanatory potential of the principles and parameters presented by the X **bar theory**.

The next section focusses on the phenomenon of Syntactic movement in Grammar. It is worth noting from the onset that syntactic movement in the G.B. theory involves an interaction of all the sub-theories of *Universal Grammar*. For instance, it draws on the **Bounding theory** to define its limits on movement, on **Case theory** to reveal its motivation, on **Government theory** to express the relationship between the moved element and its trace, and so on. As such, it is crucial that we clearly understand the scope of this Investigation as it relates to syntactic movement. My concern is solely with the principles and parameters constraining Wh-movement in Question-formation. All other principles of **Bounding theory**, **Case theory** and **0 theory** will only be alluded to in so far as they relate to the parameters of Wh-movement in the children's speech. In addition, linguistic data from English and Kikamba will be used to explain

the different levels at which Wh-movement applies in natural languages. A few examples from Japanese and Bari will be employed as illustrative devices for the manifestation of specific parametric settings, but will not necessarily be based on a complete analysis of the languages in question. The purpose of my digression into the grammar of Japanese and Bari will be merely to demonstrate (using concrete data from existing human languages) that the occurrence of certain "ungrammatical" sequences in the children's speech are actually permissible sequences in natural languages such as Kikamba and Japanese, regardless of whether the children have been exposed to these languages. (In addition, this will provide further basis to the thesis adopted in this Study that the principles at work in the children's grammars are genuinely innate and universal).

The third section concentrates on the syntactic manifestation of Subject Noun phrase in the children's sentences defined in what has been referred to as the **Pro-drop parameter**. This parameter, otherwise referred to as the "Null-Subject" parameter, (Rizzi 1982) or the AG/PRO parameter (Hymes 1983) has aroused considerable interest among linguists in recent years (cf. Chomsky 1981b, 1982, Huang 1984, White 1986, Nyombe 1987, Mwangi 1992). It is important to note that the formulation of this parameter differs with regard to the range of linguistic data it explains, hence the different labels attached to it. For the sake of descriptive uniformity, the term "Pro-drop" parameter will be the sole reference employed in this study.

2.2: X-bar theory

The **X-bar theory** is a model of Syntax incorporated within the G.B. theory as a general descriptive account of phrase-structure in the Base Component. As is the trend in all the modules of the theory, the emphasis is on expressing general principles of Universal Grammar rather than idiosyncratic rules of specific languages. The **X-bar**

theory was formulated by Chomsky (1970) to describe the properties of all phrases in the grammars of different languages.

X bar syntax further stipulates principles for the projection of lexical categories that include Nouns, Verbs, Prepositions and Adjectives into phrasal expansions of the type Noun-Phrase, Verb Phrase, Prepositional Phrase and Adjectival Phrase. These are represented as N(NP), V(VP), P(PP), A(AP) respectively. The theory further imposes constraints on the hierarchical organization of categories in the form of a general schemata which, (as shall be illustrated) imposes a degree of uniformity on the possible arrangement of elements in a phrase.

Of crucial importance in X bar syntax is the recognition that all phrases have lexical elements (or categories) referred to as **Heads** upon which all other elements in the phrase are dependent. This is reiterated in the principle referred to as the *Endocentric Requirement* which specifies that:

...each phrasal expansion contains a head of the same feature specification".
(Stowell 1981).

This in effect, means that an NP (or N) will be headed by a Noun, a VP (or V) by a Verb, a PP (or P) by a Preposition, and an AP (or A) by an Adjective. In addition, the *Endocentric Requirement* designates that each head projects into a maximal expansion, sometimes referred to as X^{max} . Hence, Nouns, Verbs, Prepositions and Adjectives are lexical units which project into the phrasal categories N, V, P, A respectively. Chomsky (1970) accordingly proposed that the head of any phrase be generally termed as X° . In addition, the phrasal category containing X° is termed as X and the maximal expansion containing X is \bar{X} . (Note that \bar{X} and X are both projections of X°).

According to Stowell (1981), the *Endocentric Requirement* has important implications for the Acquisition process because it provides the mechanism by which a child

deduces the hierarchical structure of phrases from surface strings. Thus, when a child learns the meaning of a particular lexical item (a Verb for instance), it is assumed that the child simultaneously learns the selectional restrictions associated with the lexical item. In greater detail, the child acquires the knowledge that the Verb (X^0) is contained within a V (VP) and could either be transitive or intransitive. This is subsumed under the *Projection Principle* which postulates that:

...Representations at each syntactic level (i.e. LF, D-structure and S-structure) are projected from the lexicon, in that they observe the sub-categorization properties of lexical items. (Chomsky 1981:29).

Indeed, the *Projection Principle* has important implications for language development. The most salient certainty is that it greatly reduces the amount of lexical information that needs to be specified in the categorial rules of the D-structure component. This, no doubt, does influence the acquisition task. The presumption is that when children learn the meaning of lexical items, they will also learn the sub-categorization features of these words (or the complements the verbs co-occur with). For instance, in describing the selectional restrictions of the verbs *'hit'* and *'put'*, we need not have idiosyncratic rules presented in the earlier versions of the Transformational Generative Grammar: cf.

V P — V NP

V P — NP PP

P P — P NP

etc.

The *Projection Principle* renders the above rules redundant because the sub-categorization features of each lexical item are projected from the lexicon to all the linguistic levels. This reduction in the specification of the phrase-structure rules greatly

simplifies the language-learning task. In essence, when a child learns a word, she also takes note of the syntactic structures in which the word appears.

The *Projection Principle* is therefore considered a universal of human languages since according to Chomsky (1981), all languages integrate syntactic rules with their lexical entries.

2.1.1: Redundancy in the Phrase Structure Rules

... Phrase-structure rules should be eliminable in so far as they merely restate, in another form, the essential content of lexical entries.

(Chomsky 1986:83).

The main motivation behind the development of **X-bar syntax** was the need to restrict the descriptive variety of phrase-structure rules in languages. Prior to the formalization of the *Endocentric Requirement* and the *Projection Principle*, the following phrase-structure rules were employed:

S — NP INFL VP

NP — * (Det) N

VP — V NP (PP)

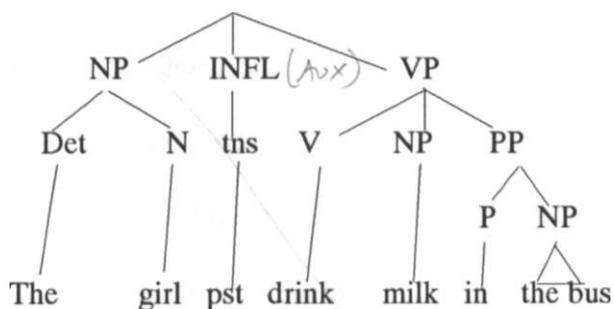
PP — • P NP

etc.

These rules generate sentences in English such as:

(l)The girl drank milk in the bus.

The structure of this sentence is represented in the following tree-diagram below:



Studies on Kikamba Syntax by Mwove (1987), Mutisya (1988) among others also present similar phrase-structure rules e.g.

S — NP VP
 VP — V NP (PP)
 pp — p NP

These rules were used to describe the basic phrase-structure of Kikamba sentences like:

- (2) *Mumo niwatunga ivuku ungu wa mesa.*
 SB Foc-tns-vrt Obj. P Det NP
(Mumo has returned the book under the table).

These phrase-structure rules are similar to the rules given in studies on other Bantu languages such as Kiswahili (cf. Mgulu 1985) and Kigiriana (cf. Mweri 1991). In addition, these rules were seen to generate sentences with different communicative functions. These include declaratives, imperatives and negations. Observe the word-order of the following Kikamba sentences:

declaratives

- (3) *Mwaitu niwathi ndukani umunthi.*
 SB Vrb. Obj. Adv.P
(Mother has gone to the shops today).

Imperatives

- (4) *Ungama vau.*

Vrb. Adv.

(Stand there),

passive sentences

- (5) *Niuiwe liu ni Mbinya.*

Vrb. Obj. P NP

(I) was cooked for food by Mbinya.

compound sentences

- (6) *Wambua na Kilonzo nimathi ndukani.*

SB Vrb. Obj.

%

(*Wambua and Kilonzo have gone to the shops.*)

complex sentences

- (7) *Katunge enda mundu ula watula kivila kii.*

SB. Vrb. Obj. Rel.cl. Vrb. Obj.

{*Katunge wants the man who broke this chair.*}

The most salient fact about the structure of the sentences presented above is that Kikamba, (like most Bantu languages) maintains a SVO word-order as the dominant order of sentences. The exceptional cases occur after the application of transformations such as the Passive rule that result in an OVS word-order. (However, even these sentences have a deep structure SVO order). It should be noted that in the grammar of Kikamba, lexical heads (ie. Nouns, Verbs and Prepositions) always precede their complements in a phrase. The phrase-structure rules that would express the order of lexical heads and complements in a Kikamba phrase are as follows:

NP—*N Complements

VP v NP (PP)

PP —• P NP

It is possible for us to formalize this uniform arrangement of elements in Kikamba (and English phrases) using the general rule:

X — + X^o complements.

The above rule represents a **head-initial setting** for the position of lexical heads in a phrase. It should be noted that this rule is not universal since not all languages maintain a SYO order. Languages such as Japanese and Turkish have a dominant SOV word-order as the structure of declarative clauses. The following sentences from Cook (1988) illustrate this phenomenon:

Japanese

E wa kabe ni kakatte imasu.

(picture wall on is hanging).

Watashi wa nihonji desu.

(I Japanese am).

German

Mary hat das buch gelesen.

(Mary has the book read).

(NOTE: German maintains a SVO order in root clauses but allows a SOV in subordinate clauses).

As the above examples illustrate, languages differ with regard to the arrangement of elements within phrases. As such, the grammar of Japanese and German adopts a different rule to express the general order of lexical heads within phrases, ie.,

X — Complements X°

This rule represents a **head-final setting** with regard to the position of lexical heads and complements in a phrase. The rule summarizes the following phrase-structure rules:

NP — • Complements N

VP — • NP V

pp NPP

etc.

It should be noted that the variation between languages can be expressed in terms of a limited choice between a **head-initial** or a **head-final** setting for the arrangement of elements within a phrase. According to Chomsky (1981a:32) there is unnecessary redundancy in the rules of the categorial component (Phrase-structure rules) proposed in the earlier versions of the Transformational Generative Grammar. We have just seen how the use of **X-bar syntax** reduces the great variety of phrase-structure rules to a single rule expressing greater generality. Chomsky (1986) even goes as far as suggesting that the rules of the categorial component can be entirely eliminated except for specific word-order parameters determining:-

-Head-Complement order;

-Specifier-Head order;

-Head-Adjunct order.

(The scope of this Chapter is focused specifically on the Head-Complement of d^{er} and the Specifier-Head order in the children's sentences).

2.1.1: Endocentric Requirement and Phrase-structure redundancy

It has been illustrated in the previous section that phrases in all languages have an obligatory element referred to as the head of the phrase. This, as we have seen, is subsumed under the **Endocentric Requirement**. In addition, the head of a phrase must be of the same feature specification, or belong to a particular category related to the phrase. The phrase-structure rules expressing this relationship are:

$$\text{NP} \text{ —}^* \text{ ...N...}$$

$$\text{VP} \text{ —} \text{ ...V...}$$

$$\text{PP} \text{ —} \text{ ...P...}$$

$$\text{AP} \text{ —}^{\bullet} \text{ ...A...}$$

This general property that all phrases must contain a lexical head related to the particular phrase can be formalized with a single rule as follows:

$$\text{X} \text{ —}^* \text{ X}^{\circ}$$

$$\text{or } \text{X}^{\text{max}} \text{ —} \text{X}^{\text{TM}^{\text{cat}}}$$

In the above rule, X stands for any of the four lexical categories ie. N (Noun), V (Verb), P (Preposition) or A (Adjective). However, what will be a language-specific rule will be the position of the head and complement in a phrase.

Thus, instead of having the wide variety of phrase-structure rules like the following:

$$\text{NP} \text{ —}^{\bullet} \text{N Complements}$$

or $\text{NP} \text{ —}^{\bullet} \text{Complements N}$

$$\text{VP} \text{ —}^{\bullet} \text{V Complements}$$

or $\text{VP} \text{ —}^{\bullet} \text{Complements V}$

We can formalize this generality using the **Head parameter** as follows:

- (a) $X \rightarrow X^\circ \text{ Complements}$
or (b) $X \rightarrow \text{Complements } X^\circ$

(v. Cook 1986)

We observed how English and Kikamba as SVO languages adopt rule (a) while Japanese, Turkish and other SOV languages employ rule (b). This being the case, it is clear that the basic properties of phrase-structure for any language can be determined merely by fixing parameters of Universal Grammar.

What implications does this have for language acquisition?

In Section 2.1,1 briefly discussed the importance the *Endocentric Requirement* has for the language acquisition process in so far as it provides the mechanism by which a child can deduce the hierarchical structure of phrases from surface strings.

However, of greater significance at this point is the Explanatory potential of the principles and parameters of X bar syntax in describing children's syntactic development. If it is possible that phrase-structure rules are eliminable (or at least can be reduced in number), then this greatly reduces the language-learning task for a child acquiring any language to a single parametric choice between whether her language adopts a **head-initial or head-final setting** with regards to the order of elements within a phrase.(v.section.2.3.1.).

2. 2.3: The Projection Principle and Phrase-Structure redundancy

In all the versions of the Transformational Generative Grammar it has been recognized that there are restrictions on the type of constructions within which lexical items can occur with in a sentence. Verbs could either be transitive or intransitive and

may have sub-categorization frames requiring NPs and PPs. For instance the verbs 'hit', 'put' and 'persuade' sub-categorize in English as follows:

vt-hit[- NP]

vt-put[- NP PP]

vt-persuade[- NP S]

The context in which each verb appears is given in the brackets, representing the complements of each verb. It should be noted that whereas transitive verbs obligatorily have complement NPs or PPs, intransitive verbs need not. The phrase-structure rule expressing this complement structure is:

VP — V NP (PP)

However, with the introduction of the *Projection Principle*, such rules are rendered redundant because they merely repeat the lexical properties already restated in the lexical entries of the verbs, (cf. Chomsky 1986b:84). The *Projection Principle* ensures that the lexical entries of verbs (e.g. transitive [-NP]) are projected onto all levels of the grammar; of significance in this context is the projection onto the syntactic structure of the sentence. This in effect, means that all complement NPs or PPs are predictable from the lexical entries of verbs.

How does the *Projection Principle* affect language acquisition?

Firstly, the Principle is regarded as a universal of human language and has the role of integrating syntactic rules with the lexical entries of words. The lexicon is therefore not a separate list of words and meanings learnt independently; on the contrary, it is actively engaged in the syntactic development of any language. The Principle further has significant effects on the language-learning task because it eliminates many idiosyncrasies of lexical items and sub-categorization rules, thereby simplifying the grammar of a language. This no doubt, contributes to the explanatory power of the grammar in so far as it constrains the number of rules needed to acquire the syntax of

a language. Since lexical properties of words are projected onto the syntax from the lexicon, they need not be restated in the form of phrase-structure rules which can therefore be eliminated from the description of a grammar (save for a few language-specific idiosyncratic constructions).

In Section 3-3(I will examine whether the *Projection Principle* applies in the speech of the children acquiring English. However, It should be noted that unlike the word-order parameters relevant to this Chapter, the *Projection Principle* does not undergo parametric variation and thus, is considered to apply similarly across languages.

2.3: Parametric Variation in the Word-order

It has been illustrated in Section ^that languages vary with regard to the arrangement of elements within phrases and the basic word-order found in declarative sentences. This variation gives rise to different word-order parameters. Of relevance to this investigation are:

- (i) The head parameter
- (ii) The modifier/determiner parameter

My aim is therefore two-fold. Firstly, I will examine the parametric variation that exists with reference to the position of lexical heads and complements within a phrase. Secondly, I will look at the order of adjectival modifiers and Determiners in the Noun Phrases that occur in the children's utterances.

2.2.1: The Head Parameter

As has been exemplified, the variation between languages can be expressed in terms of whether lexical heads occur before or after their complements in a phrase. Chomsky

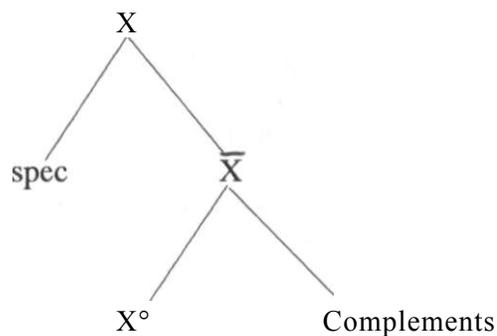
(1970) referred to this as the **Head Parameter** which reduces the variation in the arrangement of elements in phrases to two main structural types, viz:

- (i) Lexical heads placed initially before their complements (Head-initial setting);
- (ii) Lexical heads placed finally after their complements (Head-final setting).

We have seen that the choice of any one of these parametric values has powerful effects, yielding languages as varied as English or Kikamba (which select the Head-initial position), and Japanese or Turkish (which selects the Head-final position). With reference to the children's grammars, my aim will be to identify and describe the dominant word-order found in the children's utterances with regard to the position of the lexical heads and complements in a phrase.

2.3.2: Determiner (Modifier) Parameter

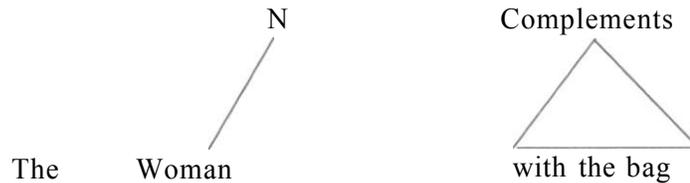
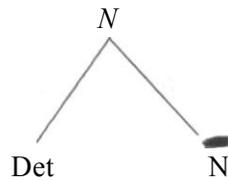
As a brief recapitulation, a lexical head X is contained in X (which consists of a head and its complements). This further expands into X which consists of a Specifier (or Determiner), a lexical head and complements. This relationship is schematized as follows:



It is important to note that the above representation is not universal but is the order of phrasal elements in English-like constructions. A Noun Phrase such as:

The woman with the bag

can be broken down as follows:



However, languages differ with respect to the position of the Determiner within a Noun Phrase. According to Chomsky (1981) determiners include adjectival modifiers, articles, quantifiers and demonstratives. A cross-sectional investigation by Hawkins (1983) on the order of modifiers and lexical heads in different languages led to the formulation of the following principle:

Consistent Serialisation Principle

Languages tend to place modifying elements either consistently before or consistently after modified elements (or heads).

Hawkins (1983:2)

From the definition of this principle (hereafter referred to as the CSP) we can infer that *Serialisation* simply refers to the ordering of elements within a phrase. Of great significance is the fact that the CSP is a universal of human languages that is subject to parametric variation. Hence, languages such as English and Japanese generally place modifiers before lexical heads in phrases as follows:

- the fat girl* (Article + Adj + N)
- Ndunge's book* (Poss + Noun)
- ugly legs* (Modifier + N)
- rather boring* (Modifier + Adjective)

-*very slow*(Modifier + Adverb)

-*straight through*(Mod\ /ti + Preposition)

Except for a few marked constructions, the reverse order is usually ungrammatical in English as is apparent from the ill-formed constructions below:

-**girl fat the*(N + Adj + Article)

-**book Ndunge's* (N + Poss)

-**legs ugly* (N + Modifier)

-**slowly very* (Adv + Modifier)

-**through straight* (Preposition + Modifier)

English however, does have a few Noun Phrases where the Adjectival Modifiers are placed after the lexical head e.g.

-*President elect*(N + Modifier)

-*time immemorial* + Modifier)

-*Attorney General*(N + Modifier)

It should be emphasized that the above constructions are stylistically marked and according to Radford (1988:40) usually have "a literary and archaic flavour to them". In addition, some of these constructions are marked in the sense of being 'fixed' phrases borrowed from other languages such as French and are therefore not productive constructions in English. For instance, although adjectives like '*general*' or '*immemorial*' are positioned after Nouns in the constructions presented above, when employed in other Noun Phrases to modify different Nouns always appear as pre-modifiers. For instance, cf.

(a) *The general feeling.*

**(b) The feeling general.*

Based on these facts, it seems pertinent to conclude that the *Modifier + Noun* order is the unmarked arrangement of English Noun Phrases. This implication of this is that any phrases displaying the reverse order of *Noun + Modifier* will be a marked construction. As such, we can refer to English and other languages with similar *Modifier + Noun* order as '*pre-modifying*' languages.

In contrast to this, a language such as Kikamba consistently has *post-modifiers* as the unmarked order of elements in a Noun-Phrase. The following Kikamba sentences illustrate this:

Noun + Adjective

kana kaseo

(child good)

Noun + Demonstrative

kiiwa kii

(sugarcane this)

Noun + Numeral

silingi itatu

(shillings three)

Noun + A - Link Modifier

ngaliya mwaki

(car of fire [train])

(Although this situation is analogous for all other lexical heads in Kikamba, I have focused my attention solely on the arrangement of elements in Kikamba and English Noun Phrases).

Note that the order of *Noun + Modifier* was either totally unacceptable in English or permitted only in stylistically marked constructions. By contrast, the grammar of

Kikamba (like most Bantu languages) has as the unmarked order for Noun Phrases determiners (or modifiers) positioned after nouns. Polome (1967:143) in his comment on the order of elements in Bantu Noun Phrases, suggests that the relative order of the modifiers and determiners depends on the closeness of their semantic association with the noun. The following examples illustrate the co-occurrence of modifiers in Kikamba Noun Phrases:

(1) *Miti nyanya miasa muno*

(Trees eight long very)

Noun-Numeral-Adjective-adverb

(2) *Andu aya ana anene*

(People those four big)

Noun-Demonstrative-Numeral-Adjective

(3) *Itanda syakwa iya itatu sya kyuma*

(beds mine those three of metal)

Noun-possessive-demonstrative-numeral-

A-link Adjective

Of course performance limitations restrict the number of modifiers that could possibly co-occur in an NP. What is significant is the fact that the order of the noun and determiners (or modifiers) in a Kikamba Noun Phrase is the exact opposite of the order displayed by an English Noun Phrase.

Based on such 'post-modifier' versus 'pre-modifier' ordering found in different languages, Greenberg formalized the following Universal:

Universal 20

When any or all of the items (demonstratives, numeral and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite. Greenberg (1961:87).

From this we can deduce that the order of modifiers within Noun Phrases in all languages are subject to powerful constraints. Whereas in English constructions we have a fixed pre-modifier sequence of:

articles (or demonstratives)-numerals-adjectives-noun

(cf. *the three big dogs*)

The grammar of Kikamba adopts the reverse '*post-modifier*' sequence of:

noun-demonstrative-numeral-adjective

(cf. *ngiite iya itatu nene*)

From Greenberg's *Universal 20* and the C.S.P. presented earlier, it is plausible to assume that there is a parameter that accounts for the different order of elements within Noun Phrases in human languages. In this investigation, I will refer to it as the **Determiner parameter** with parametric valued as '**Determiner-initial**' (*Pre-modifier position*) selected by English, and '**Determiner-final**' (*Post-modifierposition*) selected by Kikamba.

It is important that I emphasize at this point that the grammar of Kikamba permits a limited number of determiners to proceed the noun in a Noun Phrase just as they would in English. These include title words, markers of definiteness and referential forms. Observe the following examples:

Title words + Noun

-*Mbaa Mweu*

-(Family of Mweu)

Marker of definiteness + Noun

-*A kana*

-(the child)

The referential form + Noun

-*Kila kiveti*

-(that woman)

Although pre-modifiers are permissible in some Noun phrases in Kikamba, these forms are relatively few and in addition, are used in stylistically marked constructions (viz. in title forms, for emphatic purposes or as markers of definiteness). The dominant unmarked order in Kikamba (as in most Bantu Noun-Phrases) is for Nominal modifiers to follow the lexical head noun.

Of great significance to this study is the fact that pre-modifying constructions by their marked nature would seldom be used during the linguistic interaction between a young child and his adult interlocutors. In essence, the Care-taker speech used on Kikamba-speaking children more *post-modifiers* than *pre-modifiers*.

Since the arrangement of elements in a Noun Phrase are subject to a fixed sequence, it is possible for us to schematise the English pre-modifying settings as:

$X \longrightarrow \bullet \text{ Determiner } X^\circ$

Whereas the Kikamba Determiner-final setting is represented as:

$X \text{ --- } \bullet X^\circ \text{ Determiner}$

(where Determiner = articles, quantifiers, numerals, adjectives, etc., and X = Noun).

In brief, while Kikamba and English both select the **head initial** setting for the *Head parameter*, they differ with regard to the *Determiner Parameter* since English adopts the **Determiner-initial** (*pre-modifier*) setting while Kikamba selects the **Determiner-final** (*post-modifier*) setting for the arrangement of elements within a Noun Phrase. I have illustrated that in both languages, there are some exceptions to the dominant position of the modifiers which I argued represent stylistically marked constructions.

This then leads us to the next

which examines the settings of the **Head parameter** and the **Determiner parameter** manifested in the children's utterances. In

addition, I will investigate the likelihood of parametric settings in the grammar of Kikamba influencing the values selected in the acquisition of English.

2.4 The Principle "Move Alpha" and Language Acquisition

According to the G.B. theory, Universal grammar presents a conflation of the transformational component consisting of the single rule schema "move Alpha" which simply means

"...move any category anywhere".

(Chomsky 1982a: 15)

In elaboration of the above, move alpha is a single transformation which, when applied, moves an element from its D-Structure position to a different position leaving behind a trace (or an empty category of the same syntactic feature as the element that moved).

It should be noted that there are a number of strict restrictions imposed on 'move alpha'. One restriction is on what elements undergo movement, (in more abstract terms, the permissible values of "Alpha"). In the light of X bar syntax discussed earlier, only maximal projections a z e r o level categories undergo syntactic movement in natural languages (vis. X° , $\% X$ respectively). This means that only the phrasal elements (NPs, PPs, VPs, Adv Ps, APs) and lexical heads undergo the Rule 'move/'. This gives rise to different values for 'alpha';

For instance:

- (i) Move 'NP' - which consists of the movement of NPs (N) from A - positions to non O - marked A positions leaving behind an NP trace;

In addition to restrictions on what may be moved, Universal Grammar imposes constraints on exactly where an element can be moved from and further, where it can be moved to (This has been implied previously in our mention of A - positions and 9 - marked positions). In the formulation of the G.B. theory, it has been established that syntactic movement must be from an A - position and must be to a position that is not © - marked; this will be an empty A - position for NP movement and a non A - position for WH-movement.

Thirdly, there are restrictions on exactly how far an element can be moved from its D - structure position. These constraints on movement are incorporated under the Bounding theory. The most important principle with reference to this is the 'Subjacency Principle' which states that:

"Movement may not cross more than one bounding node" (Chomsky 1981)

According to the above principle, movement is prohibited if too many bounding nodes (i.e. S, S', NP) intervene between the initial and final point of each movement. Although, the location from which movement takes place does not have to be adjacent to the landing site, its final position must be 'subjacent' (i.e. not more than one bounding node away). The sentence:

1. [Which cow_i [did Njuguna buy t_i]

is grammatical because the wh-phrase 'which cow' crosses only one bounding node (S) on its way to comp. However, the sentence:

2. [Which cow_i [did Njuguna expect 1 Njoki's guess [[^]that [he would buy t_i]]]

Is obviously ungrammatical because the wh-phrase 'which cow' crosses S, S', NP, which are all bounding nodes in English. However, these bounding nodes are not universally the same for all natural languages. According to Chomsky (1981) Rizzi (1982) the Subjacency principle is a relative universal because it allows a degree of parametric variation between languages. English incooperates S, S' and NP as bound-

ing nodes while other languages such as French and Italian allow movement across S and S'.

What implication does the Subjacency principle have on language acquisition?

The task facing a child acquiring language will be to establish what constitutes a bounding node restricting movement in her language. If a child exposed to English hears sentences of the type:

3. []Which basket i [did mother take t_i]]

and none of the type:[

4. [Which basket i [did mother accept a gift [that [Father gave her t_i]]

Then the child would infer that in English a wh-phrase or an NP phrase does not move across S, S'NP in a single hop. Similarly children exposed to languages with different parametric settings for the bounding nodes will have to infer this from the linguistic evidence around them. (cf. Section 4.5 for a discussion on the linguistic evidence for the movement parameters).

3.2.1 Move alpha and its Explanatory Adequacy

The earlier Transformational Generative Grammars provided numerous transformational rules or what van Riemsdijk et al (1986:3) refers to as the 'typology of transformations'. (Which takes into consideration the domain of application for each transformational rule). In addition, these theories provided elaborately formulated structural descriptions and structural changes for the transformational component of grammar. The variety of rules were descriptively adequate in so far as they correctly predicted which sentences were syntactically well formed in a specific language; as Radford (1981) adequately phrases it:

"...they correctly describe the syntactic semantic and phonological structure of the sentences in the language in such a way as to provide a principled account of the native speaker's intuitions about this structure."

Radford (1981:25)

However, although the numerous variety of Transformations attained a degree of descriptive adequacy, it is clear that the rules raise an explanatory problem. Firstly, the child's task would involve figuring out which of the many transformational types actually occurs in her language. Needless to say, this obviously imposes a psychologically implausible burden on the young child who would have the task of not only learning the specifics of each transformation, but also its domain of application. How can a child possibly pick out exactly those transformations that apply in her language from all the available one? *

This explanatory problem seems to be partially eliminated with the introduction of a single transformation 'move<)' with the various constraints on its application. The result is a great reduction in the expressive power of the transformational component through the elimination of rule-specific conditions on application in favour of general principles of UG; for in the words of Chomsky (1986b: 155),

"...the similarities and differences among language types are not expressed by alternative rule-systems but by the choice of values for a certain parameter in an otherwise invariant system of principles".

The principles of concern to us in this are those constraining WH-movement in the formation of questions in the children's grammar. Prior to examining this parametric variation, it is crucial that we clearly validate what is involved in WH-MOVT.

3.3: Wh-movement and Wh-traces

Wh-movement refers to the syntactic movement of phrases containing a wh-word (in English) such as 'who', 'what', 'when', 'why', 'where', 'which' and 'how'. Although 'how' does not begin with the sequence 'wh-', it is classified as a 'wh'-word because it manifests the same syntactic behaviour as true wh-words. Although in other languages such as Kikamba, phrases do not contain wh-words equivalent to their English counterparts, WH-movement is the general term used to refer to the movement involved in the construction of interrogatives and relative clauses in natural languages. I have drawn this deduction from the fact that wh-phrases usually have some grammatical association with NP, PPs or APs. Thus, a wh-phrase need not begin with a wh-word in languages other than English; in Chomsky's words,

"...We may think of 'wh' as [merely] a feature that appears in the surface form within a word... but is abstractly associated with the NP of which the noun is the head (or the P containing this NP) "

(Chomsky 1981:69).

The obvious inference to draw from this is that wh-movement typically applies to phrases containing a wh-word including the following types:

- (i) Wh-Np (e.g. what number)
- (ii) Wh-AP (e.g. how ugly ...)
- (iii) Wh-PP (e.g. in which town...)
- (iv) Wh-Adv P (e.g. how slowly...)

From the above, it is possible for us to schematize WH-movement as:

⁴

'Move Wh-XP'

(Where XP is any phrase containing a ⁴ Wh-Word)

(Radford 1986:495)

Two areas in English that typically involve WH-movement are Wh-questions and relative clauses. In English these constructions usually contain wh-words.

As was mentioned earlier, any kind of syntactic movement in the G.B. theory is indicated in the S-structure through traces (ti) which mark the original (Base generated) position of the move elements. These are also referred to as Empty categories. In the sub-theories of G.B., 4 types of empty categories are distinguished. These are:

- (i) NP-trace
- (ii) Wh-trace (variable)
- (iii) PRO
- (iv) pro.

The distribution of each of these empty categories is a consequence of the interaction of various principles of UG. Of relevance to this is the Wh-trace which results from the application of Wh-movement, (usually in the construction of Wh-question and relative clauses). It is also worth noting that the trace theory is a consequence of the Projection Principle mentioned in Seuren & Jepsen. In the following sentence:

5. [Where_i [did she put the basket t]] ?
wh-movement

The verb 'put' is sub-categorized as taking an NP and PP complement in the Lexicon. Through the Projection Principle, we expect it to have each of its complements at all levels of representation; at Deep structure;

6. [^e [.She put the basket where]]

and at S-structure and LF structure:

7. [Where_i [did she put the basket t_i]]
S'

The wh-phrase marks the position of the PP complement at Deep structure, while a trace marks the complement position at S-structure. (The movement of all wh-phrases must leave behind a trace of its original position as a complement of the verb, in line

with the Projection Principle). It is important for us to briefly state the properties of WH-traces i.e.

- (i) A Wh-trace must be properly governed;
- (ii) it must occupy an A-position and is A bar bound by its antecedent;
- (iii) the antecedent of a Wh-trace must be in a θ marked position and must be Case-marked;
- (iv) the antecedent trace relationship must satisfy the subjacency condition.

It should be emphasized that our scope in this .StcW- restricts us to only examining whether WH-movement applies at all in the children's sentences. The principles of Binding, Government and O-theory will, therefore, only be mentioned in so far as they serve to highlight the manifestation of parametric settings in children's speech.

2.5.1: Question Formation in English and Kikamba

Interrogative constructions in natural languages can be classified into:

- (i) Yes-no questions
- (ii) Wh-questions
- (iii) Echo-questions
- (iv) Non-echo-questions
- (v) Direct questions
- (vi) Indirect questions

My foci* in S&fvor* rests solely on the rules involved in the formation of (i) and (ii) above in the children's speech. Prior to this, I will examine the construction of these

question types in Kikamba and English in order to illustrate how the structure of one language (in this case Kikamba) influences the structure of question formation in English.

2.5.2 Yes-No questions .

These constructions get their reference from the fact that they permit either 'Yes' or 'no' (or their equivalents in other languages) as appropriate answers. For instance a possible reply to the question:

8. Do you eat meat?

Could be 'yes' or 'no', although obviously the speaker

could give unrelated intermediate answers such as:

'Why do you ask?'

Kikamba also allows Yes/No questions. The equivalent of this above question (8) in Kikamba would be:-

9. Ni wiisa nyama?

You eat meat?

As in English, the answer could be 'Yes' or 'no' or any other related answer. What is significant about these questions is that at least the addressee has the option of answering 'Yes' or 'no', hence the appropriate label of these constructions.

It should have been noticed from example (8) that Yes/No questions in English involve an inversion of the NP Subject and auxiliary verb. Compare the declarative:

11. [^Njoki will starve herself to death.]

with the corresponding Yes-no question:

12 [Will i [^Jjoki ti starve herself to death] ?

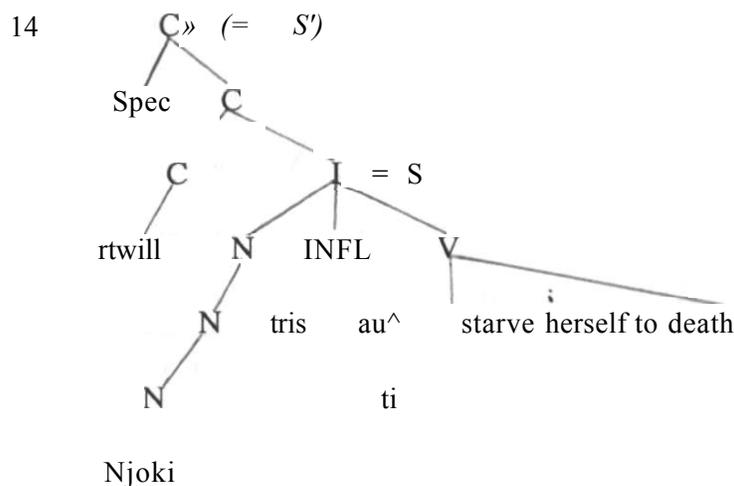
The rule that is responsible for the Subject-Auxiliary inversion in English is referred to as I-MOVEMENT (Radford 1986). The application of the rule can be schematized as follows:

13.[e [Njoki [[vill] starve herself to death.]

—• I MOVT.

[Willj [Njoki [tj] starve herself to death]?

The following tree diagram represents this movement.



-I-MOVT-

As can be observed, I-movement moves the auxiliary verb from INFL into the Head position of C. Note that I-movement only applies to modals or auxiliary verbs like 'be', 'will', 'could', but not to ordinary verbs, as is obvious from the ill-formedness structure of the following sentence:

15. a)[e [He wants to go]].

*b)[wantsj [jie tj to go]]

It should be noted that I-movement has a central role to play in the formation of Yes/No questions (and generally direct question) in English. However, this is not the case in other languages such as Kikamba. The following question from Kikamba:

16. [Wambua niwathi musyi]?

[_{5'} c [₅ Wambua [has] gone home]]?

has its declarative counterpart as:

17. [^e [^Vambua niwathi musyi]].

[^e [^a mbua has gone home]].

Notice that the question and declarative have similar syntactic structure. In Kikamba, Yes-No questions do not involve subject-Auxiliary inversion and thus do not apply the I-movement rule. The Yes-No questions can only be distinguished from its declarative counterpart through changes in tone and pitch patterns, which are obviously beyond the scope of this study. Suffice it to say at this point, that the formation of Yes-no questions in Kikamba does not involve any syntactic changes in the order of the grammatical constituents as would be the case in English. It shall be made explicit in section 2.5.3 that the absence of this rule in Kikamba could affect its application in English in the case of a child exposed to these two languages.

2.5.3 Wh-questions

These constructions obtain their reference from the fact they involve the use of an interrogative wh-word (what, when, which, etc). According to Radford (1986), Wh-questions request information about the identity of some entity in the sentence, and the appropriate reply would be a single word (usually a Noun), a phrasal category or a full clause containing the relevant information. The following sentences illustrate this:

18. Q. [Whoi [ti sat on my car]]?

A. Omolo (single Noun)

19. Q. [Wherei isj [my money tj ti]]?

_{5'} S

In your pocket. (Prepositional Phrase)

[How sooni canj [we [tj] leave this place]]?

A. As soon as I finish my tea. (Clause)

By contrast to the Yes/No questions, the reply 'Yes' or 'No' would be informed, e.g.

21. Q. [Which roomi [ti is empty]]?

??* A. Yes

Of great significance is the fact that Wh-words are contained in NPs, PPs, Adv, Ps, and so on. In section^ I indicated that wh-movement applies to phrases containing Wh-words. Prior to examining how Wh-movement applies, it is necessary to investigate whether languages other than English have wh-questions.

The first important observation is that in other languages, and specifically in Kikamba, there are no interrogative words that begin with -wh- equivalent to those in English. However, Kikamba does have interrogative pronouns which exhibit the same syntactic behaviour as wh-phrases in English. These include the following:

- 0) uu - who
- (ii) kyau - what
- (iii) indi - when
- (iv) yiku - which one
- (v) va/ku - where
- (vi) niki - why
- (vii) ata - how
- (viii) yau - whose

The syntactic behaviour of these interrogative pronouns can be seen in the following examples:

Uu (who)

- 24) [ʔe [Nau ethi na mi]]?
[ʔe [father is going with who]]?

Kyau (what)

- 23) [e [Kitambaa kiu ni **kyau**]]?
[ʔe [Headscarf that is for wllQ]]?

Indii (when)

- 24) [ʔe [Mumo akooka iMii]]?
[ʔe [Mumo will come wJum]]?

yiku (which one)

- 25) [t [Mud wi-iku]]?
[ʔe [Tree which one]]?

Niki (why)

- 26) [p na keia niki]]?
[ʔe [prild is crying why]]?

Yau (whose)

- 27) [ʔe [Ngombe isu ni yau]]?
[ʔe [Cow that is whose]]?

From the above sentence, it is obvious that Kikamba has the equivalent of Wh-phrases which could be more appropriately referred to as interrogative pronouns. These usually substitute Adverbial phrases or NPs in a sentence and could be classified as personal and non-personal interrogative pronouns, possessive interrogative pronouns or quantifier pronouns. I will not go into the details of classification at this point. What is of significance is the difference in the constituent structure between an English and Kikamba Wh-question. Prior to this however, it would be meaningful for us to look at

the structure of Echo-questions which superficially appear to be similar to the Kikamba wh-question.

2.5.4. Echo questions

This category of questions gets its reference from the fact that the reply is usually an 'echo' of a statement made previously e.g.

28) [_{S'} e [[^]I bought a cow]].

[[^]e [[^]You bought a cow]]?

It could also be an echo of a previous Yes/No question e.g.

29) Q. [Didj [[^]ou [tj] buy a cow]]?

A. [Didj [I [tj] buy a what]]?

In Kikamba it is also possible to have echo-questions in reply to previous questions, declaratives or imperatives e.g.

30) ₅se [Nina kuata mwaki]].

I have touched fire]].

≠ Ai wa kuata kyau]]?

[^]article-you have touched what]]?

31) ₅ Wi nguata niki]]?

[_{5'} e you are touching me why]]?

[_{5'} e Ai niu kuata niki]]]?

[_{5'} e particle I am touching you why]]?

The most salient fact about echo-questions is that both the initial question (or declarative) and the echo-question have the same syntactic structure (apart from the use of different pronoun forms e.g. 'I' and 'You'). It is for this reason that echo-questions

are used mainly to repeat statements uttered previously and consequently, are not normally used in isolation.

It is important to note that in English, only echo questions are permitted to have the wh-word in situ at S-structure whereas Wh-questions must apply the Wh-movement rule.

This then leads us to the application of WH-movement and its parameters of application.

2.5.5: Wh-movement in question formation

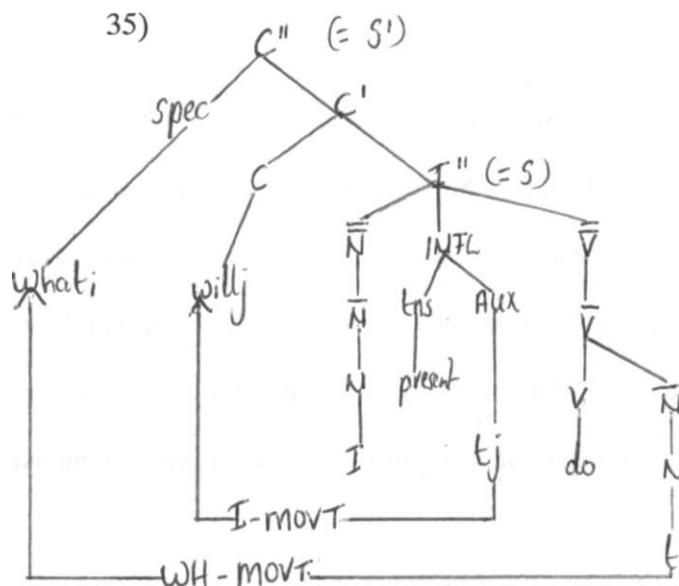
The two rules which have an important role to play in the construction of interrogatives in English are Wh-movement and I-movement. The two rules apply in the construction of Wh-questions in English. For instance the question:

33) [What_i will_j [I do t_j]]?

has the following D-structure.

34) [e [I [will] do what]].

Wh-movement then moves the wh-phrase 'what' out of its D-structure object position to the specifier of comp position while I-movement preposes the modal 'will' into the Head position of Comp as can be seen below:



need not apply at all in the formation of interrogatives. Wh-movement is strictly optional but if it does apply, the particle -ni- must occur initially before the interrogative pronoun.

For instance in the question:

40) [e [Wathooa Kyau]]?

[e [You bought what]]?

Could undergo WH-movement as follows.

41) [Ni-Kyau [wa thoa ti]]?

[jpart.-Whati [you bought ti]]?

As can be observed, there is no Subject-Auxiliary inversion in Kikamba Wh-questions and consequently, the I-movement rule does not apply when the interrogative pronoun is fronted. (This is further evidence for the fact that I-movement and Wh-movement are two separate rules). It is significant to note that unlike in English Wh-questions, it is perfectly grammatical for the interrogative pronoun to remain in-situ (in its Base-generated position) at S-structure. As a matter of fact, the pre-posing of these phrases to sentence-initial position sometimes would sound odd, and to some extent ungrammatical to the ears of a Kikamba native speaker e.g.

43) [^e [Wambua easya akomana na uu]]?

[^e [Wambua said he met who]]?

— • WH MOVT.

44) *_{5'}[Ni-[^]uui [Wambua easya akomana na ti]]?

45) [_re [Wa lea ku ngethya niki]]?

(^e [Jou refused to greet me why]]?

• WH MOVT.

46) *_S[Niki i [_Swa lea ku ngethya ti]]?

[Whyi [you refused to greet me ti]]?
S >

From the above constructions it can be inferred that Wh-movement in Kikamba is not as predictable as it would be in English Wh-questions. In most cases, the function of fronting interrogatives is merely for pragmatic purposes i.e. merely to give emphasis to the interrogative pronoun. By contrast, in English wh-movement has a syntactic function and is obligatory in direct wh-questions. It is also important to note that the particle -ni-must occur with the fronted element (unlike in English where the wh-phrase occurs alone. Based on these facts, it is credible to assert that in Kikamba, questions with fronted interrogative pronouns occur less frequently than those with the interrogative pronoun in situ; and thus could be referred to as marked constructions.

2.5.7. Parameters of Wh-movt

" The parameter is not whether a language has movement at all, but whether (the) movement is at Logical Form or in the Syntax. "

(Chomsky 1986:55)

Syntactic movement like the rest of the G. B. theory is an interaction of Universal Grammar principles with parameters of variation between languages. Our concern at this point is whether wh-movement applies universally and in the same fashion across natural languages.

As has been implied in the comparison of data from Kikamba and English, wh-movt need not be manifested overtly (or even occur at all) in the surface structure of all languages. Indeed, there are some languages where WH-movement never applies at all. In Japanese (Huang 1982) declaratives and questions have exactly the same word-order. This can be seen in the following sentences from Japanese (examples from Cook >986)-

47) Restoran wa soko desu

Restaurant there is

48) Restoran wa doko desu ka?

Restaurant where is?

The fact that (48) is a question is shown by the final marker - ka -; otherwise there is no application of WH-MOVT or I-MOVT as in English. Thus, a language such as Japanese imposes stricter constraints on the application of movement. We could therefore assemble an 'ad hoc' typology for the application of WH-MOVT in English, Kikamba and Japanese, i.e.

English:

Wh-movt must apply in the formation of direct wh-questions and in addition must be manifested in the S-structure of the sentence.

Kikamba:

Wh-movt is not necessary and in addition need not be manifested in the S-structure of a sentence.

Japanese:

Wh-movt does not apply at all and is not manifested in the S-structure of a sentence.

According to Chomsky (1981), Cook (1988), Huang (1982), Lasnik (1986), the parameter of variation with respect to WH-movement is not whether the wh-phrase is pre-posed into Comp., but whether the movement is manifested in the surface structure or at the level of Logical form. From our examples, it is obvious that in English, wh-movement takes place in the syntax affecting S-structure) while Japanese (and to some extent Kikamba) have movement in the LF component affecting LF representations (with no overt manifestations in the syntax). Thus, the LF representations,

of the three languages (with or without WH movement) must have Wh-phrases in sentence-initial position e.g.

Japanese

49) Niwa wa doki desu ka?

Garden where is?

(Deep and Surface structure
representation)

Kikamba

50) Munda wi va ?

Garden is where

(Deep and surface structure)

i

are all similar to the English equivalent

51) [[^]Vherei isj [the garden tj ti]]?

At the level of LF where the interrogative words are moved into comp. However, from the above examples it should be observed that the languages will differ in their S-structure representation. Huang (1982) gives further evidence that in Chinese and Japanese, the wh-phrase is moved to the boundary of the clause at LF leaving an empty category as a variable just like in English and Kikamba.

In this investigation our intention is to examine whether wh-movement and I-movement apply at all in the children's grammars and if so, whether these rules apply at the level of S-structure or at the Logical Form level. In addition, I will be interested in observing whether the syntactic differences of wh-questions in Kikamba and English affect the acquisition task for a child exposed to these two languages.

2.6: The pro-drop phenomenon

This section entails a brief description of the specific properties associated with the pro-drop parameter including the possibility of phonologically null subjects in languages like Kikamba, Kiswahili, Kikuyu, Italian, Bari among others. Using linguistic data from the grammar of Kikamba, I will exemplify the typical grammatical features exhibited by the majority of pro-drop languages. This includes the occurrence of the empty category and the rich verbal morphology that endures recoverability of the null subject. It is significant to note that some languages which manifest pro-drop such as Japanese and Bari do not manifest all the properties associated with the pro-drop phenomenon. (Research on the pro-drop phenomenon in recent years suggests that the richness of verbal morphology and the occurrence of null subjects are actually not correlated as formerly proposed). In addition, we will further compare the structure of INFL in the grammar of English and Kikamba.

2.6.1: The empty category "pro"

The G.B theory distinguishes four types of empty categories

viz

- (i) NP trace
- (ii) WH-trace (variable)
- (iii) PRO -
- (iv) pro

The distribution of these empty categories is a consequence of the interaction of various principle of Universal Grammar. In octasA l'2'i)we looked at the occurrence of

the Wh-trace which is a result of Wh-movement. Our focus in this ftecliferv is only on the properties of (iv) above , referred to as small "pro".

In recent work, Chomsky has referred to the empty (Base-generated) subject found in tensed clauses of some languages as Pro. In his words:

... the element pro is a pure pronominal element with the sense of "he", "they" and so forth, or an expletive; an element not instantiated English, but only in the null subject languages.

(Chomsky 1986b: 164).

From this we can infer that the empty category pro is a pronominal with not phonetic realization in the Structure of a sentence. Of great significance is the fact that just like a lexical NP, Pro has the normal (pronominal) capacity for independent reference. A few illustrations from Kikamba would make this explicit.

- 1) pro ni-na neena
pro foc.-SA-tns-Vrt.
*pro have talked (I have talked)
- 2) pro wi-thauka na-uu?
pro SA-tns-Vrt.-PP.
*pro are playing with who?
- (who are you playing with)
- 3) pro ni-ku-kuua
pro foc.-S.A.-trts-Vrt.
*pro is raining. (It is raining).

(The pronominal reference of 'pro' is underlined in the English translations).

As the above sentence demonstrate, Kikamba is a pro-drop language since it allows the occurrence of phonetically null pronominals in the subject position of a tensed clause. It is important to note that these 'subjectless' sentences con-exist with sentences containing overt (lexically realized) subjects. In essence, it is possible for the sentences (1) and (2) above to include lexical subjects, cf.

- 4) Nyie ni-na neena
 SB-Foc.-SA-tns-Vrt.
 I have talked.
- 5) Wee wi-thauka na-uu?
 SB-SA-tns-Vrt.-pp
 You are playing_{8%} with who?

However, it is not possible for example (3) to have an overt lexical subject similar to the English expletive 'it'. In Section 5>3, we will examine the effects of the Avoid Pronoun Principle which constrains the overt appearance of lexical pronouns and expletives in Kikamba.

2.6.2: The pro-drop parameter

As was mentioned in the previous section, language show variation with regard to whether the grammar permits the occurrence of the empty category pro as the subject of a tensed clause. We have illustrated that the grammar of Kikamba permits the occurrences of null subject sentences with sentences containing overt (phonologically realized) subject. However, not all languages structure this way. The literal equivalent of the following kikamba sentence:

- 6) pro athi va?
 pro SA-tns intr.pr.

*pro has gone where? - (where has he gone?)

Is ill-formed in English because the grammar of English does not license null subjects (or the empty category pro) in tensed clauses. The occurrence of imperative constructions such as:

7) Sit down.

Cannot be said to be the manifestation of Pro-drop because in the D-structure of the above sentence, the subject NP is present but undergoes a deletion rule. cf.

(D-structure) - You sit down.

—• Imperative deletion rule

(S-structure): - e sit down.

Imperative constructions are therefore not our focus in this Chapter. Neither will we be concerned with the occasional performance tendencies in English (and other language) to omit the initial word from a sentence in casual speech (sometimes referred to as 'performance clippings').

The pro-drop parameter is a generalization on the structure of natural languages and more significantly, a parameter of Universal Grammar by which language vary. The fundamental basis of this parameter is whether the grammar of a language allows the co-occurrence of 'subjectless' sentences with sentences containing lexically realized subjects in tensed clauses.

In addition, studies carried out on different pro-drop languages have identified a number of properties which have been attributed to the operation of the pro-drop parameter. These include:

- (i) the optionality of lexical subject and the definite pronominal reference associated with the null subject pro;
- (ii) the lack of expletive pronouns equivalent to it and 'there' in English -

- (iii) the rich verbal morphology (i.e. the occurrence of agreement and con-cordial prefixes with the verb root);
- (iv) the free inversion of subject-verb in declarative sentences resulting in SVO and VOS word order;
- (v) the ability to extract subjects out of clauses containing an overt complementizer often referred to as 'that trace violations'.

(cf. van Riemsdijk et al 1986)

It should be emphasized that the range of data that we seek to explain in this chapter narrows our scope to properties (i), (ii), and (iii), above, thus, I have deliberately omitted any discussion of subject-verb inversion and 'that trace violations' possible in some pro-drop languages. Since our emphasis is mainly on the occurrence of null-subject, it is imperative that we examine what licenses the null subject in Kikamba as a pro-drop language.

2.6.3 Subject-verb agreement in Kikamba

Studies on the pro-drop parameter by Chomsky (1980, 1981), Rizzi (1982), Hymes (1983) Mwangi (1992) among others, demonstrate that language which allow null subject also manifest rich verbal morphology in the form of inflectional elements associated with the verb. The grammar of Kikamba for instance, manifests both subjects and object agreement in the form of prefixes attached to the verb root. Since our focus is on the pro-drop parameter, it is important that we establish the subject marker that indicates the properties of the subject in a sentence. These include the following:

	<u>Singular</u>	Plural
1st PERSON	-n— (I)	tu- (we)
2nd PERSON	-u (you)	—mu- (you pi.)
3rd PERSON	-w he/she)	—ma- (they)

The following verbal paradigm form kikamba is representative of this phenomenon:

Grammatical person	Lexical subject + Vrb.	Null subject + Vrb.
1st person singular:	-Nyee ni-na-nena SB. -Foc-SA-tns-Vrt % (I have spoken)	pro ni-na-nena pro Foc-SA-tns-Vrt (*pro have spoken)
1st person plural:	-Ithyi ni-lna-nena SB. Foc-SA-tns-Vrt We have spoken)	pro ni-lua-nena pro Foc-SA-Vrt (*pro have spoken)
2nd person singular:	-Wee ni-^a-nena SB. Foc-SA-Tns-Vrt (You have spoken)	pro wd-nena pro Foc-SA-Vrt (*pro have spoken)
2nd person plural:	-Inyui ni-maa-nena SB. Foc-SA-tns-Vrt (You(p 1) have spoken)	pro ni-mua-nena pro Foc-SA-Vrt (*pro have spoken)
3rd person singular:	-uya ni-wa-nena SB. Foc-SA-tns-Vrt (He/She has spoken)	pro ni^wa-nena pro Foc-SA-tns-Vrt (*pro has spoken)
3rd person plural:	-Asu ni-ma-nena	pro ni-ma-nena

SB. Foc-SA-tns-Vrt

pro Foc-SA-Sa-tns-Vrt

(They have spoken)

(*P^{ro} have spoken)

The above paradigm illustrates that even if the subject NP is not lexically realized in a Kikamba sentence, it is still interpreted as having definite pronominal reference at S-structure.

Of great significance at this point are the inflectional prefixes attached to the verb root in Kikamba. The paradigm just presented illustrated that the verb-form must show grammatical agreement with the subject pronoun, whether or not this is lexically realized. The verbal inflection in effect, manifests the class, number and grammatical person of the subject NP. This Subject-Verb Agreement is obligatory in all tensed clauses containing either an overt pronominal or the null subject pro.

What grammatical function does the Subject-verb agreement have in Kikamba?

In Section 4.1 it was observed that one of the properties of pro-drop languages in the presence of rich verbal morphology. The examples provided earlier make it clear that the grammar of Kikamba (like most pro-drop languages) ensures that grammatical properties of the Subject pronoun are recoverable from the verbal morphology. In essence, the Agreement prefix attached to the verb-root indicate the characteristics of the missing subject

(i.e. class, number, and so on). On the other hand, a non-pro-drop language like English has extremely limited verbal inflection. For instance, given the following null subject sentence:

10. *pro ate food.

It is not clear whether the pronominal reference of the null subject is T, 'You', 'We', 'They', etc. Yet given the equivalent sentence in Kikamba.

11. pro ninaya liu.

pro Foc-SA-tns-Vrt-Obj

("have eaten food)

It is possible through the agreement prefixes attached to the verb-root for us to infer that the pronominal reference of the null subject refers only to the 1st person singular pronoun "I". Since these Agreement features are derived from the **INFL** node, it would be useful for us to examine the structure of **INFL** in Kikamba.

2.7 The structure of INFL

According to Chomsky (1981b), all sentences have subjects. Although the subject position may lack lexical content in pro-drop languages, nevertheless it still exists and as we have seen, has definite pronominal references at S-structure. This requirement that all clauses subjects constitutes the following principle

%

Extended Projection Principle fK.P.P/I

All sentences have subjects defined in terms of grammatical function as the NP of S, the N immediately dominated by S.

(Chomsky 1982a: 10)

From this we infer that all sentences in natural languages contain a Subject position, **INFL** (inflection node) and a predicate position schematized in the rules:

S → COMP S

S → NP INFL VP/RINFL VJ

In '6cl(Orv lb^we looked at the constitution of phrasal categories and in particular, the structure of **NP**. Our focus at this point is on the structure of **INFL** because the Agreement prefixes attached to the Verb-root stem from the inflectional node. Following the analysis developed by Hymes (1993), the expansion of **INFL** is proposed as

INFL → (AG) AUX

(Hymes 1986)

AG (Agreement) is assumed to contain a set of features for person, number and gender associated with the subject. (in our analysis of Kikamba we also assume that the class feature of the subject are also contained here). AG is generally associated with tensed clauses but is absent in tenseless clauses (e.g. infinitives and gerunds.) It is important to note that AG is recognized as the head INFL in the same way that the lexical categories N, V, P, Adj head their respective phrasal categories. On the other hand, the category AUX Contains tense features, and (depending on the structure of different languages), lexical elements such as modals or verbs. (We will not go into the details of the AUX category in this Chapter).

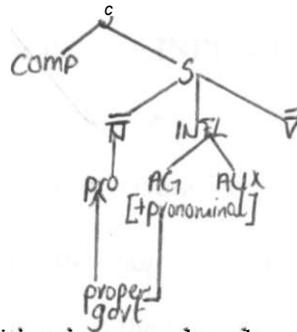
It is important that we look at the structure of INFL in a pro-drop language vis a vis a non-pro drop language. Rizzi (1982) proposed that the variation between whether a lexical subject is optional or not can be explained by assuming that in pro-drop languages, INFL is specified as **[+pronominal]**. Consequently, an INFL which is **[-(pronominal)]** licenses the empty category **pro** in the subject position because the **AG** features in INFL have lexical properties.

As mentioned in Section 4:2, the distribution of each of the empty categories in G.B. theory are consequence of the interaction of various principles of Universal Grammar, it is imperative at this point that we draw a few principles from the Government theory to explain the syntactic licensing of the empty category **pro**.

2.7.1 Government and Empty Categories

Proponents of the G.B theory draw a distinction between 'proper' government and 'improper' government. The governors considered to be proper governors are lexical heads,(viz. N, V, A, P). The other possible governors are INFL and POSS which are non-lexical and, therefore, cannot be proper governors.

However, we mentioned that in pro-drop languages, **INFL** is [+pronominal], and thus licenses null subjects because the AG features in **INFL** have lexical properties. If we relate this to government, the AG element as the head of **INFL** now behaves like a proper governor for the empty subject of a finite clause. This can be represented as follows:-

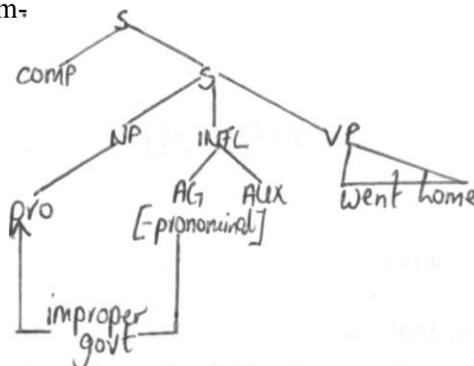


In essence, the subject position in a pro-drop language may be left empty since the AG element is rich enough to guarantee that the null subject **pro** remains interpretable and is recoverable from the verbal morphology.

Thus, one of the differences between the grammar of Kikamba and English is that in Kikamba, the AG feature contained in **INFL** are [+pronominal] while in English, AG is [-pronominal]. Consequently, null subjects in tensed clauses are licensed by AG features which are lexical and, therefore, properly govern the empty category **pro**. By contrast, in English the AG features in **INFL** are not lexical and, therefore, cannot properly govern the empty subject position, hence the un-grammaticality of the following sentence:

13.a. ***pro** went home.

represented in the following tree diagram-



The above sentence is ill-formed because it violates the following requirement:

Empty Category Principle (E.C.P)

An empty category must be properly governed.

The values of the **pro-drop parameter** amount to a choice of whether INFL can function as a proper governor or not (i.e. whether it has lexical properties). We have seen that in Kikamba the AG features of INFL behave like lexical categories because they are [+**pronominal**]. On the other hand, in a non pro-drop language like English, INFL is [-**pronominal**] and, therefore, cannot behave like a lexical category.

It should be emphasized that the choice of whether INFL has lexical properties or not has proved to be controversial as the fundamental basis of phenomena associated with pro-drop in human languages. Nyombe (1987) in his comprehensive Study on the grammar of Bari (an Eastern Nilotic Sudanese language) postulates that INFL(AG) does not count as a governor in the language although it allows null Subjects as tensed clauses. His contention is that to meet the criteria for a pro-drop grammar:

...a language must either be discourse oriented, henceforth [+D] or have rich Agreement henceforth [+RAJ]. (Nyombe 1987:132-133)

This, in effect means that a pro-drop language need not manifest overt verbal inflection in the form of overt concordial agreement prefixes attached to the verb root. This position is well supported in studies on the grammar of Chinese which manifests similar syntactic behavior. This will be revisited in the analysis of the pro-drop phenomenon in the children's grammar.

2.8 Pronouns in Kikamba

In the grammar of Kikamba, a Noun Phrase consists of either a Noun and Determiner (discussed in

M p , itt) or a pronoun. The Pronouns could be described as either

personal or impersonal pronouns depending on their properties. In this Sfi-cho[^]we will limit ourselves to the distribution of personal pronouns as presented below:

Grammatical person	<u>Personal Pronouns</u>	
	Singular	Plural
1st person	Nyie	Ithyi
	(I)	(We)
2nd person	We	Inyui
	(You)	(You. pi.)
3rd person	We	O / asu
	(He, She)	(They)

(The distribution of these pronouns was demonstrated in the verbal paradigm given in Section Z lr[^]example (8). We mentioned earlier that the Subject-Verb agreement prefixes attached to the verb-root in Kikamba are 'rich' enough to ensure that all the properties of the null subject are recoverable (i.e. class, person, number, etc). What we should add at this point is that in the grammar of Kikamba, overt lexical pronouns do not usually appear in the S-structure of a sentence unless they have the pragmatic functions of indicating emphasis, contrastive stress, clearing ambiguity, changing the discourse topic or to introduce information not predictable for the context. Thus in the following discourse:

14. QUES: -Nau athi va?
 SB.SA-tns-Vrt-intr.pron.
 (Father has gone where?)
- ANS: -pro ni-wathi wiyani.
 pro foc-SA-tns-Vrt-obj.
 (*pro has gone to work)

js

It can be observed that once the reference of a subject pronominal has been established, it is needless for it to be repeated again as would be the case in English, cf.

15. QUES: -Where has Father gone?

ANS: -He has gone to work.

For descriptive purposes, we will ignore the fact that the answer could be merely a prepositional phrase alone. What is significant is that in English, overt lexical pronouns, however redundant, are obligatory in tensed clauses irrespective of their pragmatic function. This difference between Kikamba and English is a consequence of the following principles which applies in pro-drop languages to constrain the overt appearance of subject pronouns.

Avoid Pronoun Principle (A.P.P.)

Avoid a lexical pronominal if a null pronominal is possible.

(Chomsky 1981).

The above principle indicates both the grammatical and pragmatic redundancy incurred in having overt lexical pronouns in pro-drop languages. In fact, the frequent occurrence of lexical pronouns in Kikamba discourse would sound strange in the sense that it would give the impression of an "over-emphatic" speaker. The discourse below illustrate this:

16. Speaker A: -Ithyi ni-tuaya liu mwingi.

SB. foc-SA-tns-Obj.-Adv

(We ate food a lot).

Speaker B: -Inyui muaya liu usu va?

SB. SA-Vrt.-Obj.-Intr.pron.

(You [pi] ate food that where?)

Speaker A: -Ithyi tuaya kwa Mumo.

(We ate at Mumo's place)

Because of the overt Subject-Verb agreement features prefixed onto the verb-form, the 'overuse' of Subject pronouns as in the discourse above would sound odd to a native speaker of Kikamba. Once the identity of the subject pronoun has been established (or is predictable from the verbal morphology) its overt presence is redundant and the empty category *pro* suffices. We have seen that this is not the case in English where lexical subjects must surface in all tensed clauses regardless of their functional purpose.

The **Avoid Pronoun Principle** also provides an explanation for the lack of lexical equivalents for the expletive 'it' in Kikamba. For instance, the equivalent of the sentence:

17 (a). It is raining

In Kikamba would be:

17 (b). *pro ni ku kuaa.*

(*pro* is raining).

The expletive pronoun does not appear in subject position as would be the case in English. (It should be noted that the expletive pronouns 'it' and 'there' as they occur in English are usually devoid of semantic content and in addition are regarded as 'dummy' position holders to ensure that all tensed clauses have lexical content).

A possible explanation for the lack of lexical equivalents for expletives in Kikamba could be pragmatic; since expletives cannot be used to emphasis or contractive stress in Kikamba, from a functional point of view they are redundant and are, therefore, avoided like other lexical pronouns; a consequence of the **Avoid Pronoun Principle**. (The **Case theory** and © **theory** also provide plausible explanations for the presence of expletives in non-pro-drop languages).

Suffice it to say at this point that the operations of the **pro-drop parameter** in conjunction with the **Avoid Pronoun Principle** account for the occurrence of null subjects in Kikamba. Our aim in the next Chapter will be to establish if these principles apply in the children's sentences, and further, whether the pro-drop setting in Kikamba influences the value set in the acquisition of English as a non-pro-drop language. The importance will be the comparison of the structure of INFL in English and Kikamba.

2.9: Summary

The goal of this chapter was to provide an explicit account of the theoretical basis underlying the principles and parameters of relevance to this investigation. Using concrete linguistic data specifically from the grammar of Kikamba and English, I exemplified the effects of setting the parameters of Universal Grammar within the laid down limits. As we have observed, these principles and parameters have far-reaching effects, yielding grammars as varied as Kikamba, English, Japanese, Bari and so on which share common linguistic universals but differ in the values selected for each of the four parameters of interest to this Study.

The next Chapters concentrate directly on the settings for each of the four parameters in the children's grammars. As has been underscored throughout this Chapter, the Parametric approach to Universal Grammar allows for a limited degree of Parametric variation between human languages. The primary aim of the proceeding Chapters will be to demonstrate (using empirical data based on the children's utterances) that this also realized in Syntactic development.

CHAPTER THREE

The Word-order Parameters

3:1 Overview

This Chapter concentrates on the arrangement of phrasal elements and the basic word-order found in the children's grammars vis a vis the corresponding adult form in English.

In Chapter Two, we examined the role of **X bar syntax** as a general descriptive tool for the D-Structure (Base-Component) in Grammar. Using this theory, the specific objectives of this Chapter are to:-

- describe the arrangement of elements' within phrase and the general order of grammatical categories in the children's utterances;
- re the basic word-order in the children's grammars with the order found in the corresponding adult form in English;
- establish whether the ill-formed sequences in the children's grammars can be attributed **to** parametric mis-settings in the word-order parameters. (The relevant parameters for this Chapter are the **Head and Determiner [Specifier] parameters**).
- examine whether the exposure to Kikamba as a first language influences the choice of the values selected for the **Head and Determiner parameter**;
- account for the necessary Evidence from the linguistic environment that possibly triggers off specific settings for the **Head and Determiner Parameters** found in the children's grammar.

I should stress that my deductions on the degree of influence from the parametric settings of a first language will be based on the corpus of utterances collected from Wambua (2 yrs.), a child exposed to Kikamba as a first language prior to his exposure to English. However, my overall conclusions on the general arrangement of elements within phrases and the unmarked values for the word-order parameters will be based on the linguistic behaviour of all the children in the sample under investigation.

3.2: The Syntactic structure of the children's sentences

According to Wood (1976), a child begins to acquire the syntax of his language when his utterances reflect an ability to join words meaningfully together in order to communicate his intention. The fundamental justification for Wood's argument is that the joining of words to form sentences in any language can only be done on the basis of some elementary knowledge on the syntax of the language in question.

Based on Wood's criterion, I identified all the children under investigation as currently in the preliminary stages of in the acquisition of English syntax because they displayed the ability to:

- Join words together using productive rules of English grammar;
- Comprehend multi-word sentences produced by their adult interlocutors.

(It should be noted that in this study, syntactic ability has been related to the production and comprehension of sentences in English).

From the standpoint of production and for descriptive purposes I classified the children's utterances into two major types, namely:

- Holophrastic utterances;
- and-Telegraphic utterances.

(It should be noted that the classification of utterances presented above also mark the major stages of children's grammatical development as presented in the literature on Child language development).

3.2.1: Holophrastic Utterances

These utterances mark the initial stages of syntactic development and were collected mainly from the two year old children. They have frequently been referred to a "sentence-like" words and usually consist of a single word used in a variety of situations to mean different things. The following utterances are representative of this phenomenon:

O j t s)

%

(16) *asdisan?*-

(What is this one)?

(17) *azis?*-

(What is this)?

Notice that these utterances consist of more than just one word in the expanded adult form. The label '*single-word*' is therefore a misleading term for the types of utterances placed in this category. The term '*single-unit form*' suggested by Yule (1985:130) seems to be a more accurate description of the utterances placed in this category.

It is plausible to assume that either grammatical relations have not as yet been properly established in the children's speech, or that two year old children do not possess the capacity to store in memory more than just a single word.

It should be noted that 58% of the utterances collected from the 2 year old children consisted of single words used in a referential sense to point out or to denote objects.

However, these could only be interpreted in the context of their use and frequently had multiple functions.

The following utterance produced by Jonathan (2yrs.) is representative of this phenomenon:

(18) *boli (ball)*

the utterance meant "*Give me that ball*" in one situation, and was also produced to mean "*come and kick the ball with me*". Hence, the context in which the holophrastic utterances were produced was extremely important for clear interpretation of the meaning intended through the utterance.

The investigation does not concentrate much on the single-word holophrastic utterances because these provided insufficient evidence for me to generalize whether or not the children had actually acquired some basic rules of English grammar that would enable them to concatenate words together in order to form sentences. My attention was therefore on the holophrastic utterances contained at least over two words in the adult grammar.

3.2.2: Telegraphic Sentences

Previous studies carried out on children's early syntax reveal that grammatical forms such as articles, auxiliary verbs, tense and number suffixes and other forms with grammatical function that serve to hold the sentence together in adult grammars are frequently omitted in children's intermediate grammars. As a consequence, Brown and Bellugi (1973) describe these utterances as **Telegraphic speech** or '*Telegraphese*' because of their close resemblance to the language used when sending telegrams where the cost is minimized by omitting function words. These are usually seen as redundant, since they carry the least semantic load.

From the corpus collected from the 3 and 4 year old children, a total of 86% of the sentences produced had features of *Telegraphic speech* since the lexical forms with purely grammatical function and morphological forms were, in most cases, omitted. The sentences presented below illustrate this. (The omitted forms are presented in bold in the corresponding adult form).

(2 years)

(19) angimbuk.

(He is giving me a book).

(20) akuk

(I am cooking).

(3 years)

(21) You ready? ;

(Are you ready?)

(22) Where I colour?

(Where do I colour?)

(23) I show you.

(I will show you).

(24) Come my house.

(Come to my house)

As can be observed, the omissions included articles, (e.g. *a, the*) morphological tense markers (e.g. *-ing*), auxiliaries (e.g. *are, will, do*) and prepositions (e.g. *to*). What needs to be stressed is that despite the omissions, it was still possible for one to discern the meaning behind each of the utterances. This is because the content words, most important for communicating meaning were retained.

My observations were that the children selectively attended to primarily the highly informative words in the adult sentences, which, in most cases, were content words. Interestingly enough, these words usually bear most of the stress in an English sentence. (Grammatical forms are seldom stressed except for stylistic purposes of emphasis).

It is important to note at this point that a total of 25% of the telegraphic utterances collected revealed that children sometimes omit content words crucial to the meaning of a sentence. The following examples illustrate omissions of NPs in object and subject position.

(4 years)

(25) Because I like.

(Because **I** like **the book**).

(3 years) ;

(26) That is beat me.

-(That boy is beating me).

(4 years)

(27) Saw a pobram; is called ...

(I saw a programme which is called ...)

(28) Is going up.

(**The cat** is going **up the tree**).

The above sentences demonstrate that the omissions in the children's sentences sometimes included expletives (such as 'it' whole NPs (e.g. 'the book', 'that boy') and pronouns (e.g. I). However, an examination of the corpus of utterances collected revealed that the deletion of content words and grammatical forms decreased as the children acquired greater mastery in English. Accordingly, there were relatively few omissions (8%) in the speech of the five year old children whereas the speech of the 3

and 4 year children was almost totally telegraphic and holophrastic, with most of the omitted Noun Phrases occurring in subject position.

The significant fact about the omitted Noun Phrases is that these were not merely performance 'clippings' but occurred systematically; hence, implying the application of important principle at work in the children's grammars. (This phenomenon will be addressed in Chapter 5 on the Null Subject Parameter).

Suffice is to say at this point that the children's sentences recurrently excluded:

- (i) Lexical forms with solely grammatical function (e.g. articles, prepositions, auxiliaries, conjunctions, etc.)
- (ii) Morphological markers expressing tense and number (e.g. -ing, -s, etc.)
- (iii) A few content words including Subject and Object Pronouns.

Notice that with the exception of (iii) above, the words omitted in the children's speech are typically unstressed in the adult grammar of English and in addition, often carry the least semantic load.

It therefore seems plausible to assert that the children selectively concentrated on acquiring the highly informative content words in English before learning the grammatical forms which merely serve to hold the sentence together.

3.3: The Structure of Phrases in the Children's Speech

In this Section, I will attempt a detailed description of the internal ordering of elements in the children's utterances. As mentioned previously, the **X-bar theory** emphasizes that all phrases are *Endocentric* and as a consequence, contain lexical heads of the same feature specification, (cf. Stowell 1981).

An examination of the structure of the children's utterances revealed that all of the utterances containing Noun-Phrases were headed by Nouns or Pronouns, all Verb-Phrases by a Verb and all Prepositional-Phrases by a Preposition. The following examples illustrate the typical structure found in the children's sentences:

(2 yrs)

I eat disafud.

(I am eating this food)

Why stepping in my soos?

-(Why are you stepping on my shoes)?

(3 yrs.)

I buy for you this shoes.

(I will buy these shoes fgr you).

That is beatin me.

(That boy is beating me.)

(4 yrs.)

Is for mine.

(It belongs to me.)

Saw a pobram, is called...

(I saw a programme which was called ...)

(5 yrs.)

Sometimes it can get stuck your throat.

(Sometimes it can stick in your throat).

Ms. Dijala, which side I draw?

(Ms. Dijala, which side should I draw on)?

The structure displayed in the sentences above leads us to the conclusion that the *Endocentric Requirement* applies right from the initial stages in the acquisition of English; in essence, as soon as the children manifest the ability to join words together to form simple sentences. All the phrases in the corpus of utterances collected were *Endocentric*, headed by a lexical category of the same feature specification as the phrase itself. If this was not the case, I would have expected the appearance of utterances with the deviant structures presented below:

The bit dog the man.

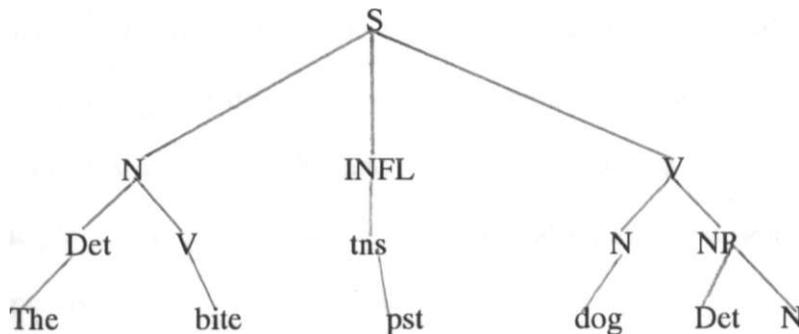
(The dog bit the man)
*

On sits she the floor.

(She sits on the floor)

With the following ill-formed structure:-

(13.a)



(Note that the phrases in the tree-diagram above are headed by lexical heads which are not of the same feature specification as the phrase itself).

The above rules never apply in English (or in any human language for that matter) because they do not observe what Chomsky (1980a) referred to as the "Structure Dependence Principle". In all human languages, grammatical rules are 'Structure - dependent' in the sense that one cannot apply any rule to a given sentence without knowledge of the syntactic structure of the sentence and further, what grammatical categories the words, and phrases in the sentence belong to.

As I mentioned in the introduction to this Chapter, the principles of Universal Grammar all interact to constrain the grammatical rules of any language. With regard to the principles that apply in the children's grammars, my conclusions were that, the *Endocentric Requirement* applied to ensure that all phrases in the children's sentences were headed by lexical items of the same feature specification. The *Structure Dependence Principle* then ensured that even when the children applied any transformation rules in their sentences, only phrasal categories (and not just single words) were moved. This is my explanation for the total absence of the ill-formed structures presented in examples 13(a) and (b) above.

This contention is well-supported by cross-linguistic data in the acquisition of Dholuo (cf. Blount 1969), Kikuyu (cf. Njage 1985), Kikamba (cf. Mutisya 1988, Kaviti 1991) as well as studies on the acquisition of different Indo-European languages (cf. de Villiers, 1978, Hyams 1986, etc.). None of these studies on children's language listed any instances of the deviant structures illustrated in example (13). If this is the case, my contention is that both Endocentric Requirement and the Structure Dependence Principle are, indeed, principles of Universal Grammar which apply across human languages.

3.3.1: The Projection Principle in the Children's Grammar

In an earlier section, I examined how the Projection Principle integrates the syntax and the lexicon by ensuring that properties of lexical entries are projected onto all levels of grammar and specifically onto the syntax. An examination of the children's utterances revealed that the Projection Principle does not apply right from the earliest stages in the acquisition of English. However, a few utterances revealed that children acquiring English (and probably other languages) may learn the meaning of a verb independent of the sub-categorization features and complements that it normally appears with.

The following examples of utterances collected illustrates this:

%

(put - vt. [- NP PP])

(4yrs);

They not put umbrellas, why?

(Why haven't they put the umbrellas over there)?

(2yrs);

- Where put ?

(Where should I put my painting?)

(Like. - Vt. [- NP])

(4yrs^);

Because I like.

(Because I like playing with sand).

(Look - vi, vt [- PP])

(3 yrs);

- Look at!

(Look at that boy)!

(Come, vi, Vt [- (pp) [- NP])

(5 yrs)

-... and it will come a nice crocodile,

(and a nice crocodile will come.)

(Want vt [- NP])

(4yrs)

- Because I want remove this dirty.

(Because I want to remove this dirt).

%

It is apparent that some of the sentences above merely reflect the effects of telegraphic 'clipping' where grammatical words with the least semantic load are omitted. However, of greater importance at this point are the complements which occurred with the verbs 'put', 'look', 'like', in the children's utterances. The examples presented in example (14) reveal that although a child may have learnt the meaning of a word (e.g. 'put'), it may not always be predictable whether she has also acquired knowledge of the sub-categorization features for the verb. As a consequence, the children's sentences also reflected the following rules:

'put'VP → V

'like'VP → V P

or VP → V N

Whereas the adult sentences would have the following corresponding rules:

'put'VP → V NP (PP)

'like'VP → V PP

WR → V NP

It is imperative that I underscore the observation that the structure of the children's sentences, although somewhat under-specified (or ill-formed in the grammar of English), lay consistently within the possible syntactic constructions permissible in natural languages (cf. example '4 above). On a broader level, the rules generated in the children's grammar were not observed to fall outside the limits imposed by Universal Grammar. As we have seen in the examples, although the children's constructions did not regularly represent a precise model of the lexical entries of verbs found in the adult grammar, the children's rules would to a large extent, be permissible structures in natural languages other than English.

In addition, my observations were that the children were not corrected by their adult interlocutors on the context in which a word could occur (ie., its sub-categorization features and complements). What possibly could have provided them with a clue on this were the frequent adult expansions of their under-specified forms as is illustrated in the following discourse:

Meela (2 yrs) - Where put ?

(Where should I put it?)

Adult: Put it on the table.

Meela received an expanded version on the correct sub-categorization features of the verb 'put'. This phenomenon was noted to occur frequently during the children's interaction with their adult interlocutors.

Hence, it seems plausible to argue that although the Projection Principle is a Universal of human language and a property of the language faculty, the linguistic environment play a crucial role in enlightening the children on the occurrence restrictions and sub-categorization frames of words, and in particular, on the exact context in which a word can appears.

3.4: Parametric settings in the children's Grammar

All the children's utterances (right from the 2 year old children) already manifested a basic Subject-Predicate structure. In addition, the children demonstrated the ability to perform simple transformation on the basic sentence structure, to produce the four basic types of sentences in English, viz:

- declaratives
- imperatives
- questions
- negations

My Focus in this Chapter is on the word-order found only in the children's declarative and imperative sentences. The rules and principles involved in the formation of questions will be handled in Chapter ty. Of importance at this point is the dominant order of the nominal subject, object and verb in the children's simple declarative sentences.

The basic word-order employed in the children's speech is displayed in the following sentences:

(3 yrs)

29. I eat disafud.

(I am eating this food)- SVO.

30. Sit here.

([You] sit here)- VO

31. I see ngout.

(I can see a goat)- SVO

32. That a big boy .

(That is a big boy) - SVO

From the above sentences it is clear that the children's imperative and declarative sentences preserved the same word-order found in the adult expanded version of these sentences. With respect to the arrangement of elements within a sentence, the utterances revealed a regular S.V.O. order with the complement of lexical categories coming after them. This fixed S.V.O. word order was manifested in the utterances of all the children under investigation.

As I mentioned in an earlier section, English selects the Head-initial value for the Head Parameter. This we saw is reflected in the general rule:

$5C=?^>X$ complements.

Since the order of lexical heads and complements in the children's utterances matched the word-order found in the corresponding adult phrases, my inference was that the Head parameter (and any other word-order related parameters) were fixed relatively early in the children's grammatical development.

However, there was, one instance of different word-order represented in the following utterance:

(2 years)

33. Doggie I saw.

(I saw a dog)- OSV

The above utterance displays an O.S.V order suggesting a Head-final-setting for the Head Parameter. Yet since this order occurred only on two occasions, I considered it to be merely a performance error and not the manifestation of a parametric mis-setting for the Head parameter. To reinforce the fact that this was a performance lapse, the children who produced the utterances with this deviant order thereafter proceeded to

produce sentences with the correct SVO order, thus, indicating that the former OSV or SOV order was not the manifestation of a parameter mis-setting in their grammar.

3.4:1 Word-Order Tests for the Head Parameter

Two simple word and picture games were presented to the 3-4 year old children to judge the relative acceptability of the following sentences:.

3if- *He My dnois Ht nn,tl*

*The milk drinks the baby (OVS)

35. -He eats the meat(SVO)

*He meat the eats(SVO)

36. -I am going to the shops(SVO)

* Going I the shops to(VSO)

37. -I am in the classroom(Preposition)

* I am the classroom in (Postposition)

*

38. - I am the cake eating(SOV)

I am eating the cake(SVO)

It should be noted that the word-order found in some of the sentences above actually occur in the structure of some languages such as Japanese, (which has post-positions and SOV word-order). As such, the "ungrammatical" sentences presented above are all logically possible sequences that could very well have occurred in the children's speech since they are well within the limits of Universal Grammar. Notice that example (37 .b) illustrates the occurrence of post-positions with the complements v. preceding it.

All these sentences were spoken to the children in context in an attempt to investigate whether the children's comprehension of the sentences would be affected in cases where

the word-order was not the fixed English SVO order. The results were however, quite disappointing since the 3-4 year old children were unable to form grammatical judgements on the correct word-order in English.

My observation was that the children would pick out the most salient content words in a sentence (e.g. baby, milk, eat, etc.) They would then infer from context what meaning was being conveyed, but show no ability to form judgements on the deviant sequences in English.

The second test was administered to the 2-3 year old children. Two pictures were shown to the children; the first was a picture of a mother carrying a child and the second, a picture of a dog eating a bone.

The children were then motivated to 'act out' simple sentences in an effort to determine their knowledge on the relationship between meaning and word-order in

English. The picture of the mother carrying a child elicited the following responses:

39. [a mommy carry]-SV
40. [mummy an' baby]-SO
41. [a carry baby]-VO
- [mommy carry a baby] SVO

While the picture of a dog eating a bone elicited the utterances.

42. [Doggie eat afud]-SVO
43. [a doggie eating]-SV
- but none of the following type:
*
44. * Baby carrying mommy
45. * Bone food eating the dog
46. . Carry mommy baby
47. * Doggie food eating

Notice that these are all logically possible sequences for the grammar of English. The general ordering in the children's utterances either had the full S V O sequence or had one of the categories missing. There were no occurrences of SOV or VSO order.

It seems plausible to conclude at this point that the fixed word-order in the children's utterances implies that they had acquired some basic knowledge on the phrase-structure of English. In addition, we can also infer from the correct SVO order in the children's sentences that they had correctly set the Head Parameter at 'Head initial' position for the grammar of English. It, therefore, seems reasonable to argue that the Head Parameter was set relatively early in children's syntactic development. Accordingly, in agreement with Hyams (1986) in her observation on grammatical development, my conclusions were that although children below the age of 5 years have some basic knowledge, of the phrase-structure of the language they are acquiring, they do not seem to possess the meta-linguistic ability necessary to make grammatical judgements on the structure of sentences.

3.4.2 The Children's setting for the Determiner Parameter

We have seen that the position of the lexical head in the children's utterances matched the 'head initial' setting found in the corresponding adult form in English. However, some differences in word-order were noted with regard to the position of the Determiners in Noun Phrases. In brief recapitulation, the position of the Determiners (or modifiers) and the Lexical head in an English Noun Phrase is represented by the rule:

$$\overline{\text{X}} \quad \text{Determiner} \quad \text{X}^\circ$$

Whereas in the grammar of Kikamba applies the opposite rule:

$$\text{X} \quad \overline{\text{X}^\circ} \quad \text{Determiner}$$

(where X = NP).

It is significant to note that the Noun Phrases in twelve of the utterances collected from Wambua (2 yrs.) displayed the structure of Noun Phrases in the grammar of Kikamba which adopts the Determiner-final setting. The following utterances illustrate this setting:

(2 yrs)

48. mango two.

-(two mangoes). Noun+Numeral

49. car big one.

-(a big car).Noun+Adjective

50. penso more!

i

-(more pencils).Noun+Adjective

The adjectives (in this case denoting number and quantity) in the above sentences are positioned after the Noun as would be the case in the Kikamba equivalent translations: cf.

Kikamba

51. Maembe eli.

-(mangoes two). Noun+Numeral

52. Ngali nene.

-(car big). Noun+Adjective

53. Tulamu tunge.

-(pencils more).Noun+Adjective

It should be noted that this structure was not recorded in the corpus of utterances collected from the other children under investigation. In addition, these utterances were not attributable to performance lapses since the occurrence was both regular and

systematic in Wambua's grammar. My explanation for this was that Wambua's previous exposure to Kikamba had influenced his setting for the Determiner Parameter to the value of 'determiner final' position instead of the English value of 'determiner initial' position.

It should be remembered that with regard to the Head Parameter, Wambua's declarative sentences all displayed a fixed SVO order sometimes with either the subject or object missing. This suggests a 'head initial' value for the Head Parameter where lexical heads precede their complements in a phrase. (As was illustrated in a SectioniL,3 this is the value selected in the grammar of both English and Kikamba).

3.5: Linguistic Evidence for the Word-order Parameters

In the synopsis of the Parametric approach to Universal Grammar, I briefly highlighted the role of the linguistic environment in providing the crucial evidence that induces or "triggers" off specific settings for each of the parameters of Universal Grammar. It is imperative that we realize that without the relevant evidence from the linguistic environment, the children would, in effect, have no basis on which to test their hypotheses on the structure of any language. Conversely, with the necessary linguistic evidence, (all things being equal), the children would indeed, acquire any human language.

In addition, evidence from the linguistic environment enables the children to discard logically possible parametric settings in cases where these were incompatible with the grammar of English (and possibly in a first language as well). Hence, my contention is that the parametric values found in the children's grammars were either selected in accordance with the language(s) exposed to them, or (on a more theoretical perspective) represent the unmarked (default) values of Universal Grammar set prior to the exposure

to any language; what Chomsky (1981) refers to as "a characterization of the initial state So". (It should be noted that in this section we will only concentrate on the former explanation; the unmarked hypothesis will be followed up in Chapter 6). According to Chomsky (1981), the possible types of linguistic data that affects a child's acquisition process in any language can be described as:

Positive evidence

Indirect negative evidence

Direct Negative evidence

Positive evidence would consist of actually occurring sentences in the language which explicitly demonstrate to the child that a particular structure is a permissible structure in the language. For instance, when a child exposed to the grammar of Kikamba hears in the speech used by his adult interlocutors sentences with SVO word-order, this consequently provides him with positive evidence that this is a possible (and indeed the only permissible) word-order for declaratives in Kikamba. Chomsky position is that children acquire the grammar of a language solely from positive evidence.

The second type of linguistic experience is referred to as negative evidence which may be of two kinds, viz:

-direct negative evidence;

-indirect negative evidence.

Direct negative evidence comprises of deliberate grammatical corrections by the child's speech community on the structure of the children's sentences. However, studies on Child language have discovered that this type of evidence plays a relatively insignificant role in the acquisition process. It has been observed that a child's adult interlocutors seldom correct the child on the structure of his sentences; on the contrary, in most of the recorded cases, the adults proceeded to "see through" the child's

ungrammatical sentences to the meaning intended. In addition, children have generally been observed to be quite unresponsive to corrections on their grammar, (cf. Kaviti 1991).

Indirect negative evidence, on the other hand, will occur if certain structures never occur in a language. For instance, if a child acquiring Kikamba never hears any sentences with OVS word-order, this is indirect negative evidence provided by the language for him to infer that OVS is not a permissible word-order for declarative sentences in Kikamba. In essence, the fact that certain forms do not occur in the sentences a child hears suffices to make it clear to the child that these sequences are ungrammatical in the particular language.

My observations were that indirect negative and positive evidence have a significant role in the setting of the Head and Determiner parameter in the acquisition process. Firstly, the children through their exposure to English, regularly received positive evidence on actual occurring fixed words sequences in sentences used by their adult interlocutors. The children frequently heard in the speech around them simple declarative sentences, imperatives, negations with fixed S.V.O. word-order which I regarded as positive evidence for the children to infer the permissible word-order adopted by the grammar of English. This SVO word-order is explicit in the following sentences recorded from one of the teachers. (Notice the Head-initial setting reflected in the arrangement of elements in each of the phrases):

-Declaratives

Njoki has a doll. (SVO)

Imperatives

Sit down on the floor, near the door. (SVO)

-4

Put the book back on the table. (SVO)

Negations

You can't go outside. (SVO)

The above sentences represent the structure of the sentences the children were exposed to in English. In addition, the speech the children heard from their adult English interlocutors, in all the recorded cases manifested lexical heads (i.e., Prepositions, Nouns, Verbs, Adverbs and, Adjectives) preceding their complements in phrases. (The sentences presented in example ^illustrate this).

Similarly, the children exposed to Kikamba (like Wambua) received the same positive evidence of SVO word-order with a 'head-initial' setting for the arrangement of elements within a phrase. The following Kikamba sentences illustrate this:

Declaratives

Mami niwathi wiyani'na maau

SB foc-tns-vrt obj-P-Np

(Mother has gone to work on foot).

Imperatives

Ungama vau ngusisye nesa.

tns-vrt obj SA-tns-vrt adv

(Stand there [I] look at you properly).

Negations

Wambua ndanaya liu umunthi.

SB neg-tns-vrt obj-adj

Wambua has not eaten food today.

The above sentences display the dominant SVO word-order of sentences that occurs in the grammar of Kikamba. It is not therefore not surprising that Wambua who was exposed to both Kikamba and English made no errors with regard to the word-order

and the position of lexical heads and complements in declarative sentences, since the necessary triggering evidence was easily accessible from the linguistic environment. On a broader perspective, the correct SVO word-order and 'head initial' setting for the Head parameter displayed in the children's utterances right from the early stages suggests that they had already acquired the knowledge that in English (as in all fixed-word-order languages), the arrangement of words in a sentence is used as an expressive device to encode differences in meaning. Hence, the occurrence of sentences with 'head initial' settings in the speech of the adult interlocutors acted as Positive evidence for the children acquiring English to set the Head parameter at the same value.

By contrast, the triggering evidence to set the Determiner parameter as we have seen, has different values in English and Kikamba. Wambua, through his exposure to Kikamba had received positive evidence that modifiers occur after the Noun in a Noun Phrase. However, this triggering evidence conflicts with the constructions found in English where modifiers consistently appear before the Noun in Noun Phrase. It is, therefore, not totally implausible that Wambua generalized the 'determiner final'(post-modifier) setting found in Kikamba Noun Phrases into the acquisition of English.

I did emphasize that only twelve of Wambua's utterances reflected the 'determiner final' setting. This implies that his exposure to English had already provided him with a different sort of triggering evidence to restructure his initial hypothesis on where to place modifiers in an English Noun phrase. Based on these facts, it is reasonable to argue that the type of linguistic evidence needed to set (or re-structure) the word-order parameters in languages (and specifically in English), in addition to being easily accessible in the linguistic environment need not consist of a long degree of exposure to the specific language in question. My inferences were that the exposure to English already sufficed for Wambua to begin restructuring his parametric value for the determiner parameter. In addition, the fact that determiners (i.e, articles, adjectives, etc) do not, (except in stylistically marked constructions) occur after Nouns in English

could possibly have served as a cue for Wambua to restructure his value for the Determiner parameter.

Since the children acquiring English did not hear declarative sentences with SOV, VOS, OVS word-order, this provided them with clues that these are not permissible word-orders in English. Similarly, i Wambua through his exposure to Kikamba never heard (except probably for irrelevant performance errors) any declaratives, imperatives, or negations with a different order for the SVO order. (Note that even derived constructions which have undergone transformations such as the passive rule have a deep-structure SVO order). In addition, the children acquiring English were not exposed to sentences containing phrases with lexical heads appearing after their complements in phrases as in the examples below:

55. * With the long hair the girl her cake ate the car in.

I illustrated that this 'head final' setting demonstrated above does not occur in the grammar of Kikamba. On the basis of these non-occurring sequences, my conclusion is that the children exposed to the grammar of both English and Kikamba receive indirect negative evidence from their linguistic environment to infer that SVO and the head-initial setting are the only permissible sequences for the structure of English declarative sentences.

It should be emphasized that the children did not receive direct negative evidence in the form of explicit grammatical corrections from their adult interlocutors. What they did receive were expanded versions of their own under-specified sentences. The following examples of child-adult discourse illustrate this:

(A)

Meela (2 yrs):Where put ?

(Where do I put my painting?)

Adult:Meela, put your painting down on the table; for it to dry.

(B)

Teacher: And what have I just done Jonathan?

Jonathan (2 yrs) - ngimbuk.

(He has given me a book).

Teacher: Yes, that's right ! I've given you a book.

(Notice the inclusion of subject pronouns and articles typically omitted in the children's telegraphic speech).

The teacher's expanded version of the children's utterances served to isolate the component phrases in the sentences, and in addition, provided important clues to the children on what should or should not be omitted in English. In Chapter 5 on the Vfoil,'op Parameter, it will become clear that the triggering evidence provided by linguistic data from English and Kikamba differs on what can possibly be omitted in a sentence.

3.6: SUMMARY

In this Chapter, my focus was on the arrangement of elements within phrases in the children's sentence. In the first section, I exemplified the redundancy reflected in the phrase-structure rules presented in earlier versions of the T.G.G. theory, which as we have seen, merely duplicate the information provided by the lexical entries of words. From a different perspective, given the Projection Principle, the Endocentric requirement and the Structure Dependence Principle (which are all general properties of X bar theory and a characterization of Universal grammar), phrase-structure rules are eliminable to a large extent in the grammar of any language.

My second aim was to examine whether these principles apply in the children's grammars. An examination of the children's utterances revealed that the three principles constrain the rule-systems manifested in the children's grammars.

Thirdly, I compared the parametric settings for the Head and Determiner parameter in the children's grammars with the value in the adult grammar of English. My findings were that although still quite elementary, the children's sentences never fell outside the word-order limits imposed by Universal Grammar. To illustrate this point, I will appeal to the Universal word-order typology formalized by Greenberg (1961).

With regard to the order of subject-verb-object in human languages, Greenberg presented six logically possible word-order typologies in declarative sentences as:

SVO, SOV, VSO, VOS, OSV, OVS. However, of these six, only the first three occur frequently across human languages. The rest do not occur at all (e.g. OVS) or are exceedingly rare. From this Greenberg's formulated the following Universal:

Universal 1

In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object.

(Greenberg 1961:76)

We saw how almost all the children's utterances reflected a fixed SVO order with only two exceptions. Since these word-order violations were rare and unsystematic, it seems plausible to argue that these were merely performance errors and not parametric mis-settings. Yet even if we were to attribute the deviant word-order sequences to parametric mis-settings (i.e. 'head-final' setting for the head parameter), the consequent structure would be SOV or VSO, which are well within the limits imposed by Universal grammar. (Japanese and classic Arabic respectively adopt this arrangement). There were, however, no instances of VOS, OSV or OVS structure in the children's utterances.

With reference to the "Consistent Serialisation Principle", I highlighted a few instances of parametric mis-settings with regard to the position of the modifiers in a Noun Phrase. It was observed that the structure of these utterances was similar to the structure of Noun Phrases in Kikamba where the modifier typically appears after the Head noun. Since Wambua had previously been exposed to Kikamba as a first language, my contention was that his setting for the Determiner Parameter in English had been influenced by the Determiner-final setting in Kikamba.

Lastly, I examined the type of linguistic evidence necessary children to set the word-order parameters. My findings were that the children, through their exposure to English, receive both positive and indirect negative evidence to set the word-order parameters. I demonstrated how the linguistic input from different languages (i.e., English and Kikamba) provides conflicting triggering evidence with respect to the Determiner parameter.

In conclusion, the generally correct S.V.O. word-order and Head-initial setting displayed in the children's sentences right from the point at which they begin concatenating words together may be due to the accessibility of the relevant evidence from the linguistic environment. In Chapter 5, I will focus on the possible unmarked settings for the Head and Determiner Parameter in Universal Grammar. Suffice it to say at this point that although the principles discussed in this Chapter are innate, triggering evidence from the linguistic environment is crucial if they are to be manifested in the children's grammars.

CHAPTER FOUR

Principles and Parameters of Wh-movement

4.1 Overview

In the previous Chapter our attention was on the principles and parameters in the Base Component that constrain the structure of children's sentences. Using *A'bar syntax* as a descriptive tool, we examined the D-structure representations of the children's utterances prior to the application of any movement rule.

The most logical direction for us to proceed at this point, would be to focus on the syntactic movement rules that relate the D-structure and surface structure representations in the children's grammar. My emphasis will be mainly on the principles and parameters of wh-movement in the construction of interrogatives. It will be observed that just as the formalization of parameters formalized in *X bar syntax* eliminate the variety of phrase-structure rules, so the general principles of the single transformation "move[^]" have subsumed numerous (formerly idiosyncratic) transformational rules.

The final part of the Chapter entails a brief account of the type of evidence provided by the linguistic environment responsible that could possibly have induced the specific parametric settings identified in the children's grammars for the Wh-movement parameter. As in the previous Chapter, it will be interesting to observe whether the exposure to Kikamba provide a conflicting evidence for the syntactic movement parameters.

4.2. Question types in the children's speech

Interrogative constructions occurred frequently in the children's speech right from the two year old to the five year old children. For descriptive purposes, I have divided the interrogative constructions into two of the typological categories discussed earlier, namely:

- (i) Wh-questions
- (ii) Yes -No questions

As a brief recapitulation, the parameters of relevance are those affecting move 'wh' in the formation of questions. As such, I intend to intergrate my discussion on each of the categories listed above with an examination of whether Wh-movement applies in the S-structure or at the level of Logical-Form in the children's grammars. In addition, parametric mis-settings as a result of a first language will be related to the corpus of utterances collected from a child with previous exposure to the grammar of Kikamba as a first language.

4.2.1 Yes-No questions

As stated earlier in Section 1.1.2, these constructions obtain their reference from the fact that they permit Yes/No (or their equivalents in other languages) as possible answers. Out of all the interrogative constructions that were collected from all the children, 32% were Yes/No questions similar to the utterances below.

52) (2 yrs)

[e [I give it to Rajiv]]?

gloss: [Canj [I [tj] give it to Rajiv]]?

53) [e [You going to give me that]]?
5' ^

gloss: [Arej [^ou [tj] going to give me that]]?

54) (3 yrs)

^e [^ou got a rubber]]?

gloss: [Doj [^ou [tj] have a rubber]]?

55) [e [ro know this a bad one]]?

gloss: [doj ^ou [tj] know [that[this is a bad one]]?

(4yrs)

56) [^e [^ou eat like this]]?

gloss: [Doj [^ou [tj] eat like this]]?

57) [Isj [this [tj] a teeth]]?

(5 yrs)

58) [Mustj [^we [tj] draw pictures]]?
5'

gloss: [Mustj [we [tj] draw pictures]]?

59) [Canj [we [jj] have the colour pencils]]?

gloss: [Couldj [we [jj] have the colour-pencils]]?

As can be observed, from the above examples, the person addressed had the option of answering 'Yes' or 'No'. As a matter of fact a number of the children's utterances actually hinted at the expected answer, e.g.

(2 Yrs)

60) Even me, ya?

(4 yrs)

61) One more then finish, O.K.?

Most of these constructions were identified as questions mainly by the changes in intonation similar to the pitch patterns in the formation of questions in English.

Unfortunately phonological features of the children's speech are beyond the scope of study. Of greater significance were the movement rules that may have applied in the formation of 'yes-No questions.

In the corresponding adult English form, 'Yes-No' questions are typically formed through the rule of I-MOVEMENT which preposCS the modal/auxiliary verb immediately in front of the bracketed S into Comp. (Subject- Auxiliary inversion). However, (as can be illustrated from the examples provided) an examination of the children's Yes-No questions revealed that only 19% of the total number of questions underwent the I-MOVEMENT (Subject- Auxiliary inversion) rule. The rest had the exact structure of the corresponding declarative with rising intonation. The examples given previously as well as the ones below illustrates this.

(2yrs) .

62) [e [You going to give me that]]?

gloss:[Arej [^ou [[j] going to give me that]]?

63) ^e [This [is] my chair]]?

gloss:[Isj [this [tj] my chair]]?

[canj[l[tj] do this one]]?
S' 5 f

gloss:[Canj [1 [^tj] do this one]]?

(5 yrs)

65) [^e [Now I am doing this one]]?

gloss: Now [amj[I [^j] doing this one]]?

Notice that the above questions produced by the children have the same syntactic structure as the corresponding declaratives; the only distinguishing mark being the rising intonation. There were relatively few instances of subject-auxiliary inversion from the 26-3 year old children. However, some of the utterances collected from the 5 yrs old children did reveal the application of I-MOVEMENT e.g.

(5 yrs)

66) [Musti [we [ti] draw pictures]]?
 _o ₅ _j

gloss:[Musti [we [ij] draw pictures]]?

It is also interesting to note that very few of the children's utterances included the use of modals and auxiliaries. In Chapter 4 I emphasized that these are usually the result of telegraphic 'clippings' where words carrying the least semantic load are frequently left out. It is, indeed, plausible for us to conclude that since the INFL (position in the children's utterances is usually devoid of any semantic/lexical content, then the children may have seen no need to invert the subject of the sentence with no overt modal or auxiliary.

The second possible explanation could be that possibly the I-MOVEMENT rule that results in Subject-Auxiliary Inversion is acquired after a great deal of exposure to the relevant linguistic evidence involving syntactic movement rules, (cf. Section 3.8).

The third possible explanation for the children's non-learning of the I-MOVEMENT rule could be that 'Yes-No questions without the application of any movement rules could possibly be the unmarked syntactic structure of sentences in natural languages. The children would therefore need to get sufficient evidence from their exposure to English for them to infer that 'in the formation of Yes-No questions, the Subject and Auxiliary are inverted through the application of the I-MOVEMENT rule. This may probably explain why the rule seem to manifest itself relatively late in the children's linguistic development.

4.2.2. Wh-questions

As brief remainder, wh-questions in English typically involve the use of an interrogative wh-word. I illustrated how languages other than in English such as Kikamba

have question-types which exhibit the same syntactic behaviour as wh-questions in English although their interrogative pronouns are not wh-words. I further emphasized that in English, wh-questions involve the application of wh-movement which preposss

the wh-phrase from its Base-generated A-position (within S) to an A bar position in COMP (within S bar). Wh-questions in English also involve I-MOVT which was discussed in the previous section.

From the corpus of interrogatives collected, 68% were Wh-questions but only 48% manifested the application of Wh-movement as illustrated below.

(2 yrs)

67) [^/hyi [stepping in my shoes ti]]?

gloss:[Whyi arej [you [tj] stepping on my shoes ti]]?

68) [Wherei [I put this ti]]?

gloss:[wherei canj [I [[j] put this ti]]?

(3 Yrs)

69) [Whati isj [tije sound for the tree [tj] ti]]?

gloss:[What soundi [does a tree make ti]]?

(4 yrs)

70) [Whoi [ti want this mandazi]]?

gloss:[Whoi [ti wants this mandazi]]?
S S

(5 yrs)

71) [Howi canj [Ms. Dijala [tj] be so small ti]]?

gloss:[jtlowi canj [Ms. Dijala [tj] be so small ti]]?

The sentences above (especially those from the 2 yrs old children) provides evidence that I-MOVEMENT and WH-MOVEMENT are two separate rules. For instance in the sentence:

(2.1/2 yrs.)

72) [Wherei [I put this ti]]?
J 5

gloss:[Wherei shouldj [¹ [tj] put this ti]]?

we have the application of the WH-MOVEMENT rule without any Subject-Auxiliary inversion.

Although, this phenomenon was not of fundamental importance in this chapter, it is worth noting that none of the children's utterances reflected any violations of the Subjacency principle. Thus in all the cases where WH-MOVT applied, the Wh-phrases was never pre-posed more than one bounding node away from its Base-generated position. As such, none of the utterances collected manifested the following structure:

*73) [Whati didj [the teacher [tj] ask [e[he said ti]]]?
Sⁱ S f s> S

The above sentence is informed because the wh'-phrase 'what' crosses S and S bar which are both bounding nodes in English.

A likely reason for the lack of subjacency violations in the children's grammars is the fact that children under five years are quite limited in the number of clauses

that they can produce in a single utterance. This performance limitation is not syntactic but may be related to their limited channel capacity (or memory span). Thus, the lack of subjacency violations in the corpus of utterances collected was not because the children were aware of the bounding nodes in English; on the contrary, they produced no such violations because their constructions were typically short simple sentences sometimes connected by a conjunction. An investigation of the speech of older children would have provided better results as concerns the application of the subjacency principle.

4.3. The setting of the Wh-movement parameter in the children's grammars

In section 4.1 indicated that although Wh-movement is obligatory in the formation of direct wh-questions in English, this is not necessarily the case for all natural languages. Using a number of examples from the grammar of Kikamba, we observed that languages differ to a limited degree in the way syntactic movement, (and specifically WH-MOVEMENT is manifested in the grammar. English adopts the parametric value of overt Wh-movement at the surface structure while in Japanese and Kikamba, the unmarked structure is for wh-phrases (interrogative pronouns) to remain in-situ at the surface structure but to undergo WH-Movement at the level of Logical Form. It was noted that in Kikamba, some interrogative pronouns may be fronted for pragmatic purposes of emphasis or merely as an optional rule for stylistic purposes.

In the discussion on the structure of Wh-questions in the children's speech, I mentioned that less than half (48%) of these manifested wh-movement. The situation was similar for the utterances collected from Joshua ((4 yrs) a child exposed to Kikamba and English. From his corpus of interrogatives >77% were wh-questions and in addition, only 38% of the total number manifested the application of Wh-Movement. The situation was interesting as concerns I-Movement because only 25% of Joshua's interrogatives involved subject-auxiliary inversion. Most of his Wh-questions had the Wh-word in-situ e.g.

74) [They're staying there why]]?

75) ^e [You writing what]]?

76) [^e [You find it where]]?

It is interesting to note that the Kikamba equivalent interrogatives have exactly the same word order e.g.

77) [^e [Asu mekalite vau niki]]?

gloss:[e [Those people are staying there why]]?

79) ^e [Wiandika kyau]]?

gloss:! e [You are writing what]]?

V 5

80) [e [Wa miona va]]?
5 ^

gloss:[e [You found it where]]?

\$' 5

Although in English, the Wh-word moves to COMP, in Joshua's utterances, the interrogative pronouns remained in their Base generated position. The situation was similar with regards to I-MOVEMENT e.g.

81) [^e [Your wearing two dresses why]]?

gloss:[Whyi arej [you [tj] wearing two dresses ti]]?

82) [e [This is circus Lilian]]?

\$ J

gloss:[Isj [this [ti] a %circus Lilian]]?
5' \$ J

It should be emphasized that a few of Joshua's utterances did involve the application of Wh-movement and I-movement. However, since most of his interrogative constructions had both the auxiliary and wh-phrase in-situ, it seems plausible to argue that his setting for syntactic movement (Wh-movement) was at the level of logical form rather than at the surface structure of the sentences. Indeed, we could further attribute this setting to the order found in Kikamba Wh-questions where the interrogative pronoun usually remains in-situ in the S-structure. In the next Section, it shall become apparent that the evidence provided by Kikamba and English is different for the Wh-movement parameter; hence Joshua's initial hypothesis of Wh-movement at the level logical form in English as would be the case in Kikamba.

4.4: The application of the Structure Dependence Principle

Our investigation on syntactic movement would be incomplete without an examination of whether the structure Dependence Principle applies in the children's grammars.

Our aim is to assess whether question constructions in the children's speech depended on:

- (i) Structure dependent rules:- Where movement of specific elements (e.g. modals and Wh-phrases) takes into account the syntactic categories of the words as well as the structural relationships that hold between these words in a sentence;
- (ii) Structure independent rules:- Where elements are moved randomly with no consideration of the grammatical categories and structural relationships that hold between the words in a sentence.

Following the second category of movement rules, I would have anticipated the appearance of the following types of questions:

- 83) [Bigi isj [t.the table Jtj] ti]]?

gloss:[Isj [the [jj] table big]]?

* 84) [Minej [this is ti]]?

gloss:[Isj [this jtj] mine]]?

* 85) [Eatj [I tj this food]]?

gloss:[Canj [I [tj] eat this food]]?

The rules involved in the above constructions merely involve the preposing of any lexical item in the sentence without consideration of the structural relationships holding between the words in the sentence. I should stress that there were no occurrences of the above examples or anything structurally similar to them in the corpus of utterances collected. A glance at any of the examples used as illustrations of the children's

interrogative constructions reveals that whenever any movement rule applied, it took into account the syntactic categories of the words and the structural relationships that held between them in a sentence. Indeed, far from unconstrained rules, the children's grammars were restricted by the structure dependence principle which ensured that all rules applying (WH-movt or I -MOVT) were structure-dependent.

4.5: Linguistic Evidence for the Wh-Movement Parameter

In 3 5, I maintained that evidence from the linguistic environment provides a basis for the children to test their hypotheses on the structure of English, and in addition enables them to discard any parametric settings which contradict the data exposed to them. I further highlighted how a child exposed to more than one language may receive conflicting triggering evidence on specific parametric settings. The primary aim of this section is to focus on the nature of linguistic evidence the children received with regard to WH-Movement and I-Movement.

Firstly, the children received positive evidence in the form of actual occurring sentences in the adult's speech with pre-posed Wh-phrases and modals. The following sentences were recorded from one of the teachers:

86) (Whati isj(Your name tj ti?)

87) (Where are (^ou tj going ti?)

88) (^,ow many pencils doj(^ou tj have ti))?

It is possible that these sentences served as triggering evidence to the children that in English Wh-questions, Wh-phrases occur sentence - initially and further, auxiliaries and modals are inverted with the subject.

However, the children also received positive evidence in English of Wh-phrases actually occurring in-situ in the speech of their adult interlocutors.

These sentences occurred in the corpus of utterances collected from the teachers of the 2 and 3 year old children. It was observed that the care-taker speech used on the younger children frequently consisted of sentence frames like:

- 89. It is called a what, children?
- 90. And you name is what?
- 91. There are how many pencils in the tin?
- 92. You want to give me your book?
- 93. You've finished your work?

The above constructions (and many others) with the Wh-word and modals (or auxiliaries) in their base-generated positions were frequently used to introduce new concepts or as a hint to aid the younger children identify some entity with more ease. The observation was that the children seemed to comprehend these sentences faster than the ones with pre-posed elements. Based on these facts, we could tentatively deduce that the Wh-word produced in-situ is actually the unmarked structure in natural languages.

It is interesting to note that the adult interlocutors usually ignored the lack of syntactic movement in the children's grammars especially since they could understand the meaning of the child's utterance. Thus, direct negative evidence in the form of grammatical corrections were virtually non-existent. What the adult interlocutors did was to frequently repeat the child's utterance with a pre-posed Wh-phrase and inverted modal. For instance, in the following discourse:

- 94. Jared (3yrs) - Teacher - is take'nother one why?
Teacher: Ask him; tell him;- "Joshua why are you taking another one ?"

As mentioned in / these adult expansions of the children's under-specified utterances provided clues, the constituent structure of the sentence as well as providing evidence on exactly what elements move and to what position.

This then leads us to the triggering evidence in the case of exposure to English and Kikamba. With reference to Joshua exposed to the two languages, the positive evidence provided by Kikamba is that interrogative pronouns may move, but usually remain in-situ in wh-questions. It was illustrated that I-MOVEMENT does not apply in Kikamba for 'yes/no or - yutSrirw.

However, this evidence conflicts with the positive evidence provided by his exposure to English where the parameter setting for Wh-movement and I-movement is at S-structure. Since most of Joshua's questions had Wh-phrase and auxiliaries in-situ, it is reasonable to argue that the positive evidence from Kikamba had influenced his non-application of the Wh-movt and I-movt rule in English.

Yet since the other children (even those exposed to English alone) had a larger number of question forms with no movement, it seems plausible to argue that this could possible be the unmarked setting for natural languages, (cf. Ch 6)

4.6: Summary

This Chapter has been concerned with syntactic movement and specifically wh-movt in the formation of questions in the children's grammar. Using data from Kikamba and English, I demonstrated that there are different levels at which syntactic movement could apply; at the level of S-structure (as in English-like constructions) or at the level of Logical -Form (as in Japanese and to some extent Kikamba).

It was observed that • most of the wh-questions and 'yes-no' questions in the children's speech) and specifically from Joshua (a child exposed to Kikamba and

English) manifested pre-posing of wh-phrases and modals. Our contention was that the production of Wh-phrases in-situ was either the effect of his exposure to Kikamba which had this structure or could possibly be the unmarked setting of wh-questions that all children start off with.

Finally, I examined the nature of the linguistic evidence necessary to set the movement parameters. It was observed that positive evidence from both Kikamba and English conflicted to some extent. I further underscored the fact that direct negative evidence in the form of grammatical corrections from the adult interlocutors was exceedingly rare.

Based on the empirical findings discussed in this Chapter, our contention is that the values of "movq^ (that determine what moves in a sentence) as well as the principles / * " constraining "move'^and specifically Move Wh-) are learnt relatively later than the word-order related parameters discussed in Chapter. 3- In addition, their manifestation(e.g. the Subjacency principle) may be hampered by non-linguistic performance limitations such as a limited memory span which restricts the number of co-occurring clauses in a single utterance. What should be emphasized is that all of the movement rules applying in the children's grammars were structure-dependent and thus reveal important principles at work; hence the constraining power of Universal Grammar.

CHAPTER FIVE

The Pro-drop Parameter

5.1: Overview

The paramount aim of this Chapter is to examine the Syntactic realization of Subject NPs in the children's sentences. My specific interest will be on the manifestation of phonologically null subjects in the children's grammar and further, whether it is legitimate for us to attribute this phenomenon to the parametric value selected for the Pro-drop parameter. In essence, I seek to demonstrate that the occurrence of null subject in the children's speech, though ungrammatical in the grammar of English, is actually the effect of their initial hypothesis of English as a pro-drop language. Certain principle that apply in Kikamba (such as the *Avoid Pronoun Principle*) will also be recognized as having a significant degree important influence in the children's production of null subject in English.

The final part of the Chapter concentrates on the input data from both English and Kikamba in an attempt to account for the linguistic evidence responsible for the setting of the pro-drop parameter in the children's grammar.

5.2: Null Subjects in the children's sentences

An examination of the children's sentences revealed subjectless sentences co-existing with sentences with overt subject. The following (non-imperative) sentences are representative of the null subject sentences:

(2 yrs)

18. Look! pro kosin'her leg.

(Look! She is crossing her legs).

19. Why pro steppin' my shoes?

(Why are you stepping on my shoes?)

20. pro is red.

(It is red).

(3 yrs)

21. for duck.

(It is for the duck).

21. pro make a big snake.

(I will make a big snake.)

22. pro not being quiet.

(He is not keeping quiet).

(4 yrs)

23. No not got 'nother one.

(I do not have another one).

24. pro know this a bad one?

(Do you know that this is a bad one?)

25. (5 yrs)

pro finished, Ms. Dijala.

(I have finished Ms. Dijala).

26. pro linin' up at the animal orphanage.

(We are lining up at the animal orphanage).

The above constructions provide strong evidence that the pro-drop parameter was involved in the children's acquisition task. Notice that the occurrence of the null subjects always had definite pronominal reference. What is interesting to note is that

these subjectless sentences co-occurred with sentences containing overt NPs. Thus our corpus also included tensed clauses with lexically realized subjects as is illustrated below:

(2 yrs)

27. You drawin' what?
(What are you drawing?)
28. Look, I'm coughing.
(Look, I am coughing).

3 yrs

29. I not scribble!
(I am not scribbling).
30. My mummy buy for me this biskit.
(My mummy bought me this biscuit).

4 yrs

31. We going to make what?
(What are we going to make?)
32. You take mine.
(You have taken mine)

5 yrs

33. I start from here?
(Should I start from here?)
34. Winnie can we have the colour pencils?

All the sentences above have lexical pronouns in subject position. As a matter of fact, in a one instance, one of the children unwittingly produced a minimal pair of the

same utterance with and without a lexical subject. For instance, after finishing his painting, Nicholas (5 yrs) produced the following utterance:

35. pro finished Ms. Dijala .. Ms. Dijala, I've finished my
work.

In the above utterance, the initial null-subject sentence was immediately followed by an expanded version of the same sentence but with a lexical pronoun. It also interesting to note that the missing subjects were not restricted to any grammatical person or noun type. Although our first impression was that the missing pronoun would always be T, this hypothesis was discarded after it was observed that most of the children's utterances were dominantly focused on themselves.

It would therefore be misleading for us to generalize the frequent occurrence of the 1st person sing. T sentences to mean that other pronouns would not be omitted. On the contrary, a number of the utterances collected revealed that the reference of the null subject in the children's grammar could consist of any pronoun(v.Appendix).

An important question to ask ourselves at this point is whether the occurrence of the null subject sentences was not just the effect of performance 'clippings' as result of the children's telegraphic speech (of. Chapter 3 *jec-Aow3-Z*)

It was mentioned previously that corpus of utterances collected revealed the occurrence of both null subjects and overt lexical subjects in tensed clauses. Out of the total number of imperative sentences collected, 52% contained null subjects. We also emphasized that the children also produced sentences with overt (lexical) subjects. The fact that lexical subjects did occur in the children's grammar does, in effect, provide evidence that the children's production of null-subjects can not be attributed to performance limitations on sentence length (as was the case with the Subjacency principle f*v \ Chapter^) since the children were capable of producing full sentences with overt subjects.

A second possibility could be that the production of lexical pronouns could be related to syntactic complexity or an increased cognitive load for the children.

We also reject this position using the same facts pointed out previously. The fact that the children were able to produce longer versions of subjectless sentences and in addition, did not omit nouns or pronouns when these were new to the discourse provides evidence of important grammatical principles at work. It therefore, seems plausible to argue that the children's initial hypothesis on English was that it was a pro-drop language permitting null subjects.

5.3 The Avoid Pronoun Principle in the children's grammar

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As a brief recapitulation, the Avoid Pronoun Principle applies in pro-drop languages to ensure that lexical pronouns are avoided when a null-pronominal is possible in subject position. We observed the operations of this principle the grammar of Kikamba with the consequence that lexical pronouns are typically omitted except for the pragmatic functions of indicating emphasis, contrastive stress and so on. I further proposed that the application of this principle is a conceivable explanation for the infrequent employment of lexical expletive pronouns in Kikamba.

Our discussion at this point will focus on the corpus of utterances collected from Joshua who (as was mentioned earlier) had received exposure to both Kikamba and English. One distinct characteristic of Joshua's speech was the frequent occurrence of phonetically null subjects similar to those illustrated earlier. Out of the total number of non-imperative sentences collected from Joshua, 68% contained Null subjects. These include the following:

36. pro is called what?
(What is it called?)

37. pro wan'go Kilimani
(I want to go to Kilimani).
38. pro know when am big like Ungo Jake ...
(Do you know when I grow as big as Uncle Jake...).

As can be observed, the null subjects consistently displayed definite pronominal reference and were not restricted to any grammatical person. It would be interesting for us to examine the literal equivalents of the above sentences in kikamba. of.

39. pro yi-tawaa ata?
pro foc-SA-Vrt intro.pron.
*pro is called what?)
40. pro nenda kuthi kilimani.
pro SA-Vrt-infin.vrb-Obj.
*(pro want to go Kilinani).
41. pro ni-wisi nanevena ta Ungo jake ...
pro Foc-SA-Vrt-SA-tns-Vrt pp.
*(pro know when I grow up like Uncle Jake).

A comparison of Joshua's Null subject sentences in Nos. 36-38 with the Kikamba equivalent expression suggests that Joshua may have generalized the pro-drop structure found in Kikamba, sentences into his acquisition task of English.

It is also significant to note that the identity of the missing pronoun was either recoverable from context or had already been established in the discourse. I did exemplify that in Kikamba, Subject pronouns whose identity had already been established from discourse are typically _Emitted. My deductions from Joshua's null subjects were that he had conceived of English as a pro-drop language permitting null subjects and in

addition, applied the Avoid Pronoun Principle to restrict the occurrence of overt subject pronouns.

At this point, it is important that we look at the occurrence of expletive in Joshua's grammar. Our findings were that the use of the expletives 'it' and 'there' occurred only in predicate position in Joshua's sentences. The sentences below illustrates this:

(4 yrs)

42. Also me I don' like it.

(I also do not like it.)

43. pro know where is it.

(I know where it is.)

44. ...then I coloured it very beautiful.

(then I coloured it beautifully.)

Only two of the utterances collected contained the occurrence of 'it' in subject position. For instance:

45. Becoz it look funny.

(Because it looks funny).

46. You know these shoes; it got white.

(You know these shoes are white).

In cases where the expletive 'it' would have been used in the adult grammar in Joshua's sentences occur a null subject. For instance:

47. pro is where?

(where is it?)

48. pro is mine! It is not yours).

(It is mine; It is not yours).

On the other hand, the expletive 'there' occurred only as an adverb in predicate position, of.

49. They are staying there why?

(Why are they staying over there?)

This occurrence of expletive pronouns mainly in predicate position with only two instances of 'it' in subject position provide basis for us to infer that Joshua (as yet) had not learned that expletives (like their counterpart lexical pronouns) must be overt in the surface structure of a tensed English sentence.

A plausible explanation for this delay in acquisition could be the effect of the Avoid Pronoun Principle and the pro-drop setting generalized from Kikamba. We emphasized that lexical pronouns (as well as expletives) normally do not appear in the S-structure of a Kikamba sentence except to signal emphasis, for clearing ambiguity and so on. It is interesting to note that the occurrence of lexical pronouns in Joshua's speech manifested similar linguistic behaviour. In addition, it seems reasonable to argue that the delay in the Joshua's use of expletives in English could be attributed to the fact that they are devoid of semantic content and thus, do not have any pragmatic function in the grammar of English. It is therefore not surprising that Joshua's grammar (like most pro-drop languages) avoided the use of both overt pronouns and expletives.

5.4: The structure of INFL in the children's Grammar

We observed in Section I k that null subjects are licensed in the grammar of Kikamba since the AG features contained in INFL are [+pronominal] and therefore properly govern the empty category pro in subject position.

It was also emphasized that some pro-drop languages such as Bari and Chinese allow null subjects without manifesting the rich verbal morphology that has frequently been

associated with the pro-drop phenomenon. We also looked at the occurrence of null subjects in English which we saw has a [-pronominal] AG element and thus, does not function as a lexical category to govern a null subject.

An examination of the structure of INFL in Joshua's grammar did not provide a clear-cut answer on whether AG had lexical features or not. We have illustrated how the occurrence of Null Subject in Joshua's speech suggested a pro-drop setting for English. In addition, we emphasized that the Avoid Pronoun Principle constrains the appearance of overt lexical pronouns and expletives in Joshua's grammar. However, it remains unclear what licensed (or governed) the empty category *pro* in Joshua's grammar since there were no overt Subject-Agreement prefixes on the verbal morphology as would be the case in Kikamba sentences and a number of other pro-drop languages.

My explanation for this was that Joshua's value for the pro-drop parameter in English had been set at pro-drop yet without the rich verbal morphology that typically occurs in a pro-drop language.

A logical question to ask ourselves at this point is whether this setting is within the limits imposed by Universal Grammar. In less abstract terms does any human language have this structure?

As a brief recapitulation, in Section 4.2 we highlighted some of the shared properties of pro-drop languages, which we will repeat here for expository purposes, i.e.

- (i) the optionality of lexical subjects and the definite reference associated with the null subject;
- (ii) the use of rich verbal morphology;
- (iii) the free inversion of subject and verb in declarative sentence, etc.

As relates to (i) and (ii) above, it has been suggested that pro-drop languages intuitively compensate for the lack of information as a consequence of having a null

subject by having rich verbal morphology. However, this need not be the case for all pro-drop languages. According to Huang (1984), Chinese is a pro-drop language since it allows the option of phonologically null subjects in tensed clauses. The following examples from Cook (1988) illustrates this:

50.	Subject+Verb	Null Subject+Verb
	ta shuo	pro shuo.
	(he speaks)	(*P ^{ro} speaks)

As can be observed, null subjects in Chinese have definite pronominal reference. However, of greater significance at this point is the fact that Chinese does not have overt Agreement prefixes or any verbal inflection from which the pronominal reference of the null subject can be recovered. Huang proposed that whether a null subject occurs or not in the grammar of Chinese depends partly on discourse processes; ie. whether the reference of the pronoun has been established in the conversation or not. Chinese is not totally unique in this regard; in section 27, we observed that Bari functions in the same way. According to Nyombe (1987), a pro-drop language need not exhibit any agreement features in order that the properties of the null-subject are recoverable. He further proposes that the grammar of Bari (like the grammar of Chinese or Korean) is a "discourse-oriented" pro-drop language as compared to the typical pro-drop languages (like Kikamba or Italian) that exhibit rich agreement features. (It should be remembered that Kikamba as a pro-drop language allows recoverability of the subject from both the discourse and the overt Subject Agreement prefixes. v. Chapter 2 Section ZT).

The intent of my digression into the structure of Chinese and Bari is that it provides the fundamental basis to justify the fact that Joshua's hypothesis of English as a pro-language with no overt AG features is well within the limits of Universal Grammar. It is interesting to note that the structure of Joshua's grammar permitted null subjects whose reference, although not recoverable from the verbal morphology, could be

inferred from the discourse context. We have just observed that Chinese and Bari structure in the same way. This in effect, verifies that the principles at work in **Joshua's** grammar, and indeed, in all the children's grammars are genuinely innate and **universal** since none of the children had ever been exposed to the either Chinese or Bari. My inferences are that either the structure of Kikamba as a pro-drop language had an influence the in the value selected for English (as a non-Pro-drop language), or (on a more theoretical level) that the Pro-drop setting is possibly the default (unmarked) **value** set prior to the exposure to any specific language, (v. Chapter 6).

5.5: The linguistic evidence necessary to set the pro-drop parameter

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Throughout this investigation it has been stressed that the nature of the linguistic evidence available to the children has a crucial role to play in their acquisition task. With the necessary linguistic evidence, the children would acquire any human **language** exposed to them. It is, therefore, imperative that we look into the triggering **evidence** necessary to set the pro-drop parameter in the children's Grammar.

It has been implied throughout our discussion in this Chapter that the grammar of English and Kikamba provides different evidence for the setting of the pro-drop parameter. We will begin by examining the linguistic evidence provided through the exposure of English.

Firstly, the children received **Positive evidence** from the sentences used by their adult interlocutors that English is not a pro-drop language. This was in the form of non-imperative tensed clauses with overt subjects. The following sentences were recorded from two of the teachers:

Declaratives

51. It is on the table.

Negations

52. You are not going home.

Interrogatives

53. What is his name?

The above sentences are representative of the sentences the children were exposed to in English. Notice that in each case, the subject position has an overt lexical pronoun. The children were also exposed to sentences containing expletives in subject position. The following sentences were also collected from the teachers:

54. It's not blue; it's red.

55. There is the cat!

We have deliberately omitted any mention of Imperatives clauses as examples of Subjectless sentences because at the level of D-structure, imperatives do have overt (usually second person) subjects. Thus the apparently subjectless sentences:

56(a). Be careful!

56.(b) Sit down!

have the following D-structure representation.

57(a). You be careful!

57(b). You sit down!

In this sense, the occurrence of imperative constructions cannot be considered as **positive evidence** on the occurrence of null subjects in English. Neither did we consider any performance 'clippings' of subjects from sentences in casual speech as evidence of null subjects. (In any case, performance limitations on the part of the adult speakers can not possibly constitute evidence on parameter settings, for the obvious reason that these occur unsystematically and thus are not reliable indicators of a speaker's grammatical competence).

Secondly, the children, through their exposure to English also received **Indirect Negative Evidence** on the non-pro-drop setting found in English. The fact that the recordings of the teachers speech contained no instances of subjectiveness (non-imperative) tensed clauses (i.e. declaratives, negations or interrogatives sentences) could be considered as **Indirect negative evidence** for the children to infer that English is not a pro-drop language and in particular, that null subjects are not permissible constructions. It should be emphasized that **direct negative evidence** in the form of grammatical corrections from the children's adult Interlocutors was virtually non-existent. There were no instances recorded when the teachers actually corrected any of the children on the use of lexical pronouns or expletives.

It is significant to note that just as in the **Word-order** parameters (v. Chapter. ^) and the **Wh-Movement parameter** (v. Chapterlp) the expanded adult version of the children's under-specified sentences provided important clues to the children on the structure of English. The following discourse illustrates this:

58. Adult: ... and whose is this?
 Joshua: for my mom.
 Adult: Its for your mom? It's not yours?
 Joshua: No, is for my mom.

Joshua received an expanded version of his utterance with the additional element of a lexical subject. This constituted positive evidence for Joshua that tensed clauses in English are always filled with an overt lexical Noun, Pronoun or Expletive.

The grammar of Kikamba, on the other hand, provided different triggering evidence to Joshua for the setting of the pro-drop parameter. As was mentioned earlier, Kikamba as a Pro-drop language permits the occurrence of the empty category **pro** as in the subject position of a tensed clause. This is possible because the AG FEATURES OF

INFL are lexical and thus, properly govern the empty subject position. In addition, the properties of the null subject are recoverable from the verbal morphology.

Based on the above facts, it is possible that Joshua, through the exposure to Kikamba received **Positive evidence** that the Grammar of Kikamba allows the occurrence of phonetically null subjects. This was in the form of subjectless tensed clauses used by Joshua's Caretakers. The following sentences illustrate this:

Declaratives

59. pro ni-nathooa ivuku.
pro Foc-SA-tns-Vrt-Obj.
*pro have bought book.
(I have bought a book)
60. pro ni ngua ndune.
pro foc-Obj.-Adj.
*pro is dress red.
(It is a red dress)

Negations

61. pro nde-kuenda kuya.
pro neg-SA-Vrt-Inf.Vrb.
*pro does not want to eat.
(He/She does not want to eat)

Interrogatives

62. pro wi-thi va?
pro SA-tns-Vrt-Intr.pron.
*pro are going where?
(Where are you going?)

The above sentences represent the kind of **Positive evidence** from Kikamba on the occurrence of null subjects with definite pronominal reference recoverable from the Agreement prefixes attached to the Verb root.

The crucial factor here is that this evidence conflicts with the **positive evidence** Joshua received from his exposure to English where all (non-imperative) tensed clauses have overt subjects.

However, it should be remembered that pro-drop languages like Kikamba do allow overt pronouns as subjects. Yet because of the constraining power of the **Avoid Pronoun Principle**, the occurrence of pronouns in Kikamba is guided by pragmatic or Functional considerationj(cf. Section 2.§). Our contention is that the application of the principle in Kikamba provided Joshua with **Indirect Negative Evidence** on the realization of lexical pronouns and expletives. Since in the adult Kikamba grammar overt pronominals occur rarely (to signal emphasis, for instance) the this was an 'indirect' message to Joshua that they were not strictly necessary to convey meaning. Since the distribution of subject pronouns in Joshua's English grammar followed the same pattern, it seems plausible to argue that the application of **Avoid pronoun principle** in Kikamba had been generalized into his acquisition of English.

In summary, it is clear that the linguistic evidence provided the exposure to Kikamba and English to set the pro-drop parameter differs in a number of ways. On one hand, the **positive evidence** from Kikamba indicates that lexical pronouns and expletives are avoided except for pragmatic purposed discussed earlier. On the other hand, the evidence from English stresses that over lexical subjects are obligatory in all tensed clauses irrespective of their functional considerations. It is, therefore not surprising that Joshua's grammar contained subjectless sentences co-occurring with lexically realized subjects having the same distribution as the grammar of Kikamba. Our explanation for this is that either the setting of the **pro-drop parameter** in Kikamba had influenced Joshua's hypothesis of English as a pro-drop language or that the value of pro-drop is

possible the unmarked value for the parameter, (cf. Chapter 6 on cross-linguistic evidence on the pro-drop parameter).

5.6: Summary

In this Chapter, our focus was on the **pro-drop parameter** which has aroused considerable interest among linguists in recent years (cf. Chomsky 1981, Rizzi 1982, White 1982, Hymes 1983, Mwangi 1991, etc.). It was observed that language show variation as concerns whether lexical subjects are phonologically realized or not. In addition, we mentioned that the structure of INFL (AG) determines whether the grammar of a language will license the occurrence of a null subject. A number of properties also follow from the pro-drop phenomena; for instance, the use of rich verbal morphology to ensure the identity of the null subject is recoverable. We then identified Kikamba as a pro-drop language as compared to English which is a non-pro-drop language.

An examination of the children's grammar revealed subjectless sentences co-existing with sentences containing overt subjects. Our main emphasis was on the speech of Joshua exposed to Kikamba and English. Our findings were that Joshua's production of subjectless sentences (though ill-formed in English), was the manifestation of a pro-drop setting. Using data from Chinese as an illustrative device, it was observed that Joshua's grammar was a possible hypothesis on the structure of a natural language and thus, well within the limits defined by Universal Grammar.

Lastly, we looked at the nature of the linguistic evidence responsible for the setting of the **pro-drop parameter**. We illustrated how **positive evidence** provided by English differs from the **positive evidence** in Kikamba. Our inference was that Joshua's value for English as a pro-drop language was either an effect of the influence from Kikamba as a pro-drop language or was the default value for the **pro-drop parameter** set prior

to the exposure to any language. This position is well supported by cross linguistic evidence on the acquisition of English, German, and Italian (cf. McNeil 1966, Bloom 1970, Braine 1976, Hyttm 1983).

Suffice it to say at this point that even at the early stages, child language development is an interaction between principles and parameters of Universal Grammar on one hand and the specific properties on the input language; in this case, the linguistic evidence provided through the exposure to English and Kikamba.

CHAPTER SIX

Markedness and Parameter-setting

6.1: Overview

In the preceding Chapters, I concentrated on the relationship between the principles and parameters of UG and the children's grammar. The primary objective of this Chapter is to integrate all the empirical findings of this investigation under the theory of Markedness. The rationale behind this is to verify if principles of markedness can provide an explanation for the specific parameter-settings identified in the children's speech.

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Within linguistic theory, a number of proposals (each having different emphasis) have been postulated in an attempt to define the concept of markedness as it relates to grammatical development. The first Section of the Chapter highlights the most salient view proposed in recent years. This is intended to provide us with a set of plausible criteria by which to verify the marked and unmarked settings manifested in the children's speech. The final part of the Chapter entails my overall conclusions on this investigation.

6.2: Principles of Markedness in Universal Grammar

In recent years, research on linguistic universals has been carried out in close conjunction with an attempt to develop a theory of markedness as it relates to grammatical development. Unfortunately, although this theory has been thoroughly developed in the field of phonology, its application in Syntax is still quite rudimentary.

It is therefore necessary to emphasize that the parametric settings I will propose as either marked or unmarked in this study are tentative pending further research on parametric variation in the acquisition of language.

Within linguistic theory, there have been specific proposals to define markedness in the course of language development. On a broad perspective, linguists view marked structures as linguistic elements that are more grammatically complex, unnatural and occur less frequently in natural languages, (cf. Richards et al 1985). Unmarked elements, on the other hand are more basic, natural and occur more frequently than their marked counterparts.

This approach is meaningful to this investigation in so far as it predicts that unmarked elements will occur more often than marked elements in the children's grammar.

Proposals have also been put forth that the unmarked structure is actually the child's initial hypothesis about a language. According to Rouvert and Vergnaud (1980), a child's initial grammar is the unmarked that the previous one. If this proposal is correlated with parameter-setting, the assumption is that a child's initial parametric value constitutes the unmarked case. Related to this view is the suggestion that certain parameters of Universal Grammar are already 'pre-set' prior to the exposure to any language. Hence these settings are considered unmarked since they represent the 'default' values of UG. This position no doubt, provide us with two ways of defining unmarked settings in languages development; i.e.,

- certain parameters come pre-set at the unmarked value prior to the exposure to any language;

- A child's initial hypothesis on the setting of a particular parameter is (in most cases), the unmarked (default) value of Universal Grammar.

In agreement with the above principles, I do concede that markedness considerations affect the course of grammatical development. However, with reference to this

Study, it is questionable whether one can reliably generalize that all the parametric settings that appeared in the corpus of utterances represent the unmarked values for the four parameters under investigation. It may not always be the case that the structure of the children's earliest grammars necessarily represents an unmarked grammar. This is the case especially in the acquisition of more than one language. We observed how a child's initial hypothesis on English was affected by the structure of his first language. In essence, a number of linguistic and non-linguistic factors may distort the acquisition picture making it impossible for one to comfortably generalize that all the structures which manifest themselves relatively early in the child's language are necessarily unmarked. In the words of Chomsky (1986):

... we would expect the order of appearance of structures in language acquisition to reflect the structure of markedness in some respects, but there are many complicating factors: e.g., processes of maturation may be such as to permit certain unmarked structures to be manifested only relatively late in language acquisition, frequency effect may intervene, etc.

(Chomsky 1986:9)

Indeed, it is clear that assigning markedness labels solely on the basis of development stages in the the acquisition process is not entirely valid especially in the acquisition of two language, whereby the structure of one language interferes with the acquisition of the second languages.

Markedness has also been considered from the perspective of the linguistic evidence available to the child. The fundamental basis of this interpretation is that the unmarked parametric values are those that can be set from the least amount of the evidence in the linguistic environment. Conversely, the marked settings would require additional "triggering" evidence. If one adopts this particular formulation of markedness, the assumption is that a child would need specific evidence from an unmarked value to

a marked one. In essence, markedness is linked to learning ability. The less positive evidence a child requires to set a parameter to a particular value, the less marked the setting.

Finally, markedness as it related to grammatical development refers to whether the setting for a particular parameter applies within the limits laid down by the principles of universal Grammar. This formulation of markedness is closely related to the distinction made within GB theory between 'Core' and 'Peripheral' grammar, (cf. Chomsky 1981).

Core grammar is defined as the grammar which results from setting the parameters of Universal Grammar in one of the permitted ways. (This investigation has, in effect, been a study of Core grammar). Peripheral grammar on the other hand, includes language-specific rules of particular languages which are not derivable from Universal Grammar. (I will not go into the properties of peripheral grammar since these are beyond the scope of this study.)

The assumption behind this distinction is that at some basic level, all natural language conform to a predictable and systematic structure. This is a consequence of the constraining principles of the language faculty and specifically, the properties of Universal Grammar. With reference to language development, all the structure elements that are predictable from Universal Grammar are considered unmarked. Peripheral elements on the other hand, are language-specific and hence are marked. However, it should be emphasized that this distinction between core and periphery grammar is not absolute, but is actually a continuum of markedness. Stated differently, the more something departs from Universal Grammar, the more marked it is considered to be in the G.B theory.

In Summary of this Section, markedness has been defined from different perspectives in linguistic theory, most of which will be crucial in my assessment of unmarked and marked phenomenon in the children's language.

6.3: Markedness in the word-order parameters

In my examination of the word-order parameters in Chapter j, I highlighted the six logically possible variant orders in the structure of languages; viz:

SVO, SOV, VSO, OSV and OVS.

Greenberg (1961) in his search for linguistic universals proposed that the first three structures listed above regularly occur as dominant orders in the vast majority of human languages. Conversely, the orders of VOS, OSV, and OVS do not occur at all or are excessively rare in languages. Our inference from this is that the unmarked word order of declarative sentences occurs when the subject precedes the object (i.e. SVO, SOV, VSO).

As exemplified in Chapter 3, my findings were that the children's declarative sentences predominantly manifested SVO word order. I further stressed that the few occurrences of SVO and VSO order were merely performance lapses because the production of these utterances were followed up with a regular SVO order. We have seen that SVO is the dominant order found in declarative sentences in both English and Kikamba. My conclusions on this are that a child exposed to these two languages receives positive evidence that the permissible (unmarked) structure in statements is SVO.

Based on these facts, it is significant that SVO order has been advanced as the unmarked structure of declaratives in natural languages. Aoun (1976) in his study on case assignment principles proposed the VSO and SOV order represent marked options

for case assignment because the case assigner (i.e V and P) are not immediately adjacent to the NP object that receives case. Stated differently, a language that allows an Adverbial or Adjective to intervene between a Verb and its Object may be defined as marked with respect to case assignment principles. Since case assignment is beyond the scope of this Chapter, I will not pursue this further; suffice it to say that SVO word order is possibly the unmarked option of natural language based on the criteria of frequency of occurrence in human languages and principles of Case Assignment.

Based on the above facts it seems plausible to argue that the children made no errors on the order of declarative sentences in English because:-

- (i) The positive evidence for the SVO order was easily accessible in the linguistic environment; (v.Chapter 3)
- (ii) The SVO order represents the unmarked value of Universal Grammar.

i

A plausible explanation for the lack of 'errors' concerning the arrangement of grammatical categories in declarative sentence could be attributed to the fact that the SVO order found in English and Kikamba is in accordance with the limits laid out by UG. (cf. Greenberg 1961). In addition, we observed that the children exposed to English and Kikamba receive positive evidence of a dominant SVO order for the structure of declaratives, negations, imperatives, and so on.

It is clear that the positive necessary for the children to determine the SVO order permissible in English is readily available in the linguistic environment. I have demonstrated that the grammar of Kikamba provides the same positive evidence of SVO. In addition, we have seen that SVO order possibly represents the unmarked structure for human languages and thus is a permissible sequence of UG-Based on these facts, it is quite natural that the word order parameter appeared to be fixed at the correct value for English relatively early in the children's language development.

6.3.1: Markedness in the head parameter

In Chapter 2, it was observed that the value for the Head Parameter in the children's grammar represented a Head initial setting similar to the value selected by the adult grammar of English and Kikamba. I therefore seek to examine whether this setting reflects the unmarked value of UG.

According to Cook (1988), the unmarked version of the Head Parameter is manifested in a grammar with all the lexical heads (N,V, Adj, P) are consistently placed on the same side in all the phrases of the language. The grammar of English for instance adopts the rule:

X—complements

which constrains the structure of all phrases i.e.

N—>N complements

V — c o m p l e m e n t s

P —> P complements

A—3>A complements

(v. Chapter 2)

English and all other languages which place lexical heads on the same side in all phrases (either consistently after or before the complements) are unmarked with respect to the Head Parameter. Conversely, a marked grammar would vary the position of lexical heads in phrases in consistently as reflected by the following hypothetical rules:

N— c o m p l e m e n t s

V ^'complements V

P —^complements P

A —>A complements.

As I mentioned in Chapter 2, lexical heads in the children's sentences were consistently placed before their complements in phrase reflecting a head-initial setting formalized in the rule

$$X \text{ --- } ^X \text{ * complements}$$

It is important to remember that the above rule reflects a setting equivalent to the value in the adult grammar of both English and Kikamba. Since this rule applied consistently to define the arrangement of lexical heads in the children's grammar, it follows that the children had selected the unmarked setting for the parameter. As was noted previously, a grammar that consistently places lexical heads on the same side in a phrase selects the unmarked structure of N.G.

6.3.2 Markedness In the determiner parameter

The dominant order for the placement of modifiers and determiners in the children's grammar reflected a determiner-initial setting. I illustrated that this is the unmarked order of Modifiers and Determiners in the grammar of English.

However, the corpus of utterances collected from Wambua reflected a Determiner-Final setting (identical to the unmarked structure of Noun-phrases in Kikamba). My explanation for this was that the Determiner-final (Post-modifier) setting in the grammar of Kikamba had been generalized into Wambua's acquisition of English. It should be remembered that Wambua's grammar reflected utterances manifesting both a Determiner-final and Determiner-initial setting. My interpretation of this was that Wambua was currently in the process of restructuring his Determiner-final setting to the opposite value required in English.

In the previous section, we observed that the unmarked order for the Head parameter occurs with the consistent placement of lexical heads on the same side in a phrase. We

can generalize this to define the unmarked order for Modifiers, Determiners and Specifiers in a Phrase. Thus, an unmarked grammar will position Modifiers and Determiners on the same side in all phrases, (i.e. either consistently after or before a Noun, Verb, Adverb and Preposition).

I mentioned in a previous section that unmarked order in English is for Determiners to occur before the Noun and that the opposite order (reflected in Kikamba) represents a marked construction. I further underscored the fact that marked constructions in the grammar of both English and Kikamba are subjected to heavy lexical and stylistic constraints. Hence, it would be highly unusual if such stylistically marked constructions are part of the caretaker speech used in adult-child communication. For instance, it is unlikely that a three year old child would be exposed to determiner-final constructions reflected in certain English registers such as:

There after (Preposition + Modifier)

Herein (Adverb + Modifier)

My observations were that the linguistic data the children were exposed to in English only contained Determiner-initial settings which is the unmarked order for English, (v. Chapter 2 section 2.3)

The fact that Wambua's utterances revealed modifiers occurring both before and after Nouns suggest both a Determiner-initial and Determiner-final setting. This is represented by the rules:

$X \rightarrow \text{Determiner } X$ (The boy) and

$X \rightarrow X \text{ Determiner}$ (Mango two).

I discussed in Section 2.3 that a marked grammar will vary the position of the lexical head or determiners in a phrase. The inference that can be made at this point is that Wambua's setting for the Determiner Parameter is a marked value of UG. I attribute this structure to Wambua's exposure to Kikamba which as was illustrated, selects the

Determiner-final setting as the unmarked order of modifiers in an NP. As such, this setting had affected Wambua's acquisition task in English which adopts the opposite value. Wambua would therefore require additional positive evidence through exposure to English to set the parameter to the Determiner initial setting which is the unmarked order in the grammar of English.

6.4 Markedness in Wh-Movement

As a brief recapitulation, it was noted that Wh-Movement and I- movement are obligatory transformations in the formation of Direct Wh- questions in English. Using data from the grammar of Kikamba, it was illustrated that these movement rules are not strictly necessary in all language since Kikamba allows Wh-words (interrogative pronouns) to remain in-situ in the construction of questions. In addition, it was observed that the structure of a kikamba Wh-question is similar to an English echo-question in the sense that both types undergo no movement rules, (v. Chapter 2)-

An examination of the children's utterances revealed that 55% of the children's utterances had the wh-words in -situ. In addition, Joshua's sentences had 75% of the Direct wh-questions manifesting no movement rules. I attributed this structure to two possible sources viz. the influence of the structure of kikamba where Wh-movement is not obligatory, and secondly, that no overt movement at S-structure possibly represented the unmarked form of U.G. (The second explanation will be followed up at this point).

The approach to Markedness that is of great relevance to this study concerns the type of linguistic evidence the children would require to set the movement parameters at either movement at S-structure or at Logical Form. As was discussed in Section.

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the less evidence that is required to set a parameter to a particular value, the less marked the setting. Closely linked to this is the issue of grammatical complexity. In essence,

the issue at this point is whether the children's setting of movement at LF yields a less complex grammar than overt movement at S-structure required in the structure of English interrogative clauses.

The measure of grammatical complexity is, of course relative and has been the subject of debate in linguistic theory. The study will adopt the following principle proposed by Hymes (1986) in her attempt to define grammatical complexity:

"..All else being equal, the least complex grammatical system is the one which allows for the greatest degree of isomorphism between the various levels of representation: D-structure, S-structure, PF and LF."

Hymes (1986:162).

The interpretation one could make of the term "isomorphism" in grammar is the unmarked ('least complex') setting of a parameter will be the value which results in the greatest degree of structural similarity at the levels of D-structure, S-structure and Logical Form. Stated differently, the more movement rules that required to map the S-structure of a sentences onto its D-structure, the more marked the structure is based on the above facts, it is clear that the children's sentences with Wh-words and auxiliaries in situ represent the unmarked structure of the language. This is because overt movement at the S- structure (as in the adult English form) forces a process of transformations (i.e. Wh-movement, I-movement, which results in an S- structure representation which is non-isomorphic (dissimilar) to the D- structure representation. In the children's grammar however, the S- structure representation of question-forms were in most cases identical to their D-structure representations. Hence isomorphism between D- structure and S-structure was maintained.

Ofcourse, one could argue that the children's setting of movement at logical Form results in non-isomorphism between the levels of S- structure and LF. Yet, as we observed in Chapter 5, the effects of movement at LF are not overt in the grammar of

any language (i.e. are not manifested at S-structure) and consequently, may not be obvious to a language learner; even less so to a young child acquiring a language.

In sum, based on the Isomorphism principle, the lack of overt Wh-movement dormant in the children's utterances would represent the unmarked setting for the Movement Parameter. However, this position is subject to further investigation because more human languages reflect movement at S-structure than at LF. Stated differently, based on the criterion of frequency of occurrence, we would presume movement at S-structure to represent the unmarked value of Universal Grammar. In addition, it also remains unclear how accessible the rules and principles of LF are to children in their acquisition process.

Suffice it to say that although the Isomorphism principle provides a plausible of relating grammatical complexity with markedness, further research is necessary on the movement parameters in language development.

6.5: Markedness in the pro drop parameter

I mentioned in Chapter 6 that the children's grammar manifested the co-occurrence of both null subject sentences and overt lexical subjects. A plausible interpretation .. for this is that the children's initial hypothesis on English was that it was a pro-drop language allowing the empty category 'pro' in the subject position of a tensed clause. In addition, I exemplified the fact that Joshua's hypothesis of English reflected a pro-drop setting with out the characteristic rich verbal morphology common in pro-drop languages like Kikamba. My central concern at this point^evaluate whether this setting represents the unmarked structure of Universal Grammar.

The most important criterion of markedness is whether the value applies in a way laid down by Universal Grammar. Using data from Kikamba, I demonstrated that the occurrence of null subjects is permissible in languages where the INFL(AG) is

pronominal. Thus the occurrence of null subjects in the children's grammar was within the limits defined by Universal Grammar.

The second criterion concerns the linguistic evidence required to set the parameter at either the value of pro-drop or non-pro drop. As was mentioned earlier, the unmarked value will be set from the least amount of positive evidence.

In my discussion on the occurrence of expletives in Joshua's speech, it was argued that the Avoid Pronouns Principle which constrains the appearance of lexical pronouns in Kikamba had been generalized into English to constrain the avert occurrence of both expletives and lexical pronouns. Thus the positive evidence available from the exposure to the grammar of English differs from the evidence provided by Kikamba. My interpretation of this was that Joshua would need additional triggering evidence from his exposure to English to infer that the subject position of a tensed clause must always have overt lexical context.

Based on the above findings, it is clear that the non-pro drop setting of English requires specific triggering evidence in the form of overt lexical pronoun and expletives. In essence, a child needs the necessary positive evidence to infer that in English tensed clauses must always contain an Overt lexical Noun, Pronoun or expletive. (Imperatives too have D-structure subjects.)

If it is assumed that the unmarked setting of a parameter will be used in the initial stages, the findings of this investigation suggest that the unmarked setting of the pro-drop parameter is as in Kikamba which allows null subjects. Thus children exposed to the grammar of Kikamba as a first language would require the necessary triggering evidence discussed earlier to reset their parameter from the value of pro-drop to non pro-drop for English.

Cross linguistic evidence on child language supports the position that pro-drop is the unmarked value for the parameter. Studies on the acquisition of English by McNeil

(1966), Bellugi (1973), de Villiers et al (1978) among others reveal that null subject sentences are characteristic of early language. Hyams (1933) in her extensive study on the AG/PRO parameter proposed the pro-drop value as the unmarked (default) setting which would need specific triggering evidence to reset to the value of non-pro drop required in English. Hyams identify this evidence to be the presence of lexical expletives which, in her account do not occur in pro-drop languages. Her position is well supported with linguistic data illustrating that children acquiring English produce expletives (it, there) at approximately the same time as they acquire full lexical subjects.

What remains to be examined is whether Joshua's grammar manifesting pro-drop without overt verbal morphology is characteristic of the unmarked structure for the pro-drop parameter.

We observed in Chapter Z that pro-drop languages, in permitting optional null subject sentences, usually ensure that the properties of the subject are recoverable from the agreement prefixes attached to the verb root. Non-pro drop languages like English on the other hand have limited agreement inflection and as a consequence must maintain overt lexical pronouns in subject position of tensed (non-imperative) clauses.

It is interesting to note that Joshua's grammar manifested the structure of both a pro-drop language (the occurrence of null subjects) and a non-prop language (the lack of subject agreement features on the verb form). One characteristic of a marked grammar is that it does not completely fit or adopt the parametric options laid down by Universal Grammar. We have seen that Joshua's grammar falls in between a non pro drop and a pro drop language and thus may be considered as marked with respect to the pro-drop parameter. It is significant to note that the grammar of Chinese which shares the same structure of pro-drop with no agreement features has been described as a marked pro-drop language (cf. Huang 1984, Cook 1986).

It is possible that the marked setting in Joshua's grammar is a manifestation of inter-language features as a consequence of the exposure to two 'conflicting' grammars, namely: the pro-drop grammar of Kikamba and the non-pro drop grammar of English. The marked setting in Joshua's grammar does, in effect, represent the Parametric 'clash' as a consequence of his exposure to two languages which adopt opposite values for the pro-drop parameter.

6.6. Summary and Conclusions

Throughout this investigation, I have attempted to explain children's syntactic development within the framework of a Parametric approach to Universal Grammar incorporated in the Government/Binding theory (cf. Chomsky 1981). Within this theory, ; language acquisition was viewed as a process by which children set each of the parameters of Universal Grammar at the value which corresponds to the structure of the language(s) exposed to them. As has been observed, evidence from the linguistic environment is vital in so far as it induces specific parametric settings in the children's grammar.

The focus of this study was generally on the constraining effects of the Principles and Parameters of Universal Grammar, and in particular, the **Word-order parameters, the WH-Movement parameter and the Pro-drop parameter.** I exemplified the role of the principles and parameters of Universal Grammar in limiting the possible ways in which children can conceive of the structure of English.

The empirical findings of this study reveal that children's early grammars differ in systematic ways from the adult grammar in English; the differences in structure being predictable from the parametric options laid down by Universal Grammar. In addition, I attempted to provide an account of the type of linguistic evidence that could possibly have induced the specific parametric settings manifested in the children's speech. Using

comparative evidence from the adult grammar of both Kikamba and English, it was illustrated that the linguistic evidence provided by these two languages differs, consequently, giving rise to the parametric mis-settings manifested in the children's speech.

The phenomenon of parametric variation is significant because non-native speakers of English will inevitably encounter situations when the setting for a particular parameter in English differs from the value selected in their respective first languages (LI). The findings of this study reveal that it is possible to predict such potential areas of difficulty, and on a broader perspective, the likely sources of language interference as a result of parametric mis-settings. My focus was on the parametric influence from the grammar of Kikamba as a first language. It is plausible to assume that the same phenomenon would arise with the exposure to any other first language such as Kikuyu, Dholuo, Hausa, Zulu, and so on. ;

In the last chapter, my assertion was that some of the settings identified in the children's grammar actually represent unmarked values for the parameters of Universal Grammar. The implication this has for the acquisition process is that a child would need additional "triggering" evidence from the linguistic environment to move from an initial unmarked hypothesis on the structure of a language to a marked setting selected by the grammar of the second language.

This phenomenon, (as was exemplified in Chapter 6) is further complicated if a child has been exposed to an LI which adopts the unmarked setting for a particular parameter. The child would now have to reset his parameter to a marked setting that corresponds with the structure of the second language. With respect to the acquisition data, I demonstrated that this was the case with regard to the **WH-Movement parameter** and the **Pro-drop parameter** in the acquisition of English as an additional language.

What remains to be expressed is that the factors that accumulatively affect the course of syntactic development may not always be as systematic as implied by the Parameter-

setting model of Universal Grammar. While the approach gives a plausible account of the apparent ease, rapidity and uniformity of the acquisition process, we cannot ignore the fact that a child's acquisition task is affected by various linguistic and non-linguistic variables which are not always so predictable.

The degree of exposure to a language, the quality of the interaction a child has with her speech community and a child's rate of cognitive development do influence a child's language-processing abilities. As such, these factors may accumulatively give a distorted of a child's actual Grammatical competence in a language.

It is essential that we realize that the theory of Universal Grammar (is in most cases), an idealization of a situation in which the child has all of the necessary principles **and** the relevant linguistic processing abilities at her disposal. Needless to say, this may not always be so predictable. ;

In conclusion, the formalization of grammatical development by means of principles and parameters does provide a systematic method of explaining the salient features of Child language. It is my hope that this study will prompt further research on the Parametric variation in the acquisition of different languages in multi-lingual environments.

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APPENDIX

INFORMANTS UNDER INVESTIGATION.

Mascots Academy Nursery School

TWO YEARS

Wambua Musyoki
Phillip Ngarambe
Meela Patel
Nduati Kariuki
James Onyango

FIRST LANGUAGE

- Kikamba
- Meru
- Gujrati
- Kikuyu
- Dholuo

THREE YEARS

Sabina Gumo
Arnold Kipkoti
Sonny Kombo
Njoroge Nyoike
Ike Muna

Luhya
Kalenjin
Taita
Kikuyu
Kikuyu

FOUR YEARS

Joshua Mweu
Amileena Mwenesi
Sofia Bonaya
Charlene Kitololo
Viona Nyachoka

Kikamba
Luhya
Kisii
Luhya
Kisii

FIVE YEARS

Ben Gachanja
Maradona Gatara
Marion Mukasa
Agnes Ojwang

Kikuyu
Kikuyu
Luhya
Dhuluo

Names of Teachers

Class

2yrs: - Ms. Hellen Owino
3yrs: - Ms. Rosemary Watsulu
4yrs: - Ms. Celia Louis
5yrs: - Mrs. B. K. Dhadialla

APPENDIX 1

DECLARATIVE SENTENCES

Word- Order Parameter

2 Yrs

Draw a big one.
Goin' to the shops.
Look! Crossin' er leg.
I'm coughing.
This my space.
Is not give me chalk.
This one bigga
Is playin' toys.
This is tall.
He no comin'.
Look at this.
I got one.
This is old one.
I finish.
Want to play.
This long.
Makin' for you a nice cake.
I wash my hands.
My bag is so heavy
You have so many bags.
I want biscuit.
Me I open myself.
Luk! I open.
My daddy bot it for me.
I tell my daddy.
My mommy sleeping' down
You come in my house.
I put so many blankets on my toto.
You don' have like this.
I got a big gun an' a bullet.
Not yours!
Is shoutin'.
No good!
I tell my daddy.
Is push me.
Is playin' tennis.
I'm tidin' up
Is cryin' like a baby.
Orange one..
This is not 'er chair!
Look! Is take Ishpa's!
I tell my daddy!
I pull him sleeves.

GLOSS

I will draw a big one.
I am going to the shops.
Look! she is crossing here leg.
I am coughing.
This is my space.
He is not giving me any chalk.
This one is bigger than the other one.
She is playing with toys.
This one is tall.
He is not coming.
Look at this.
I have got one.
This one is old.
I have finished.
I want to play.
This one is long.
I am making for you a nice cake.
I have washed my hands.
My bag is so heavy.
You have so many bags.
I want a biscuit.
I will open for myself.
Look! I have opened it by myself.
My father bought it for me.
I will tell my father.
My mother is sleeping on the floor.
You come to my house.
I have put many blankets on my doll.
You do not have one like this.
I have a big gun and a bullet.
It is not yours.
He is shouting.
You are not a good person.
I will tell my father.
He is pushing me.
I am playing tennis.
I am tidying up.
She is crying like a baby.
It is an orange one.
This chair is not hers.
Look! She is taking Ishpa's cake.
I will tell my daddy.
I am pulling him by the sleeves.

3 Yrs

For duck.
I not scribble.
I want to write for car.
Like this one.
I show you.
I makin' some chapati.
I color four ducks.
Because a monster goin' to come in.
I'm a good girl.
I'm not crying.
I can do pattern
I got a button
I want orange
I start on the dot.
Also me I want a star.
I'm goin' break time.
Also me I have a nice one.
I got nice biscuit.
My mommy buy for me this biscuit.
Las's not here.
Michael, look at.
I'm goin' for a ride with mommy.
They went out.
That is not for yours! For baby.

Put this bread in my bag.
That is beatin' me
Your makin' noise.
I'm makin' a big one.

It belongs to the duck.
I am not scribbling.
I want to draw a car.
I like this one.
I will show you.
I am making some "chapatis".
I am colouring four ducks.
Because an animal may come in.
I am a good girl.
I am not crying.
I can draw a pattern.
I have got a button.
I want an orange.
I am starting at the dot.
I want a star as well.
I am going at break time.
I also have a nice one.
I have a nice biscuit.
My mother bought this biscuit for me.
Lasi is not here.
Michael look at this.
I am going for a ride with my mother.
They went out.
That does not belong to you. It belongs
to the baby.
Put this bread in my bag.
That boy is beating me.
You are making noise.
I am making a big one.

4 Yrs

They come new cars.
Even me I don't know.
I can slap you like this.
We put glue.
Fold them like this.
Even me I'm a big girl.
That is your car.
I finished all of mine.
You've taken all of mine.
Shirley, you'll spoi yours.
She's cuttin' the egg.
And it will come a nice crocodile.

New cars have come.
I also do not know.
I can slap you like this.
We have put some glue.
Fold them like this.
I am also a big girl.
That is your car.
I have finished all of mine.
You have taken all of mine.
Shirley, you will spoil yours.
She is cutting the egg.
It will become a nice crocodile.

5 Yrs

I like to draw gigi in maradona's car.
I want to draw a person standing under
rainbow.
When we had reached to the orphanage,
then we ate a cake
I draw a picture.
This is a rubber.
I found a rubber is under the table.
And I'm goin' to color over the rainbow. -
Me I know.
This is my daddy.
I want the color pencils.
Thank you for taking us to the orphanage. -
Ms Dijala, now O go to this line.
We are tidy uppying.
That is yours Elizabeth.
You're not allowed!
I can fall down.
I know to write my name.
Everybody, take your things out.
He's begging for my food.
I got it from town because it was very
nice in the bus.
Sometimes it can get stuck your throat.

I want to draw Gigi in maradona's car.
I want to draw a person standing under a
rainbow.
When we reached the orphanage, we ate
a cake.
I am drawing a picture.
This is a rubber.
I found a rubber under the table.
I am going to colour over the rainbow.
I know that.
This is my daddy.
I want the color pencils.
Thank you for taking us to the orphanage.
Ms Dijala, I am going to the next line.
We are tidying up.
This is yours, Elizabeth.
You are not allowed.
I can fall down.
⁴I know how to write my name.
Everybody, take your things out.
He is asking me for my food.
I came from town by bus and enjoyed the
ride.
Sometimes it can stick in your throat.

APPENDIX 2

INTERROGATIVE CONSTRUCTIONS

WH-movement Parameter

JOSHUA

They're stayin' there why?
They not put umbrellas why?
You're writin' like that why?
Is where?
You want to write what?
Is called what?
Lillian, you use markers why?
And you use pencils which they
press why?
And this thing is for what?
Now which one is cross-fire, I
din' remember.
Your school is called what?
That people are doing what?
They are for what?
Where is Ndaka?
What are this, Auntie Sera?
What are you writing?
For doing what?
They use what when they're
doing' like that?
You Know Mutheu's sister how
is feelin'
What are this people called?
It's a what?
After this is what?
These cassetes are for doin what?
That movie is called what?
You're wearin two dresses why?
Tuesday he go where?
That man want to do what
with that thing?
This book is for who?
Why you laughin?
Is lookin how? funny? Like what?

GLOSS

Why are they staying there?
Why haven't they put up umbrellas?
Why are you writing like that?
Where is it?
What do you want to write?
What is it called?
Lillian, why are you using markers?
Why to you use "pressing" pencils?

What is this thing for?
I can't remember which one is
i Called "Cross-fire".
What is your school called?
What are those people doing?
What are they for?
Where is Ndaka?
What are those for, Auntie Sera?
What are you writing?
What are they for?
What do they use when they are
doing that?
Do you know how Mutheu's sister is
feeling?
What are these people called?
What is it?
What is after this?
What are these cassetes for?
What is that movie called?
Why are you wearing two dresses?
Where did he go on Tuesday?
What does that man want to do
with that thing?
WhosQ book is this?
Why are you laughing?
How does it look? Funny? Like what?

OTHR CHILDREN (WH-QUESTIONS)

2 Yrs

Why steppin' in my shoes?
Why is take 'nother one?
Where put?
Wochu drawin'?'
Where I put this?
Who this chair?
Where me sittin'

Why are you stepping on my shoes?
Why is he taking another one?
Where should I put this?
What are you drawing?
Where do I put this?
Whose chair is this?
Where am I sitting?

3 Yrs

Ike, that is what?
And then what he said?
Where I color?
What is the sound for a tree?

Ike, what is that?
And then what did he say?
Where do I colour?
What sound does a tree make?

4 Yrs

We're goin to make what?
That lady is climbing there why?
Ms. Celia, how we going to make it?
What are these?
Where's mine?
Where I stick this?
Who those noise?
We're waitin' for what?

What are we going to make?
Why is that lady climbing there?
Ms. Celia, how are we going to make it?
What are these?
Where is mine?
Where do I stick this?
Who is making that noise?
What are we waiting for?

5 Yrs

Ms. Dijala, which side I draw?
Which is the car?
What is that?
What are you writing?
How do you write "n"?
What am I drawing?
I tell you where you are in the car?
Who drew this?

Ms. Dijala, which side do I draw on?
Which is the car?
What is that?
What are you writing?
How do you write the letter "n"?
What am I drawing?
Can I tell you where you are in the car?
Who drew this?

YES-NO QUESTIONS

JOSHUA

You do like this?
Auntie Sera is there?
Can you count 'till thirty?
This is circus Lillian?
When I go to class 3 am goin' to be big?
Lillian, my mommy's comin now?
You like tea so much?
Mom, Mutheu has come now?
You're callin' Benis?

Do you do it like this?
Is Auntie Sera there?
Can you count until thirty?
Is this a circus, Lillian?
When I go to class 3, am I going to to be big?
Lillian, is my mommy coming now?
Do you like tea so much?
Mom, has Mutheu come yet?
Are you calling Benis?

OTHER CHILDREN

2 Yrs

You wear tights?
Even me, ya?
I show him?
You going to give me that?
I sit down?
This is my chair?
This is mine?
I give it to Njoki?
You have a blue bag?

Do you wear tights?
Me too isn't it?
Should I show him?
Are you going to give me that?
%Could I sit down?
Is this my chair?
Is this mine?
Can I give it to Njoki?
Is your bag blue?

4 Yrs

Show you inside here?
Mike not sitting here, ya?
One more then finish, o.k.?
Is this a teeth?
You do like this?
Did you have your break?
Do you have this color at
your house?
Are you four like me?
Is it can work?

Could I show you inside here?
Mike is not sitting here, is he?
One more time only, o.k.?
Are these teeth?
Do you do like this?
Did you have your break?
Is your house this colour?

Are you four years old like me?
Can it work?

5 Yrs

Must we draw pictures?
I tell you where you are
in the car?
Winnie, can we have the color
pencils?
Can I have one?
Ms. Dijala, 6ven this I write
here?
Now I am doing this one?

Must we draw pictures?
I tell you where you are in
the car?
Winnie, could we have the
crayons?
Could I have one?
Ms. Dijala, should I write this
here as well?
Am I doing this one as well?

APPENDIX 3

NULL SUBJECT SENTENCES

Pro-drop Parameter

JOSHUA 4 Yrs

Is where?
Is comin.
Saw a pobram is called that one.
Said is not there.
Smine! snot for yours!
Not pain.
Is goin like this.
Wango kilimani.
Want to see.
Know when am big like ungo Jake...

Got two mandazi.
Can go backwards.
Know what my mommy said yesterday...

Can stand with one leg.
Is easy to make a loli.
Finished
Din put it down.
Know this a bad one?
Is not your hair.
Can't write ABC.
Goin to my mom.
Is talking like a Japani
Lookin how? funny? like what?
From there go down.
Can bite.
Look like a teacher
No! do wanto hear that
Don' have buttons.
Why eating fat coca-cola?

GLOSS

Where is it?
It is coming.
I saw a programme called that.
He said it is not there.
It is mine! It does not belong to you.
I do not feel any pain.
It is going like this.
I want to go to kilimani.
I want to see.
Do you know, when I grow as big as
uncle Jake...
I have got two mandazis.
I tan go backwards.
Do you know what my mommy said
yesterday...
I can stand on one leg.
It is easy to make a lorry.
I have finished.
I did not put it down.
Did you know that this one is bad?
It is not your real hair!
I can not write ABC.
I am going to my mom.
He is talking like a Japanese.
How does it look? Does it look funny?
From there it goes down.
It can bite you.
You look like a teacher.
No! I do not want to hear that.
It does not have buttons.
Why are you drinking a big coca-cola?

WAMBUA 2 Yrs

Angimbuk.
Ablek dea.
Is dea.
Goin to seep.
Is me.
Ngoin toilet.
Is andi car.
Smamis ledio
Is hot.

He gave me a book.
It is broken over there,
it is over there.
I am going to sleep.
It is mine.
I am going to the toilet.
It is auntie's car.
It is mommy's radio.
It is hot.

OTHER CHILDREN

2 Yrs

Draw a big one.
Is cloz.
Luk! closin her leg.
Why steppin in my shoes.
Is not give me chalk!
This one bigger is small.
Is playin toys.
Is red.
Why is takin' nother one?
Want to stik.
Making for you a nice cake.
Not yours!
Is shoutin'
No good!
Is push me.
Is playing tenis.
Where put?

I want to draw a big one.
The door is closed.
Look! She is crossing her legs.
Why are you stepping on my shoes?
He is not giving me the chalk.
This one is big while this one is small.
She is playing with toys.
This one is red.
Why is he taking another one?
I want to stick this here.
I am making for you a nice cake.
It is not yours!
He is shouting.
You are not good!
He pushed me.
I am playing tennis.
Where do I put this?

3 Yrs

For duck.
Use this one?
Make a big snake.
Buy for you this shoes.
Is goin up.
Is beatin Me!
Mine!
Not being quite.

- It belongs to the duck.
- May I use this one?
- I am making a big snake.
- I will buy for you these shoes.
- It is going up.
- He is beating me.
- It is mine.
- They are not keeping quiet.

4 Yrs

Make ball?
Luk! is makin' them up
Goin to stik like this
Is a kokodile.
Is dancing.
Is not yours.
Same green.
Is puoring from here
Show you? inside here?

Can I make a ball?
Look! She is making them Go up.
We are going to stick them like this.
It is a crocodile.
It is dancing.
It is not yours.
They are both green.
It is pouring from here.
Can I show you inside here?

5 Yrs

Finished Ms. Dijala.
Lining up at the animal orphanage.

I have finished Ms. Dijala.
We are lining up at the animal orphanage.

PRESENCE OF EXPLETIVES

Joshua

Also me I don' like it.
Mutheu, I kill it
Thea stayin there why?
Then I colored it very beautiful.
I know where is it.
You know this shoes it got white
I din' put it down!
You find it where?

I also do not like it.
Mutheu, I killed it.
Why are they staying there?
Then I coloured it beautiful
I know where it is.
You know these shoes are white.
I did not put it down!
Where did you find it?

OTHER CHILDREN

2 Yrs (Expletives)

I give it to Rajiv?
My daddy bot it for me.

Should I give it to Rajiv?
My daddy bought it for me.

3 Yrs (Expletives)

I did it here.
I can't do it.
Sonny do it.
I can't put it on.

I did it here.
I can't do it.
Sonny did it.
I can't put it on.

4 Yrs (Expletives)

Ms. Celia, how we going to make it?
Leave it open no rounding it.
You're goin to swallow it.
Because it look funny!

Ms. Celia, how are we going to make it?
Do not make it round.
You are going to swallow it.
Because it looks funny.

5 Yrs (Expletives)

Ms. Dijala, I write it.
I got if from home.
It was very nice in the aeroplane
Some times it can get stuck on your throat! -

Ms. Dijala, I have written it.
I got it from home.
It was very nice in the aeroplane.
Some times it can stick in your throat.