EMPTY CATEGORIES IN DENYA

by

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ABSTRACT

This work presents a study of empty categories (ECs) in Denya, an Ekoid Bantu language spoken mainly in Cameroon. It is undertaken within the framework of Government - Binding (GB) Theory. The study shows that the current theories of GB based mainly on the analysis of English, some European languages and Chinese/Japanese, can also be applied to Denya, an African language.

The study starts by accepting the four types of ECs established by Chomsky - PRO, pro, NP-trace, wh-trace. In addition, the study looks at parasitic gaps, a phenomenon receiving considerable attention in the current literature. The thesis comprises six main chapters and a conclusion. Chapter 1 entitled "Preliminaries" is basically introductory and deals with the goal, the scope and limitations of the work. It also includes a brief account of GB. Chapter 2 looks at PRO, the pronominal anaphor. Chapter 3 examines pro, the pure pronominal [+p, - a] EC found only in null subject languages. In the following chapter, NP-trace receives attention. In the fifth chapter our interest is taken by the wh-trace, while the sixth chapter examines the phenomenon of parasitic gaps. The work terminates in chapter 7 with a brief conclusion. Here the various threads of the discussion in the preceding chapters are drawn together, the importance of the study is suggested and indications of areas of further research are

made.

It is worth noting that this work makes, in a modest way, a contribution to our understanding of the principles of Universal Grammar as suggested in Chomsky (1981, 1982, 1986, 1986b). We have been able to show the extent to which the features of ECs in the language can be established by a limited number of parametric settings.

ACKNOWLEDGEMENT

I would like to thank my supervisor, Prof. Neil V. Smith without whose help, encouragement and scientific stimulation this work would never have seen the light of day. I am equally grateful for the stimulating academic environment of the Department of Phonetics and Linguistics, University College London in particular and that of the University of London in general. Finally, I would like to thank all my teachers, past and present for shaping my academic career and developing in me the love for books.

DEDICATION

To my wife and children:

Patience

M'ma-Etaga

Etchu

Enoma

Ejongakpa

M'm-Orock

CONTENTS

KEY TO ABBREVIATIONS AND SYMBOLS

A. ABBREVIATIONS:

A	Argument
A'	Non-argument
AGR	Agreement marker
ASP	Aspect
COMP	Complementizer
CP	Complementizer phrase
e	Empty category
ECs	Empty categories
ECP	Empty category principle
IP	INFL phrase
Impf	Imperfective aspect
NP	Noun phrase
pl	Plural
PG	Parasitic gap
RC	Relative clause
RG	Real gap
sg	Singular
Spec	Specifier
t	trace
VP	Verb phrase

B. SYMBOLS:

(i) Phonetic:

O = ɔ

E = ɛ

ny = ɲ

ch = tʃ

(ii) Tone Marking:

Only high tone /ˊ/ is marked. The unmarked is low tone /ˋ/.

CHAPTER 1

PRELIMINARIES

1.0. Introductory Remarks:

This chapter is introductory in nature. It states the goal of this study, its scope and plan, and its theoretical orientation.

1.1. Purpose of this Study:

This work is a study in the nature and distribution of empty categories (ECs) in Denya, an Ekoid Bantu language spoken mainly in Cameroon.[1] The study shows that the current theories of the Government-Binding (GB) model of generative grammar based mainly on the analysis of English and some European languages[2], can also be applied to Denya. In addition, the work reveals the extent to which the features of ECs in the language can be established by a limited number of parametric settings.

1.2. Scope and limitations of the study:

This study comprises an investigation of ECs in Denya. It starts by accepting the various types of ECs established by Chomsky (1981, 1982). Thus the four EC types, PRO, pro, wh-trace and NP-trace naturally find a place in the study. In addition, the study looks at parasitic gaps, a phenomenon receiving considerable attention in the literature.

The study, though limited to Denya, should produce results which show that the analytical tools of GB enable us to discover deep similarities between superficially very unrelated languages and uncover systematic variation described in terms of different values assigned to some parameter of the system.

The thesis comprises six main chapters and a conclusion. Chapter one, entitled "preliminaries", is introductory in nature. Here, the goal of the research is stated, as well as the scope, limitations, and plan of work. This chapter also presents the theoretical framework for the study, which, of course, is a cursory account of GB. Chapter two is concerned with the EC, PRO, the so-called pronominal anaphor [+P + a]. Chapter 3 deals with pro, an empty category found only in null-subject languages, a term to be explained fully in that chapter. In chapter four, NP-trace receives attention. It is shown that unlike English, Denya has very limited occurrence of this EC type. In the fifth chapter, our attention is taken by the wh-trace while the sixth chapter examines the phenomenon of parasitic gaps. The work terminates with a brief conclusion. Here the various threads of the discussion in the preceding chapters are drawn together; the importance of the research is outlined and suggestions for further work are made.

1.3 Theoretical Framework (Outline of GB Theory):

1.3.1. Universal Grammar as a system of Principles and Parameters:

As stated in (1.1, 1.2), this study uses the GB model of transformational generative grammar as presented in Chomsky (1981, 1982, 1986a, 1986b). It may be necessary to give some indications of the approach to syntax advocated by this theory, especially the role ECs play in it. In the works cited here, we notice that attention has been shifted away from the study of grammar as a rule system to one of a system of "principles and parameters". In other words, there is a concern now with proposing a number of general principles regarding well-formed structures that reduce recourse to rule systems. This shift in focus reflects Chomsky's belief that the type of grammar we construct should answer a central question in language study: "How is our knowledge of language acquired" For Chomsky (1981), to answer this question means constructing a theory of universal grammar (UG) embodying "principles and parameters". What do we mean exactly by this? The basic assumption here is that human beings are endowed from birth with a system of principles predisposed to the acquisition of a grammar under exposure to linguistic input. In other words, language is seen as an innate biological faculty[3]. Following from this, it is also concluded that such a biological

system must also be universal since there is no evidence that a given human being displays any particular predisposition to acquire one language rather than another.

However, we also know that languages differ from each other (ie have different properties). The problem raised by this is how to reconcile a theory of language acquisition and of language variation. This is where the notion of parameters comes in. It has been noticed recently that a number of differential properties distinguishing two or more languages can often be reduced to a single, more abstract difference known as a parameter of UG. As such, it has also been observed that the superficial differences[4] among languages are not as many as might have been thought. We can conclude that UG consists of certain fixed principles and several open parameters to be set by the particular linguistic experience of the learner. The consequence of this is that it gives room to the various linguistic systems through the choice of the values for the parameters.

1.3.2. The Projection Principle and Empty Categories:

One of the general principles developed within GB is the Projection Principle. Informally expressed, this principle requires that lexical structure be represented categorially at every syntactic level.

Specifically, it requires that the theta-criterion be met at D-structure, S-structure and LF. One of the consequences of the Projection Principle (PP) as noted by Chomsky (1986a) is that if some element is "understood" in a particular position, then it is there in syntactic representation, either as an overt category phonetically realized or as an empty category. From this we can consider ECs as non-lexical/null elements which have no overt phonetic realizations but which are present in the structures of sentences at certain levels.[5] A question often asked in connection with ECs is whether there is any independent reason to suppose that different EC types must be distinguished from one another in systematic ways or should we assume that all ECs are essentially the same. It is assumed that ECs are not all of the same type. Four different EC types, PRO, pro, wh-trace and NP-trace have been distinguished on the basis of functional determination[6] It ought to be noted that ECs are classified according to the same features used for lexical expressions[7]. As regards the nature of ECs, it may be worth while referring to the following comments by Bouchard (1984) and Rizzi (1986) which I found extremely relevant to what we shall be doing in the rest of the work. For Bouchard, three things must be determined about an EC -ie its presence, its type and content[8]. Rizzi for his part notes that a theory of null elements must minimally specify

(a) "the conditions that normally license the null element (the conditions that allow it to occur in a given environment),

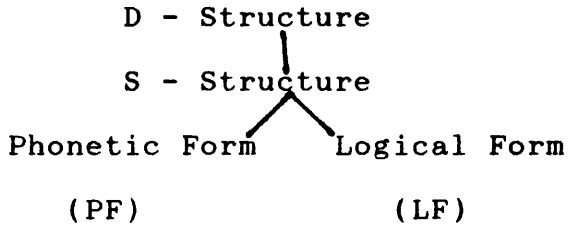
(b) the way in which the content of the null element [...] is determined or recovered from the phonetically realized environment".

What these statements tend to emphasize is the fact that it is not only important to identify where an EC occurs but also to know the licensing conditions and the possible interpretation. These issues will be fully taken up in the different chapters outlined above. The theory of GB views grammar as modular in two senses. As noted earlier, a number of principles of grammar interact to define for each language what sentences are permitted and what are not. The various sub-parts of the theory of grammar are called modules because they can operate in the same configuration independent of each other (Giorgi and Longobardi (1991:7). Another sense in which GB is modular is that it consists of various levels of representation for each structure that it generates. The rest of this section will now consider the different levels of representation and the different modules or sub-theories. All these will be crucial in our analysis of Denya data.

1.3.3. Levels of Representation:

In the GB framework, UG is conceived as consisting

of a system of different levels of representation as shown in (1):



The mappings between these levels constitute the autonomous components of UG. D-Structure is taken to be a pure representation of thematic relations, also called referential roles. These include agent, experiencer, patient and many others. S-Structure is related to both D-Structure and LF by the transformational rule of move-alpha. These mappings constitute the syntactic component of the grammar. The mapping from S-Structure to LF includes rules such as those determing the scope of quantifiers and wh-words in-situ, LF being a representation of the aspects of meaning determined by sentence grammar. Phonological rules intervene in the mapping to the phonetic form (PF). It is important to note that since PF and LF are distinct levels which are not directly related to each other, they do not interact. In other words, LF and PF rules have no effect on each other.

1.3.4. Sub-theories of UG:

The following sub-theories, which give UG a modular character will be briefly presented. They include:

(2) a. X-bar theory

b. theta-theory

c. Case theory

d. Binding theory

e. Government

f. Bounding theory

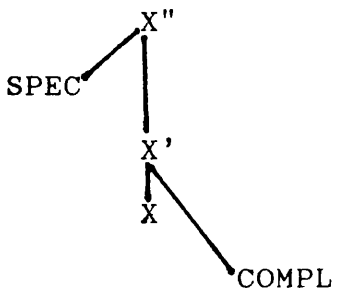
g. Control theory

1.3.4.1. X-bar Theory:

The X-bar theory of Constituent Structure (Jackendoff 1977, Chomsky 1981, 1986a, 1986) identifies some invariants in the possible hierarchical configurations. It is assumed that every word is a head and every head projects higher constituents of a corresponding categorial type. The highest is called a maximal projection. The following are considered maximal projections: Noun phrase (NP), Verb phrase (VP), Adjective phrase (AP), Prepositional phrase (PP), Inflectional phrase (IP), Complementizer phrase (CP). Since the observation of Chomsky (1970) and Jackendoff (1977), it has been accepted that the way a head defines its projections obeys some general constraints. In Barriers, Chomsky (1986b), extended the approach to include structure projected by non-lexical heads, for example, I and C thought to project clausal constituents/sentences. The X-bar theory assumes that wherever there is a head X, there will also be a maximal projection, referred to as XP or Xmax and at least one intermediate projection or

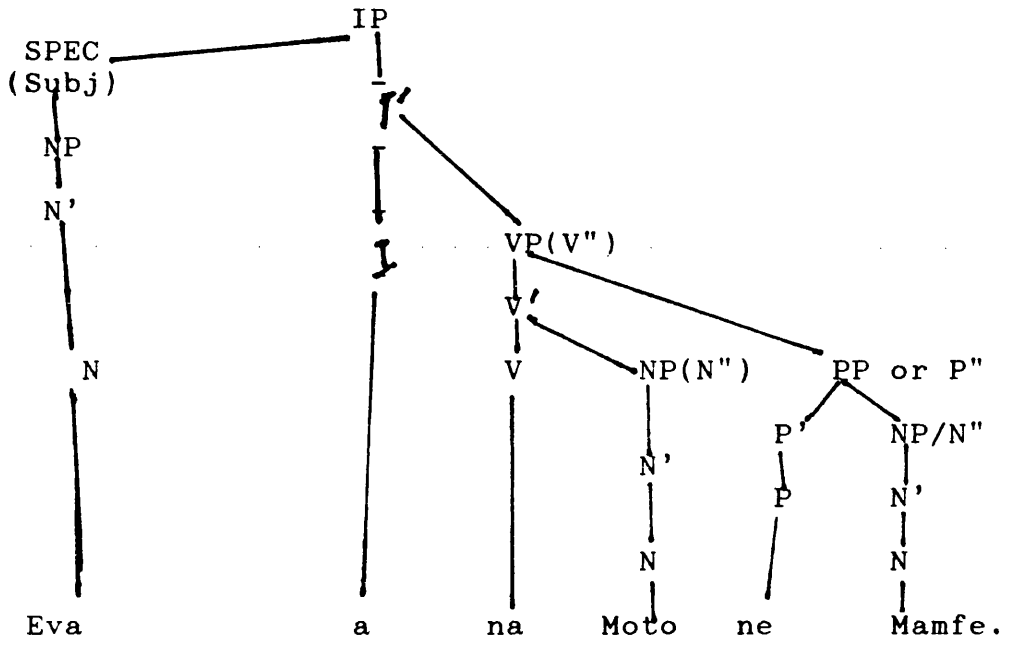
X'. In addition, X-bar theory defines the level where the arguments of the head must be attached. The intermediate projection X' is said to consist of X and its complement. X", a projection of X' is said to consist of X' and its specifier[9]. As regards the position of the specifier and complement relative to the head, it has been observed that the complement and the specifier can occur, in principle, on the left or on the right of the head. The selection of the branching direction, is noted to be subject to parametric variation ie each language selects one of the directions. Denya, like English is an SVO language if we use traditional terminology. Within X-bar theory, we can say that in both Denya and English, the branching direction of V', containing the complements of V is to the right. In both languages, the subject, unlike the object, appears in SPEC of IP on the left of I. We can conclude that IP branches to the left. In a generalized way, we can say that in Denya, again similar to English, the minimal X-bar structure for most maximal projections is as in (3)[10].

(3)



Let us illustrate (3) with the following Denya sentence:

(4)	Eva	a-na	moto	né	Mamfe
	Eva	AGR-buy	Vehicle	in	Mamfe
	Eva	bought a	Vehicle	in	Mamfe



In the above diagram, if we take X" to be IP, then SPEC is the subject and the complement is VP. The head of IP being I. Note that the complement of VP-maximal projection is not the prepositional phrase, which is a of V' but the object NP. There is no space for a detailed consideration of X-bar structure of the various categories in Denya. This is the subject of a different study.

1.3.4.2. Theta Theory:

The central principle of the theta-theory is the theta-criterion, which in its strongest form is as in (5).

(5) Theta-Criterion:

Each argument bears one and only one θ-role and each θ-role is assigned to one and only one argument (Chomsky (1981), 36).

Arguments are elements to which reference can be assigned while non-arguments include those NPs that cannot be assigned a theta-role such as existential there and pleonastic it in English.[11] A theta-role is considered to be assigned by a lexical head to its complements. Thus every complement position is a theta position and due to the projection principle and the theta-criterion, must contain an argument at D-Structure. The specification of the lexical head in the lexicon determines the type of θ-role assigned (e.g. agent, patient, experiencer etc.). The subject also receives a theta-role but it is assigned differently. Here it is assigned compositionally by the whole predicate. The subject argument is usually referred to as external argument because it is not included in the maximal projection of the predicate, whereas arguments base-generated within this maximal projection are "internal" (see Williams (1983) and sources cited there). It is interesting to note that of the differences in θ-role assignment, the subject unlike the object may not be assigned a θ-role in some constructions, such as the passive or raising constructions. These

issues will be considered in chapter four. We shall also demonstrate in the appropriate chapters that the Theta Criterion together with the Projection Principle derives the effects of trace theory (Cf Chomsky (1973), Fiengo (1974) and subsequent literature.

1.3.4.3 Case Theory:

In what follows, two accounts of case theory are presented - ie Chomsky (1981) and Chomsky (1986b). The main principle of Case Theory is a condition on S-structure representation, the case filter, given in (6).

(6) *NP if NP has phonetic form and no case. (Chomsky (1981), 49)[12].

What (6) means is that every lexical NP has abstract case[13]. Case is assigned to an NP by a case-assigning category which governs it. One argument position to which no case is assigned is the subject position of an infinitive clause or gerund. In such cases, INFL lacks tense and agreement and does not qualify as a governor[14]. This is the context in which PRO occurs, the subject of the next chapter. Case can be assigned to an NP by either a lexical or non-lexical head. In Chomsky (1986a, 1986b), a distinction was made between two mechanisms of case assignment: structural and inherent case assignment. According to him, structural case is

assigned by certain heads by virtue of the structural configuration. What this means is that structural cases are assigned without reference to a corresponding argument of a theta-role[15]. The two structural cases are Nominative and Accusative, respectively assigned by I and V.

Inherent cases, according to Chomsky, are assigned to D-Structure arguments as a result of θ-marking. In the discussions which follow in several of the chapters, it will become apparent that case is assigned under government, a term yet to be defined.

1.3.4.4. Binding Theory:

Binding Theory constrains the distribution and possible referential interpretation of NPs. It refers to categories specified with the features [± anaphor] and [± pronominal], each with an overt and non-overt counterpart. The set of anaphors, (+anaphor, - pronominal] includes reflexives and reciprocals (eg himself, each other) and NP trace. Pronouns [-anaphor, +pronominal] are lexical pronouns (such as he, him, them) and the non-overt pronoun pro (found in Denya and other null subject languages but not in English). PRO is considered to be a pronominal anaphor (+anaphor, +pronominal]. Thus PRO has an ambivalent nature. It is pronoun-like in that it can occur with no antecedent (as in

"PRO to kick him would be despicable"). On the other hand, it is anaphor-like in that in some contexts it is interpreted as receiving referential content from an antecedent as in: "Mary persuaded $John_i$ PRO_i to go". BT provides a different principle or condition for each class of elements. Chomsky (1981: 188) gives the following Binding Conditions[16].

(7) Binding Conditions:

a) An anaphor must be bound in its governing category.

b. A pronoun must be free in its governing category.

c. An R-expression must be free.

A governing category (GC) can be defined as in (8)[17].

(8) A is governing category for B if and only if A is the minimal category containing B and a governor of B, where A=NP or S. Examples of the basic data that BT can account for.

(9) a. $Mary_i$ says that $John_j$ loves *herself$_i$/himself$_j$/him

b. $John_i$ knows that $Bill_j$ bit himself$_i$/him

In (9ab) the governing category for the reflexives and the pronouns is the lower or embedded clause. In this context the pronoun must be free and the reflexive must be bound, where being bound means being coindexed with an antecedent. We reserve for more detailed

discussion the whole question of reference and interpretation of NPs as characterized by Binding Theory.

1.3.4.5 Government Theory:

The main principle of Government Theory is the Empty Category Principle (ECP). The ECP is a well-formedness condition which applies to ECs created by movement. In Chomsky (1981), it is claimed that it is a disjunctive requirement of traces that in order to be licensed, they must be either lexically or antecedent governed as expressed in the formulation below:

(10) ECP:

A trace must be properly governed[18].

(11) A properly governs B iff

a. A governs B and A is lexical (ie N, V, A or P)

or

b. A locally $\bar{A}$ binds B.

In (11), condition (a) refers to lexical while condition (b) refers to antecedent government. By lexical government, Chomsky means government by a lexical category while antecedent government refers to government/binding in a local domain by an antecedent. The disjunctive requirement in (11) is motivated by the desire to explain the [that-trace] effect as illustrated in (12) below.

(12) a. Who do you think [S that [s Mary saw t]

b. *Who do you think [S that [s t left]]

As can be seen both sentences involve wh-extraction. In (12a), wh-extraction is from object position of the embedded clause while in (12b), the extraction is from subject position. One fact evident in (12), as seen in the contrast of grammaticality is that in English wh-extraction of subjects is more restricted than that of objects. The question is how the ECP as given in (24) accounts for the grammaticality of (12a) and the non-grammaticality of (12b).

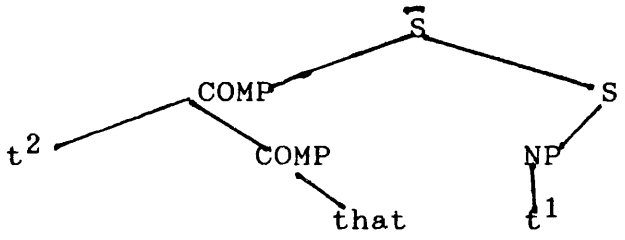
Chomsky's (1981) account attributes the difference in grammaticality to a difference in lexical government. In (12a), the verb saw, being a lexical category, [+V], properly governs the trace, t, whereas in (12)b, I(=AGR) not being a lexical category cannot properly govern the subject trace. Hence (12b) is ruled out. However, as seen in the formulation in (11), the ECP, is not simply a requirement of lexical government. If it were, example (13) below, which is not lexically governed ought not to be grammatical.

(13) Who_i do you think [S t_i [s t_i left]]?

In (13) there is extraction from the subject position as in the case of (12)b, yet the former is grammatical. The explanation is that in (13)

like in (12)b, the trace is not lexically governed by I. However, it is assumed that the subject trace in (13) is antecedent governed whereas that in (12)b is not because of the presence of the complementizer (that)[19]. Thus it was assumed (Kayne 1980) that when the overt complementizer is present, it occupies the base position and thus blocks the intermediate trace in COMP from C-commanding the trace in subject position (see diagram 14).

(14)



presence of <u>that</u> blocks binding of t^1 by t^2.

However for antecedent government from COMP when the complementizer is null as in (13) it is assumed that the wh-phrase acts as the 'derived' head of COMP either by movement directly to the vacant head position (Stowell 1981, 1985) or through a mechanism of COMP-indexing where COMP no longer blocks C-command of the subject trace (see Aoun, Hornstein and Sportiche 1981, Lasnik and Saito 1984). Let us turn now to Chomsky's more recent account in <u>Barriers</u>. As in the case of subjacency, the ECP is reinterpreted in terms of barriers and a distinction is made between government by a head and antecedent government.

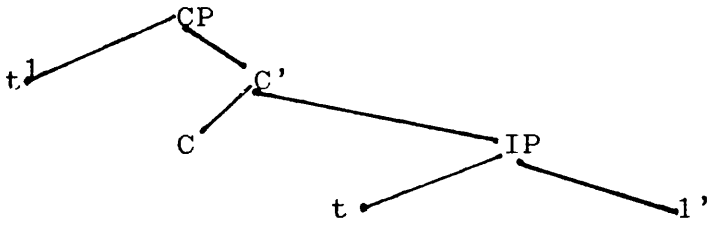
The ECP as defined in Barriers states that

(15) 'A non-pronominal empty category must be properly governed' where proper government is defined as follows:

(16) A properly governs B iff A theta governs or antecedent governs B. (Chomsky 1986b:17)

Chomsky remarks that an object is properly governed by its head, but a subject or adjunct can only be properly governed in a chain by antecedent government. Thus within the X-bar structure assumed, subjects and adjunts should in general behave alike under the ECP. The problem is how to explain whether the presence of an overt complementizer can block antecedent government of subject trace from the C spec position. To answer this question, first consider the following scheme:

(17)



Chomsky argues that if antecedent government simply involves the binding of t by t' in (17), then the presence of an overt head in CP is irrelevant and the requirement of C-command is equally not needed. He suggests that if we assume that antecedent government is a form of

government rather than binding, then we can accept that what blocks antecedent government is a possible closer governor, C in (17). He argues that when C is lexically filled, it is a minimal governor and when C is empty it is not. He explains this in terms of the minimality condition given in (18) below.

(18) Minimality Condition

" A[...Y...D...B]

a. A does not govern B in (18) if Y is an immediate projection of D excluding A.

b. A excludes B if no segment of A dominates B.

According to this account, the overt complementizer acts as a closer governor for the subject trace and this blocks any government relation holding for the trace outside C. In chapter five, ECP violations will be fully discussed in relation to Denya data. We shall leave undiscussed several other issues related to the ECP such as ECP effects at LF, complement versus non-complement and ECP, gamma-marking of Lasnik and Saito (1984) which Chomsky adopts. Before leaving this subject, it is worthwhile remarking that the ECP whether in its original formulation, (Chomsky, 1981) or in the formulation of Barriers, has been widely criticized. In the (1981) version, while many scholars admit that the ECP is definitely a great improvement over the [that-trace] filter in that

the formulation is now highly general and thus has a greater chance of being universally valid, they nevertheless express dissatisfaction with the disjunctive formulation. One of the main criticisms of the (1981) formulation and even the (1986b) one is that it includes two relatively unrelated clauses and that in adopting this, the simple and unitary definition of government is sacrificed. Some linguists have proposed a total elimination of the ECP (Bouchard (1984), Aoun 1985, 1986). Others like Kayne (1981, 1984) have made extensions to it. Reactions to the (1986b) version are not difficult to find. (see Rizzi (1990), Lasnik and Saito, (forthcoming), Frampton (1990), Cinque 1991). For this work, we prefer to adopt a more conservative approach by maintaining Chomsky's version in Barriers although advantage will be taken of any new insights.

1.3.4.6. Bounding Theory:

As Chomsky (1982.6) notes, the theory of bounding specifies locality conditions, in particular, the subjacency condition on movement rules. Because subjacency is so crucial in the licensing of NP-trace and wh-trace, we shall consider it in greater detail.

Subjacency and wh-movement:

In the standard GB account of Chomsky, it is

assumed that the relationship between a constituent displaced by move-alpha and its trace is subject to the locality condition described as subjacency. It is well known that most languages exhibit what have been called island constraints (Ross 1967) and that certain constructions are syntactic islands in that it is impossible for a transformation to apply between a position outside them and one inside them. In other words, movement from one position to another is possible only if the latter is subjacent to the former. Two versions of subjacency, Chomsky (1981) and (1986b) exist. Although only the (1986b) version will be applied in the analysis of Denya data, it is worthwhile giving a brief note on the (1981) version also. In Chomsky (1981), subjacency is stated in terms of bounding nodes as in (19).

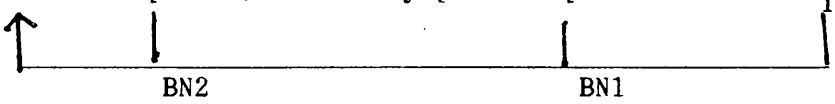
(19) Subjacency Condition:

Any application of move-alpha may not cross more than one bounding node, where the bounding nodes are S and NP. We can consider how the condition applies to (20).

(20) a. John told Mary [$\bar{S}$ who$_i$ [s he had seen t_i]]

b. *who$_j$ did [s John tell Mary [$\bar{S}$ when$_j$ [s he had seen $t_i t_j$]]

c. Who did [S John tell Mary [$\bar{S}$ that [s he had seen t_i]].



Given that S and NP in (19) are bounding nodes,

we notice that in (20)a, the movement of the wh-phrase crosses only one bounding node, to the embedded COMP position. Subjacency is not violated. Hence the sentence is ruled in as grammatical. If we turn to examples (20)b and c, we notice that although the sentences are similar in structure and each contains two bounding nodes, a clear violation of (19), only (20)b is ungrammatical. How do we account for these facts. In (20)b, we can assume that the movement of who to the sentence initial COMP position is bound to cross two bounding nodes in a single operation since the 'escape route' via the COMP of the embedded clause is blocked by the presence of a wh-phrase in this COMP. In (20)c, the apparent violation can be circumvented if we assume successive cyclic movement where the movement of the wh-phrase, Who, is first to the embedded COMP occupied by the complementizer, 'that' and then to the matrix COMP. The question to ask is whether the already filled embedded COMP does not prevent the moved wh-phrase from first landing here. It is generally accepted in the literature that the moving phrase "literally hops through each COMP" (Sells 1987: 49). COMP is the only position that can be hopped through. Sells (1987: 49), again stressed that "hopping is not prevented by the presence of the complementizer "that". It is important to note

that one explanation for the difference in allowing hopping between wh-phrase in COMP and that is that the latter is not indexed.

In Chomsky (1986b), subjacency is stated in terms of barriers and is defined as in (21).

(21) Subjacency Condition:

a. If (a_i, a_i+1) is a link of a chain, then a_i+1 must be n-subjacent to a_i, when n-subjacent is defined as in (b).

b. Y is n-subjacent to X if there are fewer than n+1 barriers for Y that exclude X.

Before illustrating (21) it is important to define the notion of barrier. Chomsky introduces the notion of L-marking to refer to the special relation established between a lexical item and the complement which it governs and theta marks. Another assumption is that a maximal projection which is L-marked is transparent for an element contained in it while a maximal projection which is not L-marked is opaque for an element contained in it. The term a blocking category (BC) is used for a maximal projection which is not L-marked. Chomsky defined L-marking and blocking category as in (22)a and b.

(22) a. L-marking:

A L-marks B iff A is a lexical category that theta-governs B (Chomsky 1986b, 15)

b. Blocking Category:

C is a BC for B if C is not L-marked and C dominates B (Chomsky 1986b.14)

One can illustrate what this means by considering the sentence in (23).

(23) Paul decided [CP [IP PRO to drink a beer]]

In (23), the verb <u>decide</u> L-marks CP (by (22)a. By condition (22)b, therefore, CP in (23) is not a BC. We notice also that IP is not L-marked and therefore a BC. Chomsky argued that the BC IP on its own is not a barrier. However, the combination of IP and CP results in opacity. Chomsky would argue that in our example, CP becomes a barrier because it dominates a BC. In other words, CP is a barrier by inheritance. As a result, Chomsky defines barrierhood as follows:

(24) A is a barrier for B iff (a) or (b)

a. A is a maximal projection and A immediately dominates C, C is BC for B.

b. A is a BC for B, A is not IP.

(Chomsky 1986b.14).

If we relate this definition to example (20), we can say that A is CP, B being PRO and C, the relevant BC being IP. Let us return to the subject of subjacency by considering (25).

(25) who did [IP John [VP t' [VP see t]]].

In this sentence, t is 0-subjacent to t'. There

is no barrier including t and excluding t'. If we consider the chain (who, t'), we notice that t' is 0-subjacent to who. Example (25), we may argue, is an instance of the best possible case of movement as required by (21). This is of course, understandable; if 1-subjacent is an acceptable structure, then 0-subjacent must be at least equally acceptable. Cases of subjacency violations will be dealt with in detail when considering wh-movement in Denya in chapter five. It ought to be emphasized that in this framework, subjacency is defined in such a way as to permit successive cyclic movement with adjunction to VP and that the basic principle of the bounding theory is that every link in the chain (a_i, a_i+ 1) must meet the subjacency condition. These issues will be fully explored in chapter five.

1.3.4.7. Control Theory:

Chomsky (1982:7) notes that the theory of control is concerned with the choice of antecedents for PRO. We reserve a full discussion of this subject for the next chapter.

1.3.5. **Parameter Setting in UG**:

In 1.3.1, we introduced the notion of UG as a system of principles and parameters. However, there was no demonstration as to how the theory may be parameterized. A parameter often distinguished is one described as the pro-drop or

null subject parameter. Here the concern is with whether and under what conditions non-overt pronouns and expletives are permitted. Here, it will be shown in chapter three that Denya, unlike English is a pro-drop language. Other differences in parameter setting have been suggested with respect to individual sub-theories. For example, as shown when discussing Bounding Theory, the definition of bounding node as suggested by Rizzi (1982) may differ across grammars. Another example is the definition of governing category of the BT which may vary across languages. Grammars also differ in the level at which certain rules apply. It has been shown that certain languages like Chinese or Japanese, do not have wh-movement at S-structure i.e. wh-phrases are <u>in-situ</u>. Since the interpretation of wh-constructions is parallel to that of languages with syntactic wh-movement, it has been proposed that wh-movement does apply at LF in languages like Chinese as it presumably does in the case of wh-phrases in situ in English multiple questions (see Huang (1982,b) for discussion). It will be shown in chapter five that Denya is unlike Chinese on the one hand and English on the other. However, it is similar to French in having wh-movement optional.

We now come to the end of this outline of the theoretical framework of GB theory.

N O T E S

1. For details about the Denya language and people, see Abangma (1987: 1-3). Denya is the native speakers' name for the language commonly referred to as Anyang (Mansfeld 1908.278); Westermann and Bryan (1970:114); Crabb 1965:11; Williamson (1971:278).

2. Considerable work has also been done within this framework on Chinese (see Henry (1985, 1988); Huang, (1982, 1984, 1987), Hu (1986) Xu (1987) Battistela (1985) etc).

3. (see e.g. Chomsky 1975) for the view that this can naturally be hypothesized on the basis of the under-determination and the uniformity of the language learning process.

4. This, of course, does not include semiotically arbitrary variations in the phonological encoding of concepts in the lexicon.

5. See Chomsky (1981 ch.1) for a detailed discussion of this).

6. On the determination of ECs, a number of theories have been proposed, the most influential ones have been the functional/contextual determination of Koopman and Sportiche (1982) and further developed by Chomsky (1981, 1982). This theory posits one empty category, but having contextual variants which turn out to be PRO, pro, wh-trace and NP-

trace. A different theory proposed by Brody (1984) is called a theory of free assignment. Brody admitted that there is only one empty category e, but rejected the idea that an algorithm is necessary to determine its features. What he suggested is that if we assign freely any combination at all of [± pronominal] and [± anaphora] independent principles will rule out the bad constructions.

7. The following table shows the classification of NPs, lexical and empty category based on the same feature specification.

Feature specification (type)	Lexical NP	ECs
[+anaphor-pronominal]	anaphor	NP-trace
[-anaphor+pronominal]	pronouns	pro
[-anaphor-pronominal]	R-expressions	wh-trace
[+anaphor+pronominal]	_____	PRO

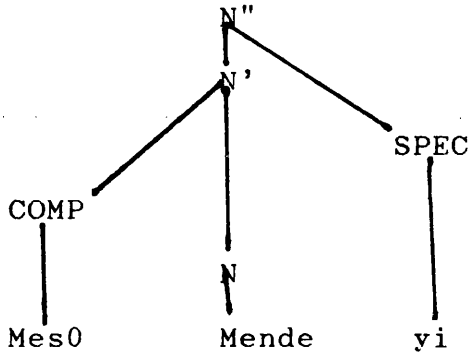
8. Bouchard (1984) argues that the distribution, type and content of [NP e] must be fully determined by conditions and principles that apply to the category NP without discriminating as to whether it is lexical or not.

9. Chomsky (1986b:3) notes that the terms specifier subject and object are not categorial but relational. In other words they do not identify a category but only a position which can be filled by different items of various categorial types.

10. It must not be assumed that all the categories will be consistent. In fact, it does happen that in the same language a given category projects its complement to the left and others to the right. Denya NPs have SPEC to the right and others to the left. e.g.

a. mesO mende yi

b.



11. See Marantz (1984) for a discussion of this distinction.

12. (see also Chomsky 1980), this is developed from a suggestion by J.R. Vergnaud.

13. Abstract case is contrasted with morphological case. Many languages distinguish various cases morphologically eg. Latin, Greek, Russian, German etc. Denya is like English or Italian where the only elements which still appear with an overt case feature are certain pronouns as the following show.

Language	Nominative Case	Accusative
English	I	me
Italian	io	me

Denya N mé

14. In some languages certain verbs can apparently assign case to the subject of their infinitival complement. In English, the verb <u>believes</u> falls in this class. The complementizer <u>for</u> in English seems to assign case to the subject of an infinitive complement clause. These are instances of exceptional case marking, a subject to be taken up in the next chapter.

15. A few comments may make the point clear. It is true that between the head I and NP appearing in SPEC of IP, there exists no thematic-relation. Although there is a thematic-relation between V and its object, this fact is not required for case assignment.

16. The Binding conditions given here refer only to A-binding (argument position or a position which contains an argument in D-structure. It does not include Ā-binding (non-argument position such as COMP).

17. The BT presented here has recorded various modifications in recent work. For example, Chomsky (1981) introduced the notion of SUBJECT in the definition of "governing category". Picallo (1985) suggests that tense is also a necessary form in defining GC. In fact, in Chomsky (1986), there is a suggestion that the notion GC be replaced by that of

"complete functional domain". In this chapter I will not discuss these issues. They will be taken up in the appropriate chapters.

18. The notion of proper government has since received various modifications. See Lasnik and Saito (1984), Jaeggli (1982), Stowell (1985), Aoun et al. (1987), Rizzi (1990) etc.

19. It is worth noting that the subject-object asymmetry seen in the that-trace effect is attributed to the difference between the potential for lexical government of the two positions. As a general rule in English, objects are always lexically governed, subjects can satisfy the ECP through antecedent government.

C H A P T E R T W O

P R O I N D E N Y A

2.0 Introduction:

This chapter examines the EC typologically characterized by Chomsky (1981, 1982) as a pronominal anaphor [+ p + a], the so-called big PRO, a base-generated EC. The chapter first looks at the status of PRO within the framework of GB by presenting arguments for the assumptions of the presence of PRO in the subject position of infinitival clauses and by reviewing the various approaches to PRO. In this connection Chomsky's standard characterization is contrasted with other views of PRO as either an anaphor or a pronominal.

The next major part of the chapter concentrates on PRO in Denya. Here, a brief description is given of infinitival verbs forms in Denya, followed by a discussion of PRO and verb classes in Denya. It will be shown that Denya has a more limited range of structures which permit infinitival clauses and therefore PRO. The study also reveals that on the basis of exceptional case marking (ECM), there is a parametric variation between English and Denya, English being an ECM language while Denya is a non-ECM language. Another important revelation about Denya in this chapter is that in Denya, s- deletion is not a sufficient condition for case assignment

and therefore head government (Chomsky 1986b, Rizzi 1990). The chapter ends with a discussion of the reference or interpretation of PRO in Denya.

2.1 The Status of PRO:

Before advancing some arguments in support of the existence of PRO in syntactic representation, it may be helpful to consider (1).

(1) a. I want [VP to go to the cinema]
b. I want [IP PRO VP to go to the cinema]

In (1a, b) we have two alternative representations. The problem is to say which of these is the correct one. Example (1)a states that in English, the verb want sub-categorizes for a 'bare' VP, ie a VP without a subject[1]. On the contrary, (1)b postulates the existence of a syntactically present subject but one which is not phonetically realized. The representation in (1)a is often described as a bare VP analysis while (1)b is called the propositional or s- analysis. It has been claimed within generative grammar that (1)b is correct. Several arguments have been given in support of this. A few of these will be recapitulated.

2.1.1. Existence of Pleonastic/Expletive pronouns:

Chomsky (1986a:115) remarks that the evidence for the existence of PRO can be direct or indirect. One of the indirect arguments he uses is the existence of expletive subjects in languages like

English and French. Consider the following English sentences[2].

(2) a. It [is raining]

b. I expect there [to be rain tomorrow]

c. Its [having rained surprised me.]

d. It [seems that there will be rain tomorrow]

If the bracketed phrases in (2) did not require subjects, for some general reason, so the argument goes, it is not clear why the semantically empty elements should appear at all. PRO exists because of the licensing principle which requires predicates to have subjects, the Extended Projection Principle (EPP). If one considers also further evidence from null subject languages[3] (NSLs) which allow missing subjects at PF but require them syntactically as an argument or expletive, the case for EPP and hence for PRO also becomes more convincing.

2.1.2. The Agreement Facts:

Radford (1988:315) argues that part of the evidence in support of the PRO analysis comes from agreement facts. Consider the following sentences[4].

(3) a. The president is not sure [CP whether [IP PRO to be a candidate/*candidates]]

b. John wants (IP PRO to be a policeman/*policemen]

c. Eva a-kElege [PRO mámbÉ mfwa/*afwa]

In (3)a, the complement[5] to the embedded clause must be singular not plural. In this type of construction, it is noticed that the complement to the embedded clause must agree with its own subject. The subject here is PRO. PRO is understood here to refer to the matrix subject, president. PRO is assumed to inherit the Number, Gender and Person of its antecedent, and thus is third person masculine singular. On the same argument it is possible to explain (3)b and (3)c. In (3)c, the agreement system dictates whether it should be mfwa, class one noun singular or afwa, class two noun plural.[6] From these examples, we can claim that agreement facts lend some support to the s- analysis.

2.1.3. Binding Facts:

Although the subject of binding is reserved for a later section, some evidence from the Binding Theory (Chomsky 1981) may be used as empirical evidence for the existence of PRO. It has often been claimed, (Chomsky 1981, Jaeggli and Safir 1989, Radford 1988), that the gap which PRO occupies and which might have been occupied by a lexical subject, acts as an antecedent for the binding conditions (see footnote 7, chapter 1). Examples (4-5) illustrate the truth of this in English and Denya.

(4) $John_i$ was happy [IP PRO to kill himself/*him_i]

(5) metOO E-gO Eva_i [IP PRO_i man-wa gemejií/*ji_i]
Heart AGR good Eva PRO to kill himself/*him.
Eva was happy to kill himself/*him.

In (4), the reflexive "himself" is a lexical anaphor that must be bound in its governing category (Condition A).[7] This means that it must be coindexed by a C- commanding antecedent within its clause (=IP). In (5) the only antecedent for gemejií is PRO. Thus Condition A of the Binding Theory is met. The ungrammaticality of the starred examples follows equally from the Binding conditions. Here both the pronouns and the nouns are bound by PRO. Condition B and C violations.

2.1.4. All syntactic functions must be saturated:
Another very relevant argument is the one based on the principle that all syntactic functions ie maximal projections (= NP or S) must be saturated. Chomsky uses the term unsaturated syntactic function for any maximal projection which is not provided with a subject with which it is predicated. The Extended Projection Principle, as noted earlier, is another way of expressing the idea that all functions must be saturated. In this regard it has been shown that external arguments (Williams 1980) are required as subjects of VP in clauses as in (6), but not of nominalizations, as in (7).

(6) a. They [VP destroyed the town]

b. EbwO [VP áchO melO]

They VP AGR destroy town

They destroyed the town

(7) a. NP The destruction of the town

b. [NP uchO chOO melO destruction town]

The destruction of the town

Nominalizations as in (7) are NPs whose structure is DET N', and because N' is not a maximal projection of N, it requires no licensing principle and therefore no subject is required.

These are only a few of the possible empirical arguments one can advance in support of PRO analysis.

2.2 The Nature of PRO:

A number of studies in the recent literature (Chomsky and Lasnik 1977; Chomsky 1980, 1981, 1982, 1986; Williams 1980; Bresnan 1982; Manzini 1983; Huang 1984; Bouchard 1984; Koster 1984, 1987) have addressed themselves to an analysis of constructions in which PRO is assumed in the subject position of infinitival clauses. However, it needs to be remembered that although the linguists cited above are in agreement in postulating the existence of PRO and therefore rejecting the alternative representation in (1)a which assumes that S-structure, D- structure and LF representation have no element at all in these positions like the PF

representation, it must not be concluded that they characterize PRO uniformly. The goal here is to contrast some views with the standard GB approach of Chomsky.

2.2.1. PRO in GB Theory:

Chomsky (1981, 1982, 1986b, 1988) describes PRO as a pronominal anaphor (PA) and highlights its properties by contrasting it with two other ECs, NP- trace and the pure pronominal, the small pro[8]. Chomsky notes that PRO may appear only in ungoverned positions and the distribution of PRO can be accounted for in terms of the Binding Theory given in (7) of chapter one above. The Characterization of PROs as pronominal anaphors presupposes that they must lack a governing category, for if they do not, being anaphors they must be bound in it (Condition A) and being pronominals they must be free in it (Condition B), which of course they cannot simultaneously be. For PRO to be a PA, Chomsky argues, it must be the case that it lacks a governing category, and therefore a governor. This fact that PRO cannot or must not be governed is expressed in what is known as the PRO-THEOREM given in (8).

(8) PRO THEOREM

PRO is ungoverned.

This principle derives from the Binding Theory and determines the distribution of PRO.

2.2.1.1. The Distribution of PRO:

As already mentioned, the distribution of PRO follows from the restrictions imposed by (8). Thus PRO is limited to subject position of infinitivals, subject of NP, especially gerundive NPs, the basic ungoverned subject positions. PRO is excluded from complement positions, subject position of a finite clause, or the subject of a non-gerundive NP.

One natural consequence of this view of PRO is that it is limited to positions to which no case is assigned. The case filter as formulated by Chomsky (1981 : 49) and as given in chapter one is repeated in (9).

(9) *NP if NP has phonetic content and has no case.

Within the GB framework case is assigned under government by [-N] categories which include V, P and INFL if it has tense. Thus [- TENSE] cannot govern or assign case to a subject NP: consider the examples in

(10) a. He does not know [CP when [IP PRO to finish his work]]

b. It is important [CP for [IP you to come early]]

(11) a. They hoped [CPe [IP PRO to finish work early]

b. EbwO ameege [CPe [IP PRO mánEré utOO wáwá]]

They plan [CPe [IP PRO to finish work early]]

They hope/plan to complete the work early

Here we want to explain how PRO is ungoverned and to account for the fact that the subject position occupied by PRO is not assigned case.

The standard GB claim is that in sentences like (11), the embedded subject is PRO because it does not receive case from the matrix verb. In other words, there is no $\bar{S}$ deletion to permit the subject position to be governed by the verb hope/ameege. CP and IP are barriers to government (Chomsky 1986b), so there is no external government. Equally the subject position cannot be assigned case by INFL since this lacks Tense/Agreement. In (10b), the subject position of the complement clause is occupied by a lexical word. This therefore means that the position must be assigned case. Why is this so? The simple reason here is that certain verbs and adjectives that prevent $\bar{S}$ deletion allow an overt complementizer for to appear. The explanation is that for as a [-N] category assigns case to its complement. Hence the presence of a lexical NP. Thus as Horrocks (1987:133) remarks "where for does appear it is clearly the governor and case-marker of the subject, because INFL cannot govern internally and $\bar{S}$ is a barrier to external government.

In (11), the verb hope in English and man-mee, "to plan" sub categorize for IP. However, they

do not case mark the subject NP of the embedded clause and since the complement is [-TENSE] PRO is licensed in [NP, IP] position.

2.2.1.2. The Reference of PRO:

When it comes to how the antecedent of PRO is determined, Chomsky argues that the problem can be adequately handled within control theory. Control, as defined by Bresnan (1982:372) "refers to a relation of referential dependence between an unexpressed subject (the controlled element) and an expressed or unexpressed constituent (the controller); the referential properties of the controlled element, including possibly the property of having no reference at all, are determined by those of the controller". As an illustration, (12) contains two central instantiations of PRO.

(12) a. The headmaster tries [PRO to prevent students' riots.]

b. The aim is [PRO to prevent students' riots.]

In (12)a the unexpressed subject of prevent is controlled by the matrix subject, the headmaster. In (12)b, PRO lacks an antecedent and is referred to as arbitrary control. Chomsky's (1981) theory of control, as remarked by Bresnan (1982), is designed to obtain the following generalisations as theorems.

(13) Only subjects are controlled.

(14) Only nonfinite clauses have controlled subjects.

2.2.1.3. Some Limitations of Chomsky's Theory of PRO:

Chomsky's position on PRO as a pronominal anaphor has been questioned. It has been recognized, even by Chomsky himself[9] (1981,221; Manzini 1983,443) that the assumption that PRO is a PA makes it impossible to use the binding theory to determine the antecedent of PRO. In other words, the antecedent -PRO relation cannot be treated as being parallel to the antecedent - overt pronominal/anaphor. It may therefore be asserted that PRO is a unique and ad hoc element in not having an overt counterpart and that its antecedents must be determined by a different theory than the one that determines overt pronouns and anaphors.

2.2.2. Manzini's Theory of Binding and Control:

A notable extension of Chomsky's Binding Theory is Manzini's (1983) theory of Binding and Control. In this paper, she suggests a revision of the binding theory in order to take account of the anaphoric nature of PRO. She proposes that control theory should be subsumed under binding theory since "control is a configurational phenomenon constructed essentially on the same notions as binding theory".

2.2.2.1. Her Notion of Governing Category:

She introduces a change in the definition of a GC and proposes a new notion of domain-governing category (DGC) as in (16) below.

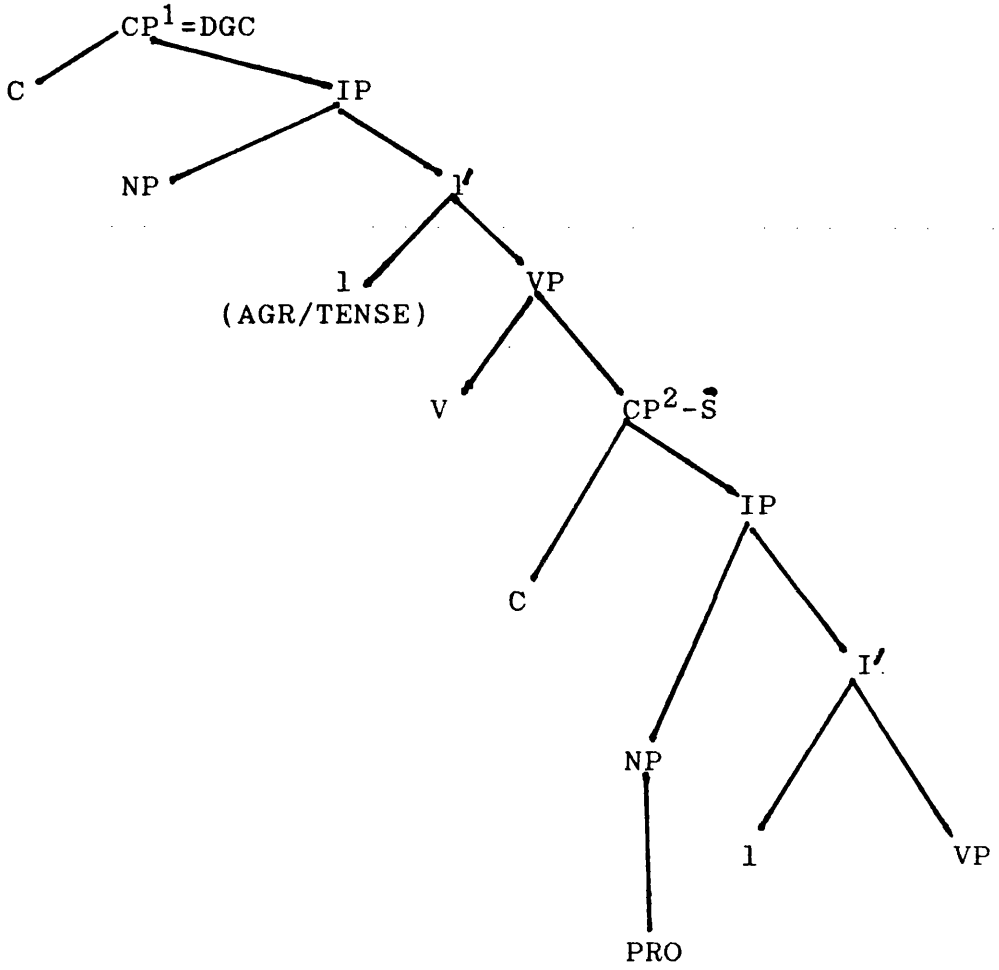
(16) Y is a domain-governing category for X iff.

a. Y is the minimal category with a SUBJECT containing the C-domain of X and a governor for the C-domain of X, and

b. Y contains a SUBJECT accessible to X.

It is obvious that this definition is based on Chomsky's definition of GC using the notion of accessible SUBJECT. A C-domain of X is the minimal maximal category dominating X. A domain-governing category, differs from a GC in that it permits the GC to contain the minimal maximal category dominating X. If we consider (12) below, the DGC for PRO is S since it is S that has a SUBJECT and contains the minimal maximal category dominating PRO (ie embedded $S=CP^2$), a governor for S (ie V) and an accessible SUBJECT for PRO (the AGR) and SUBJECT in the matrix clause are both accessible SUBJECTS for PRO.

(17)



From (17) it can be seen that PRO is not directly governed by anything, but its C-domain (CP^2=S) is governed by the matrix verb (V). As a result, the DGC for PRO is defined as a category containing among other things the governor of the C-domain of PRO. Thus by extending the notion of GC of X to include governors of C-domains of X PRO can have a (domain) governing category. Manzini revised binding condition A to (18) below.

(18) A. An anaphor is bound in its governing category.

$\underline{A}^1$. An anaphor without a governing category is bound in its domain-governing category. She then collapses A and A^1 into (19)A.

(19) A. An anaphor is bound in its governing category and domain-governing category.

B. A pronominal is free in its governing category.

According to her, PRO as an anaphor falls under principle A of this revised binding theory. The control facts fall out from the binding principles and the stipulation that an empty category can be [+ anaphor] only if it lacks case. This stipulation replaces the theory that PRO needs to be ungoverned and has the effects of limiting PRO to the subject position in clauses which lack an AGR governor. Thus, she suggests that PRO like NP-trace, is a pure anaphor, contextually determined to be [+ anaphor -

pronominal.] This suggestion is similar to Bouchard's (1984) and has the effect of reducing the inventory of empty category types from four to three. Her proposal eliminates [+ anaphor + pronominal.]

2.2.2.2. Manzini And Control:

In the theory under discussion, Manzini makes definite predictions about the configurations in which PRO can have definite reference. The theory predicts the distribution of PRO in subject and object complements as well as subject position of subjectless nominals. As regards the reference of PRO she makes the following generalizations:

(20) A PRO in an object sentence of a sentence S is bound in S.

(21) A PRO in a subject sentence corefers freely.

Let us illustrate these predictions. Examples of PRO in an object sentence are (22) a-d while (23)a-d illustrate PRO in subject sentence.

(22) a. John asked Bill [PRO to shave himself.]

b. John asked Bill [PRO to be allowed to shave himself.]

c. John promised Bill [PRO to shave himself.]

d. John promised Bill [PRO to be allowed to shave himself.]

In these examples, Manzini maintains that PRO cannot have arbitrary reference and must be bound

in S. ie the matrix clause, either by the subject or by the object. PRO is coreferential with the object in (22)a,d, and with the subject in (22 b-c). The predictions of (20) are borne out. Consider now examples of PRO in subject sentence.

(23) a. PRO to behave oneself in public would help Bill.

b. PRO to behave himself in public would help Bill.

c. Mary knows that PRO to behave himself in public would help Bill.

d. PRO to behave himself in public would help Bill's development.

In (23)a, PRO has arbitrary reference; in (23)b it corefers in S while in (23)c and (23)d PRO corefers into a phrase superordinate to S and subordinate to S respectively. Here again we see that the predictions in (21) are borne out.

2.2.2.3. Some Limitations of the Theory:

Manzini's theory, in spite of its immense contribution, does not solve all problems of PRO as has been pointed out (Giorgi:1984; Iwakura:1985). I shall mention a few of these problems here and in the section dealing with Denya data. It has also been noted that in order to account for the anaphoric nature of PRO Manzini had to introduce a new binding principle which includes new notions like C-domain and domain-governing category. It cannot be claimed

that the binding principle (19) repeated here as (24):

(24) "An anaphor is bound in its governing category and its domain-governing category"

is a single principle in the sense in which Chomsky's Condition A is, since it has to refer to both the governing category and domain-governing category. In this light, it is doubtful whether she has succeeded in her aim of incorporating the theory of control into the binding theory. It has also been observed that some of Manzini's predictions are not borne out. Consider the examples in (25)[10].

(25) a. The boys thought that each others' pictures were on sale.

b. The boys thought that pictures of themselves were on sale.

c. *For each other to win would be unfortunate.

d. *For each other to win would be unfortunate for them.

For Manzini, the anaphors in(25 a,b) have neither a governing category nor a domain-governing category since there is no subject accessible to them by virtue of the i-within-i condition. The result is that neither example is subject to principle (24). There are a number of other limitations of her theory which we cannot go into here.

To summarize, we have noted that for Manzini PRO

is a pure anaphor and that the control facts must be derived from the binding theory. However, we have also seen that she cannot claim total success in incorporating the theory of control into binding theory because her binding principle is not exactly a single principle.

2.2.3. Koster and Governed PRO:

According to Koster (1984, 1987), within his radical autonomy thesis[11], the standard view of PRO ignores the fact that there are two types of PRO as suggested by Williams (1980) and in a different framework by Bresnan (1982). He claims that Williams' obligatory control has properties of anaphora binding; in fact, obligatory PROs are anaphors. He maintains that since PRO is an EC, it can only be an anaphor if it is governed. For him, Williams' non obligatory control has the properties of pronominals. He differs here from Manzini who thinks that PROs, including arbitrary PROs are pure anaphors. Let us consider how his theory works by looking at the following examples.

(26) a. John tries[CPe [IP PRO to go]]

b. Eva akane [CP e[IP PRO man jyE]]

Eva AGR try [CP e[IP PRO to go]]

Eva tries to go

To account for the grammaticality of (26) Koster's theory would involve the following assumptions:

(27) a. $\bar{S}$ deletion requires the absence of COMP and reduced clauses lacking COMP are transparent for government from the matrix verb.

b. Try-type verbs subcategorize for reduced clauses.

The explanation for the grammaticality of (26) would be as follows. The embedded subject, PRO is governed by the verb 'try/Ka' and as such is subject to condition A of the binding theory. Since PRO in (26) is bound in its governing category in accordance with condition A, (26) is predicted to be well-formed. Consider another example which appears to pose problems for Koster's theory of governed PRO and how he gets over the problem.

(28) *John was tried PRO to go.

Koster admits that his theory of governed PRO makes it impossible to account for the ungrammaticality of (28) in terms of ECP. However, he can predict its ungrammaticality by the binding theory in conjunction with the theory of control. Koster's account would be that since the embedded subject PRO is governed, it meets the requirement of condition A. The verb 'try' is a control verb and is subject to the theory of control as well. What (28) requires is that PRO must be bound by its antecedent and controlled by its controller. The only available antecedent in (28) is John, but John is not the controller and

hence the example is ruled out.

As should now be clear, Koster's account of obligatory control relies on the absence of COMP in reduced clauses. His account of cases of non-obligatory control, however, depends essentially on the occurrence of the complementizer, for. Consider example (29).

(29) It was arranged [PRO to see Bill].

Koster would argue that in (29), the verb arrange selects a for-complementizer and therefore cannot govern PRO. As such, he argues that PRO need not be bound and the theory of control "allows an implicit argument as controller". That is why (29) is grammatical.

Koster's theory of governed PRO is not without its own problems. First, it has been pointed out (Bouchard:1984) that although Koster's governed PRO is subject to the binding theory, the antecedent of ungoverned PRO cannot be determined by the binding theory. Consider the following examples[12]:

(30) a. John preferred [PRO to live by himself].
b. John planned [PRO to buy a new house for himself].
c. John's attempt [PRO to leave].
d. The attempt by John [PRO to leave].

In (30a,b), the verbs 'preferred' and 'planned'

respectively are said to select a for-complement and therefore the infinitival clause is opaque for government from the matrix verb. PRO in both cases is ungoverned. This is because Koster assumes that nouns do not govern across clause boundaries. What is interesting to note is that Koster like Chomsky accepts the idea that ungoverned PRO as in (30) is not subject to either condition A or B of the binding theory and therefore the antecedent of ungoverned PRO cannot be determined by the binding theory.

Koster's theory of governed PRO is not consistent throughout and therefore fails to explain all the data in a like manner. Consider again example (28). In order to explain the ungrammaticality of this sentence, instead of using the theory of governed PRO, Koster resorted to the theory of control which requires that the verb <u>try</u> must have a designated argument (ie the underlying subject) that serves as a controller. Thus a main weakness in this theory is that once it is accepted that PRO is governed, the PRO theorem (PRO is ungoverned) should no longer be applicable, but for Koster this is not the case here. There is some inconsistency in Koster's approach.

2.2.4. <u>Bouchard's Theory</u>:

Bouchard (1984), like Koster and unlike Chomsky,

believes that there are two types of PRO, PRO as anaphor and PRO as pronominal. He accounts for the distribution of PRO in terms of his lexicalisation principle (LP) which states:

(31) Lexicalisation Principle:
"A noun N will be lexicalized if and only if -features are present in the entry of N at PF, where =person, number, gender, case" (Bouchard 1984:41).

According to him, for PRO to be an anaphor, it must be in a case-marked environment. Consider the following examples:

(32) a. John tried [PRO to behave himself.]
b. John knows [CP how [IP PRO to behave himself.]]
c. John knows [CP how [IP PRO to behave oneself.]]

In (32)a, Bouchard would argue that $\bar{S}$-deletion has taken place, because he assumes that $\bar{S}$-deletion takes place in the context of (V_), so that John governs PRO, hence binds it and PRO is functionally determined to be an anaphor. Thus what essentially allows a relation between a controller and a controllee is $\bar{S}$-deletion. The relation is said to be impossible or blocked if $\bar{S}$- deletion is not possible; for example; if COMP is present as in (32b,c). For Bouchard, PRO in (32b,c) has a pronominal interpretation, not an anaphoric one. It needs to be stressed that for

Bouchard, the distinction of PRO as either pronominal or anaphoric depends on phi-features like all other ECs and not on government as Chomsky claims.

Bouchard's binding theory faces a number of problems also. He was able to recognize himself that his approach would not permit the examples in (33).

(33) a. They'd prefer [$\bar{S}$ for [S each other to win .]]
b. They want [S for [S each other to win .]]
c. They would be happy [$\bar{S}$ for [S each other to win .]]
d. They would hate it [S for [S each other to win .

Bouchard's theory would predict that the examples in (33) are ill-formed since the intervening $\bar{S}$ blocks binding of the anaphor, <u>each other</u>, by <u>they</u>. Bouchard argues that these examples are not "core anaphoric structures". Next consider the following examples which involve nominal constructions.

(34) a. Their { wish / desire / plan } [$\bar{S}$ for [S each other to win]].

These examples which appear fairly acceptable to me, would be considered by Bouchard to be not core anaphoric structures. Bouchard's analysis will also find the following problematic:

(35) a. John's attempt [$\bar{S}$ [S PRO to cross the river .

b. John's promise [S [S PRO to shave himself .

In (35), the antecedent of PRO is John. As shown above, for Bouchard S-deletion takes place in the context (V_) when COMP is null. We notice that $\bar{S}$-deletion does not take place in (31a,b) and that the intervening $\bar{S}$ blocks binding of PRO by John, and PRO will be freely indexed: ie PRO can be John, John and some X, or some X, (Bouchard 1984: 198). Many other problems can be identified but it is our intention not to concentrate on these.

2.2.5. Borer's Theory:

Borer (1986, 1989) argues for the elimination of PRO because, according to her, there is no independent evidence supporting the existence of this element. She argues that the distribution of PRO is indistinct from that of the empty pronominal, the small pro, the subject of the next chapter. According to her, pro which stands for both PRO and pro, like all other ECs must be I-identified by a co-indexed C-commanding element. The fact that PRO occurs in infinitives and not in tensed clauses is shown to follow from the interaction of the requirement for identification with the binding of the AGR node in infinitives and gerunds. It is assumed here that as an anaphor AGR does not have inherent

features and can only acquire them by being bound by an element with such features.

2.3 Summary of this Section:

In this section of the chapter, our concern has been to establish the status of PRO by first recapitulating some arguments which act as evidence for its existence. We then looked at its nature, by first giving the GB position as explained by Chomsky (1981). It was shown that the distribution of PRO follows from the PRO theorem also determined by the binding theory. As regards the reference or interpretation of PRO, the standard GB approach treats this under a different module, control theory. Some limitations of this approach were mentioned. Next an attempt was made to contrast Chomsky's characterization of PRO, as pronominal anaphor with theories that see PRO either as a pure anaphor, or an anaphor and a pronominal. Each of these theories is shown to have some limitations. For this work we continue to accept Chomsky's approach and continue to assume that PRO is ungoverned. However, insights gained by other theories will be explored in the next section.

2.4. PRO in Denya:

In the last section, attempts were made to establish the status of PRO within the GB framework. It was shown that Chomsky's approach was based on the notions of abstract case and government. It is assumed that a lexical category governs an NP in the same maximal projection (ie NP, VP, PP etc) and that the [-N] categories, V, P, and INFL that contains [+ Agreement] assign case to the NPs they govern. A consequence of this assumption is that the verb cannot govern, and hence assign case to its own subject, and that if INFL is [-AGR] as in infinitive clause, it is not governed in its own S. This approach to control in terms of PRO, abstract case and government makes two predictions; (cf Mohanan 1982b:324) stated in (36).

(36) a. Subjects cannot be governed by their verbs.

b. The controlled subject cannot occur in governed positions.

One of the goals in this section is to show that the two predictions are consistent with the facts of Denya[13].

Another issue to be demonstrated concerns the differences between English and Denya where infinitival subjects can be governed and case-marked. In English, for example, an infinitival subject can be governed and case-marked in two

environments: first, when it is preceded by the [-N] complementizer, <u>for</u> and second, when it is preceded by an exceptional case-marking verb like 'believe' which has the effect of altering the embedded $\bar{S}$ into S. It will be shown that there is a parameterization in this connection, English being an Exceptional case-marking (ECM) language and Denya, a non-ECM language. Attempts will also be made to show the extent to which Manzini's theory of control can handle Denya data.

2.4.1 <u>PRO and Verb Classes in Denya</u>:

In this section it will be demonstrated that Denya poses no serious problems to the GB approach to PRO as outlined earlier. If we consider two lexical parameters, the ability to assign a theta-role to the subject position and the ability to trigger $\bar{S}$-deletion, the class of verbs which subcategorize for a sentential infinitival complement fall into four classes (Chomsky 1981, Burzio 1986) summarized in (37)[14].

(37)

Class of verb	$\bar{S}$-Deletion	theta-role assignment
I	+	+ (ECM)
II	+	- (Raising)
III	-	+ (Equi)
IV	-	-

Class one consists of verbs of exceptional case marking (ECM) like <u>believe</u> in English, class two is the class of raising verbs like <u>seem</u>. Verbs

which belong to class three are those traditionally recognized as Equi or control verbs like want in English. Again in English, class four includes such verbs as remains and suffice. Each of these classes will be examined in Denya but before that it is worthwhile making some comments on the question of case marking and case assignment in Denya.

2.4.2. Case Marking and Case Assignment in Denya:

In an earlier section, it was noted that Chomsky (1981) claimed that the [-N] category V and prepositions are case assigners which assign objective case. It was also mentioned that nominative case is assigned to the subject of a tensed sentenced by INFL if it contains AGR/TENSE and genitive case is assigned in the context of NP--X. In Chomsky (1986b) all lexical categories are regarded as assigning case. Nouns and adjectives as well as prepositions assign inherent case at D-structure. The inherent cases are oblique cases assigned by prepositions and the genitive case assigned by nouns and adjectives. On the other hand, verbs together with [INFL + AGR] assign structural cases, objective and nominative at S-structure. It is worth nothing that case as described above is abstract case. Denya like English but unlike Latin has a degenerate system that is not

morphologically marked except probably in the pronoun system. The notion of abstract case is based on the belief that in universal grammar, all languages are essentially alike in their deep structure and that even where case is not overtly marked it is there covertly. It was mentioned elsewhere that the case filter requires that all referential expressions must have case. Consider the following examples in Denya.

(38) Mende yimbO a cyEE nwE Etá mendé yimbO
Man that AGR give book to woman that
The man gave a book to the woman.

In (38) the subject, mende yimbo is assigned nominative case by INFL [+ AGR], the direct object is assigned case by V and the indirect object by the preposition. There is no morphological marking. Other features of case assignment in Denya will become evident when we look at the various verb classes listed above.

2.4.3 Exceptional Case Marking Verbs:

The verb 'believe' in English as well as 'expect' for example, can occur in sentences such as (39).

(39) a. John believed [CP^{e} [IP Mary to have left]]
b. Bill expected [John to hurt himself]

In (39)a, it is assumed that the verb believe sub categorizes for a sentential complement but allows $\bar{S}$-deletion, the maximal projection of its

complement. The result is that it assigns a subject theta-role to the embedded subject and consequently governs it. Since case is assigned under government and since it is case-marked it permits a lexical NP. This is a case of Exceptional case marking (ECM). This is true also of (39)b and accounts for their being acceptable sentences. Generally, in Denya, there is a complete lack of ECM. There is no verb in the language which is an exact equivalent of <u>believe</u> or <u>expect</u> in English. The verb believe can be translated by "man mEE né metOO".

"to measure in heart".

The nearest lexical word is <u>man-fEre</u>, "to think", but this is a control verb to be considered later. Having noted that Denya lacks ECM configuration, it may be necessary to account for that fact. Following Burzio (1986:234) one may suggest that in principle there are two ways in which one may attempt to account for this phenomenon.

(40) a. $\bar{S}$-deletion which allows ECM is much more limited in Denya than in ECM languages like English.

b. In Denya, $\bar{S}$-deletion is not sufficient for case assignment. In fact, it is not even required.

Our intuitive reaction is that (b) makes the right prediction. What follows is an attempt to justify this. In ECM languages, where $\bar{S}$-deletion

is possible, we find the phenomenon occurring with epistemic verbs like <u>believe</u>, <u>expect</u>, as noted earlier and also in the corresponding passives of these verbs as in (41) and in causative construction in (42a-c).

(41) $Mary_i$ is believed [t_i to have left].

Since Denya has no passive morphology, there is no equivalent of (41). Compare the following causative constructions in English and Denya.

(42) a. John made Mary go

b. *Eva a pyE [IP Eno man-CWO]
Eva AGR made Eno come

c. Eva a pyE [Eno á CWO]
Eva AGR-made [Eno AGR come]
Eva made [Eno come]

In (42)a, we notice a causative construction which involves $\bar{S}$-deletion. As shown below, the matrix verb theta-marks the embedded subject and assigns it objective case. This accounts for the presence of a lexical expression in the context of [NP to VP]. In the case of Denya, exemplified by (42)b, the same process of $\bar{S}$-deletion has taken place but the sentence is ungrammatical. It seems that the matrix verb cannot theta-mark and therefore does not assign case to the embedded subject, and since the embedded VP is an infinitive, it cannot assign nominative case to the embedded subject. The result is that (42)b

is ruled out. Instead (42)c is accepted because the embedded subject receives nominative case from the embedded INFL [+TENSE]. What is clear in these examples is that S-deletion, in Denya is not a sufficient condition, in fact, it is not required for ECM. In this respect Denya is similar to Italian as noted by Burzio or Spanish as noted by Chomsky (1988) in that it does not assign case freely across the clausal boundary.

2.4.4 Equi or Control Verbs:

Equi or control verbs form the largest single group in Denya. In English, this class includes verbs such as hope, want, try as shown in (43).

(43) a. John hopes [CPe [PRO to leave]].
b. John tried [CPe [PRO to leave]].
c. John wanted [CPe [PRO to leave]].

In all these examples government of the embedded subject by the main verb is not possible. As such PRO is permitted but not a lexical NP. Examples (44) below attest this.

(44) a. *John hoped [CPe [Bill to win]].
b. *John tried [CPe [Bill to win]].
c. *John wonders [CP how [IP Bill to win]].

All the examples in (44) can be accounted for in terms of the minimality effects of head government[15] (Rizzi 1990). The examples in (44)

require exceptional case marking but ECM is not permitted across a CP level. Thus it is PRO and not a lexical NP that is allowed to occur. Now consider the following Denya verbs:

Ka = 'try'; KElé = "want" and compare them with their English counterparts.

(45) Ka = Try

a. John tried [CP^{e} [IP PRO to come/go/stand/sit]]

Eva aka [CP^{e} [IP PRO mán cwO/mán jyE/mán tEné/ mán-jwOlé]]

Eva AGR try [CP^{e} [PRO to come/go/stand/sit]]

Eva tried to come/go/stand/sit

In (45) we notice that the Equi verb Ka in Denya behaves exactly like try in English. The embedded subject must be PRO. The complement verbs in (45) are intransitive in nature. It should be noted that just as in English, try cannot take a direct object in Denya. In other words, Ka in Denya, does not subcategorize for a direct object NP followed by an infinitival sentential complement. The subcategorization rules for Ka and try are as follows.

(46) a. Ka NP V S

b. try NP V S

The following examples confirm this assertion.

(47) a. *John tried Bill [CP^{e} [IP PRO to kill e]]

b. Eva aka Eno [CP^{e} [IP PRO mánwá]]

Eva AGR try Eno [CP^{e} [IP PRO to kill]]

*Eva tried Eno to kill

c. Eva aka [CP [IP PRO manwa Eno]]

Notice that in Denya as shown in (47b,c) the direct object of the complement clause can be raised to the direct object of the matrix clause. This point does not affect the status of PRO since the new matrix object NP, being [+N - V] does not assign case to the embedded subject and therefore does not govern the head. PRO therefore remains ungoverned. This process of moving an object NP from the embedded clause to the object position of a matrix clause is a very productive one in Denya. Consider a few more examples.

(48) a. Eva akElege [CP^{e} [IP PRO mánnyú manaá]

Eva AGR want [CP^{e} [IP PRO to drink water]]

Eva wants to drink water

b. Eva akElege manaa [PRo mán-nyú t]]

(49) a. Eva alO [CP [IP PRO mán nyÉ menyEÉ]]

Eva AGR start [CP [IP PRO to eat food]]

Eva started to eat food

b. Eva alO menyEÉ [CP^{e} [IP PRO mánnyÉ t]]

(50) a. Eva asuu [IP^{e} [IP PRO mánwá Eno]

Eva AGR plan [CP^{e} IP PRO to kill Eno]

Eva plans to kill Eno.

b. Eva asuu Eno [CP^{e} [IP PRO manwa t]].

Next, we must look at the behaviour of PRO in Raising verbs and adjectives.

2.4.5 Raising Verbs:

Infinitive clauses often occur as sentential complements to raising verbs in some languages. Consider the English example in (51).

(51) John seems [S^e to have left]

The verb 'seem' does not assign a theta-role to its subject but assigns nominative case to it. As a result, the embedded subject NP moves to the matrix subject position to satisfy the Extended Projection Principle. It equally satisfies the Theta-Criterion in that the matrix subject and the embedded subject trace constitute a single chain, with a single theta-role.

The EC in the embedded subject position is the NP trace and not PRO because it results from move alpha. In Denya, the infinitival complement does not occur with raising verbs as shown in (52).

(52) a. *Eva alu [CP Eké [t mánjyE]]
Eva AGR Be [CP that [t to go]]

b. Eva alu [CP Eké [IP e afÉ]
Eva AGR be [that [IP t AGR go]]
Eva seems to have left.

As can be noted in (52), raising verbs in Denya subcategorize for tensed complements, not

infinitival complements. It is also right to claim that raising verbs in Denya do not trigger S̄-deletion.

The fourth class of verbs mentioned earlier is represented in Denya by mánla, "to remain", mánkwané, "to suffice". Because these verbs occur in contexts of nonobligatory control, we shall consider them in more detail in the section which examines control in Denya. However, the following example may be noted.

(53) a. Éla [PRO mánjyE/mánjOO/mán suú/mán-cwO]
It remains [PRO to go/to say/to return/to come.]
It remains to ...

b. Éla Eno [PRO mán-cwO]
It remains for Eno to come
It remains Eno to come

c. Eno a-la [PRO mán-cwO]

(54) Ékwané [PRO mánjOO mbO]
AGR enough PRO to say so
It suffices to say so

These verbs behave more or less like adjectives. If we assume that like adjectives they do not assign case to a following NP, this will account for the fact that (54) is ruled in.

Having surveyed the various verb classes in relation to their ability to trigger S̄-deletion, we are lead to the conclusion that in Denya even

where S-deletion is assumed, case assignment to a following NP position is not tenable. Thus PRO occurs in the contexts examined because it is a fact of the language that case assignment and therefore head government is not permitted across clause boundary for case assignment. Thus in Denya S-deletion is not even required.

As shown in the preceding sections, Chomsky's approach to PRO assumes that the Binding THeory determines the distribution of PRO but not its possible antecedents. It is generally recognized that PRO has two rather different uses reflected in (55 a,b).

(55) a. Éjwérege [PRO mán-kwO megO]
AGR difficult [PRO to climb palm tree]
It is difficult to climb a palm tree.

b. Eva akElege [PRO mán kwO megO]
Eva AGR want [PRO to climb palm tree]
Eva wants to climb a palm tree.

If we consider the interpretation or reference of PRO in each of these examples, we notice that in (55)a, PRO appears to have the nonspecific sense of 'anyone', 'people', 'one' and so on. It has no obvious controller or antecedent. In the terminology of Williams (1980), this is an instance of nonobligatory control.

As regards (55)b, PRO necessarily refers back to

Eva. In other words, Eva is the antecedent or controller of PRO. It is therefore clear that PRO has two uses, obviative and proximate[16] respectively. The question which has been of much concern to linguists working in this framework is to say how we know when PRO is controlled, hence refering back to some NP (proximate) and when PRO carries the sense of "one/people/any" and is therefore obviative or arbitrary (non controlled). The following sentences contain the types of infinitive complements in which PRO occurs generally in Denya.

(56) a. [PRO mánli magbo dOO] ápyÉÉ ji ápée
[PRO to cry cry much] AGR make him revive
to cry/crying a lot will not bring him back to life.

b. Eva_i a Kelege [PRO_i mánbá mendé]
Eva AGR want [PRO to marry wife]
Eva wants to marry.

c. Eva akwO Eno_j mata [PRO_{ij} máncwO fá geyá]
Eva_i AGR beg Eno_j jaws [PRO_i to come here]
Eva begged Eno to come here tomorrow

d. Eva anyÉ meno mbaá Eno [PRO mancwO fi]
Eva AGR eat mouth to Eno [case to come today]
Eva promised Eno [PRO to come today]

In (56)a, although in some contexts, this might be a statement to some specific person and on

some specific occasion, a funeral, for example, as it stands, PRO has an obvious interpretation of 'anyone' and means anyone who cries a lot will not improve the situation ie bring the dead one to life. In the terminology introduced above, PRO is obviative. In (56)b, as the coindexing shows, PRO refers back to Eva, its antecedent. In other words in (56)b, PRO must be proximate and must be interpreted as controlled by the subject of the matrix clause. In (56)c, Eno is the direct object NP of the verb -kwO-mata "beg". In this sentence PRO is ambiguous as to reference. One reading of it shows that it is controlled by the object NP and another by the subject. Compare the two readings with (57) where the complement clause is tensed.

(57) a. Eva akwo Enoi mata [CP nno [IP e/ji$_i$ ácwO fa geyá]]

Eva AGR beg Eno jaws that e/he AGR come tomorrow

Eva begged Eno that he should come tomorrow

b. Eva akwo Eno mata [CPnno [IP j$_i$ acwoo fa geya]]

The ambiguity of (56)b is explicit in (57). Where in 57(a) with the use of the subjunctive, PRO is controlled by the direct object NP. In (57)b, where the complement clause is declarative, PRO is controlled by the subject. Now taking the last example, (56)d, we notice

that the only interpretation possible is one where PRO is controlled by the matrix subject. These examples from Denya appear to highlight some of the problems which control theory has been grappling with. Based on just the limited examples of (56)a-d, we can say that in Denya, and also for other languages there are three types of predicates which take infinitive complements with PRO subjects.

(58) a. [PRO INFL [-TENSE] V] VP

b. NP_i V [PRO_i VP]

c. NP_i V NP_j [PRO_{ij} VP]

Example (58)a represents those predicates which have an uncontrolled PRO subject for the infinitive like (56)a while (58)b indicates those which have a subject control PRO and finally (58)c those that have a non-subject control PRO.

What appears to be evident in this type of classification is that the question of whether a control predicate takes subject control or nonsubject control appears to follow directly from the meaning of the predicate involved. However, statements of this nature are not completely helpful in the absence of any theory which gives us universal principles which will predict which of the three types in (58) any given predicate permitting an infinitive complement with PRO will belong to. Chomsky's

(1980) theory of control as summarized in (59)-(61) poses some problems, even in the case of English. Some of the problematic examples in Denya will be described below.

(59) ... V ... [$\bar{S}$ COMP [S ... PRO ...]]
Where V subcategorizes S

(60) In (59) NP is controller for V if
a. NP is properly related to V (subject, direct object, certain complements).
b. If V = [+ Sc] ie + subject control), NP is subject of V.

(61) In (59)
a. If COMP is null and V has no controller, PRO (Co) refers freely.
b. If COMP is null or V has a controller, PRO is coferential with the nearest controller.
Let us re-examine the examples given in (55) and (56) in the light of (59)-(61).

In example (55)a, COMP = null and V has no controller, PRO is rightly predicted to refer freely. In (55)b, COMP = null and V has one controller, the subject by (61)b, PRO is coreferential with the nearest controller, the subject. This theory, however, has problems with examples such as (56c,d) where the generalization in (61) makes wrong predictions. Consider now (56)c, where COMP = null and V has two

controllers, the subject and the object. By (61)b, PRO must be coreferential with the nearest controller ie object. As remarked earlier, this example is ambiguous in the language and PRO corefers either with the subject or object. The predictions are therefore not accurate. Using the same arguments for (56)d, we notice that PRO is coreferential with subject and not object as the predictions of (61)b would make us believe.

Chomsky's (1981) control theory lacks even the generality captured by (59)-(61). It is therefore not surprising that Manzini (1983) attempted to improve on this. What follows is an attempt to apply Manzini's theory to Denya. Manzini believes that predictions can be made about the reference of PRO from her theory of binding and control. She makes definite predictions about the configurations in which PRO can be controlled. The theory predicts the distribution of PRO in subject and object complements as well as subject position of nominals. She accounts for the fact that in object complements of S, PRO must be co-referential with the object or subject of S. Accordingly, PRO can never have arbitrary reference and cannot be controlled by something outside S. Most of Manzini's predictions are consistent with Denya although there are cases

which cannot be handled by her theory.

2.4.6. Reference of PRO in object sentence of sentence S

The following examples are Denya's equivalent of Manzini's (1983:423).

(62) a. Eva agií Eno [PRO manmyE mekpo jimbOO].
Eva AGR ask Eno [PRO to shave head himself]
Eva asked Eno [PRO to shave himself]

b. Eva agií Eno [PRO manlia ji manmyE mekpo jimbOO]
Eva AGR ask Eno [PRO to allow him to shave himself]
Eva asked Eno [PRO to be allowed to shave himself]

(63) a. Eva anyE memo Etá Eno [PRO mán-myE mekpó jimbOO]
Eva AGR eat mouth with Eno [PRO to shave himself]
Eva promised Eno [PRO to shave himself]

b. Eva anyÉ meno Etá Eno [PRO mánliá ji mán-myE mekpó jimbOO]
Eva AGR eat mouth to Eno [PRO to allow him to shave].
Eva promised Eno PRO to be allowed to shave himself

In examples (62)-(63), Manzini predicts that PRO must be (co)-referential with an object or with the subject of S. In (62)a, PRO corefers with the object, and in (62)b PRO co-refers with the subject. In (63)a, PRO corefers with subject, Eva and in (63)b, it corefers with object, Eno.

What Manzini emphasized is the fact that in this type of context PRO cannot have arbitrary reference. As regards the reference of PRO in an object sentence of sentence S, she makes the following generalisation:

(64) A PRO in an object sentence of a sentence S is bound in S.

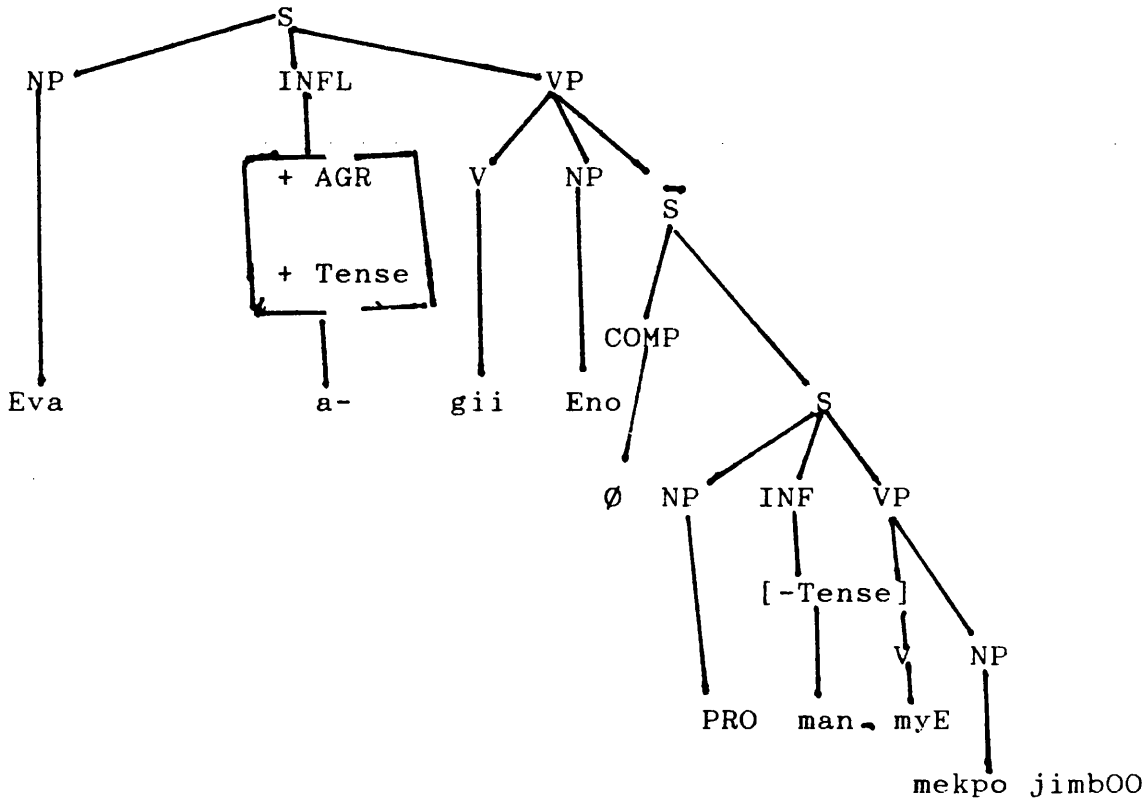
When we consider (64) in the light of examples (62)-(63), we notice that as a sufficient descriptive condition, it poses problems, problems which Manzini herself recognizes. While (64) predicts that both subject and object control are possible, in (62)-(63), we notice that in (62)a, and (63)b, only object control is possible and in (62) and (63)a only subject control is possible. Consider another example which appears problematic to (64).

(65)Eva ajOO [PRO mán-myE mekpó muú mbOO]
Eva AGR say PRO to shave head person self
Eva said [PRO to shave oneself]

In (65), PRO appears to have arbitrary reference and (64) seems not to apply. Manzini tries to get out of the problem by suggesting that in (65) say has a phonologically null indirect object and that the PRO is bound by it. It is worth noting before continuing that in (62)a, the reference of PRO is ambiguous in that it could refer to the

matrix subject or to the object. In English, the ambiguity is not there as the translation makes clear. Let us, using Manzini's theory, examine the configuration which underlies PRO in an object sentence in S. (62)a alone is repeated here as (66).

(66)



In Manzini's terms, the C-domain of PRO in (66) is S. This is because S is the minimal maximal category dominating PRO. Again, the GC for the C-domain of PRO is S, since S is the minimal category containing S, a governor for S (ie V) and a subject accessible to S (ie AGR). Manzini's generalization in (64) therefore holds in (62)a. Here PRO must be co-referential with

object or subject of S. In other words, PRO is bound in S and corefers with object or subject. Now let us examine the predictions of Manzini in a subject sentence of S.

(67) a. [PRO mangbare metOÓ ne melÓ chá] a cyEEge nyiE
[PRO to hold heart in town other AGR give fut.
Eva galÓ-gá lÓ
Eva good.
PRO to behave well abroad would help Eva.

b. Eva akaá [S nnó [PRO mángbaré metOO wuú]]
Eva AGR know s that PRO hold heart his

né Echomele acyEEge nyíE ji galO gá lO
in public AGR give fut. him good

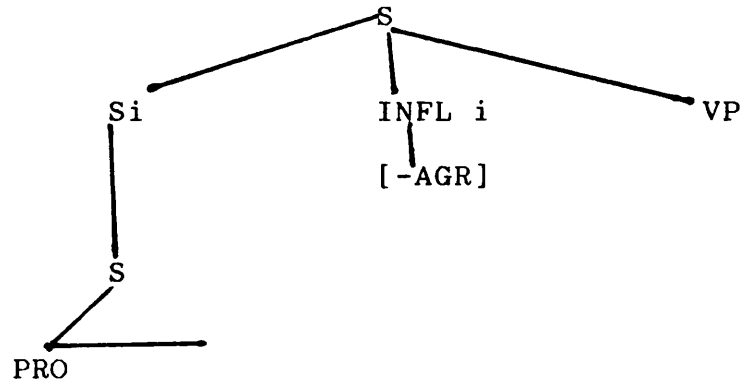
Eva knew that to behave well in public would be beneficial to him.

c. [PRO mángbaré metOÓ wuú né Echomele]
PRO to well heart his in public

apooge nyiE gepO (ge) Eva
AGR save/help fut behave Eva
[PRO to behave well in public] would help Eva's conduct.

According to Manzini, examples such as (67 a-c) with PRO in subject sentences have the configuration given in (68) where it is assumed that S and AGR are Co-superscripted.

(68)



Manzini suggests that in examples such as (67 a-c), PRO has arbitrary reference in (67a), it corefers with the subject of S in (67b) and in (67c), PRO corefers with gepO (ge) Eva, a phrase subordinate to S. On the basis of this, she generalizes as in (69).

(69) A PRO in a subject sentence co-refers freely.

It is worth noting that apart from (67)b where Manzini's predictions are consistent with the interpretation in Denya, the predictions of (67a) will appear rather dubious. It would be wrong to claim that in (67)a, PRO has arbitrary reference. Some of the Denya speakers contacted affirm that PRO corefers to Eva even in the absence of any pronoun referring to him. Again the interpretation of (67)c, that PRO corefers with a phrase subordinate to S and not to the subject of S is equally doubtful. Now let us turn to the configuration in (68). The C-domain of PRO is S and the GC for the C-domain of PRO, is S where the governor and the accessible subject for S is AGR. However, the GC for the C-domain of PRO

does not have a subject accessible to PRO, for S and AGR C- command PRO but co-superscripting of S or AGR with PRO would violate the i-within i condition. Thus in (68) PRO does not have a domain governing category and is therefore predicted to co-refer freely.

It is not our intention to bring Manzini's theory into complete review. What we have done here, is to illustrate the difficulties involved in devising a control theory which will account for all the facts about the reference of PRO.

2.5 Conclusion

This chapter has been concerned with PRO as a pronominal anaphor [+p +a]. This is the standard view of this empty category and it has been maintained. However, in accepting this view, we have been aware of alternative characterisations and their limitations. So far as Denya is concerned, we have demonstrated that the PRO theorem is consistent with the facts of the language and that the distribution of PRO is accounted for by the notions of abstract case and government. It was shown that $\bar{S}$-deletion in the language was not a sufficient condition for case assignment and that as a result, there is a complete lack of exceptional case marking (ECM) in Denya. This leads one to consider the parameterization of Denya as a non ECM language as opposed to English, an ECM language.

On the issue of reference, the position has been that the two types of reference are possible in the language. However, the main issue was to show that the theory of control does not yet answer all questions relating to the reference of PRO. Chomsky's (1980) predictions were shown to be inadequate. Similarly, Chomsky's (1981) theory lacks even the generalization achieved in the (1980) theory. Manzini's theory was partially tested against Denya data. Most of the predictions were correct but Denya data cast some doubt on the predictions. Further research in this field in Denya should be able to make some contribution to the theory of control.

N O T E S

1. Some analyses favouring (1)a, ie subjectless infinitives include Brame (1979), Bresnan 1971, 1978, 1982 and Borsley (1985).

2. Examples (2 a-d) are Chomsky's (1986a:115).

3. Null subject languages are also referred to as pro-drop languages. These are languages that allow a zero pronoun in the subject of a tensed clause. Italian and Spanish, among the Romance languages are NSLs while English and French are not. Denya is claimed in this work to be a NSL. The next chapter will devote most of the space to this problem.

4. Only example (3)a is Radford's.

5. Note that the nominal expression used as the complement of a copula verb like <u>be</u> in (3)a is often referred to as a predicate nominal (PN). cf. Radford (1988:314). Consider also the following examples given by Radford (1988).

   They are not sure [whether he should be a candidate/*candidates.]

   As stressed in that work, the PN must agree with the subject of its own clause. It is claimed that since the PN is contained within the bracketed whether-clause, and the subject of that clause is the

singular pronoun he, then we require a singular form, 'a candidate'. Because the PN cannot be made to agree with the subject of the matrix clause, (they), we cannot have *candidates.

6. Denya as mentioned in the introduction is a noun class language, a characteristic of most Bantu languages. The noun classes may be grouped in pairs called genders which represent singular/plural contrasts e.g.

class 1		class 2	
muú	person	bOO	persons
ntE	father	antE	fathers
mmá	mother	amá	mothers
mfwa	chief	afwa	chiefs

See Abangma (1987:91-2)

7. Chomsky (1981:212) defines a governing category as follows:

(i) B is a governing category for A if and only if B is the minimal category containing A, a governor of A, and a SUBJECT accessible to A. The notion of accessibility is defined as follows:

(ii) * Y ... D ... where Y and D bear the same index.

(iii) A is accessible to B if and only if B is the C-commanded domain of A and assignment to B of the index of A would not violate (ii).

8. PRO is an empty pronominal. Chomsky (1982) has proposed that there are two types of such

pronominals, referential and expletive, reflecting the types of overt pronouns.

9. Chomsky says:

"In the case of PRO, the binding theory imposes no requirement on the choice of antecedents". (Chomsky 1981:77) Hasegawa, K. (1978) in 'San la kei no syntex Eigosermen 124. 7-8, cited by Iwakura (1985) points out that it is an inadequacy of the GB theory that neither the binding theory nor the theory of control can determine the antecedent of PRO in a principled way.

10. The examples are taken from Manzini (1983) but the ordering is ours.

11. The view held under the Radical Autonomy Thesis of Koster (1984) is that the properties of grammars are construction independent. C-command for instance, is one of these properties. It is shown that C-command is a property of a great number of sentential dependencies. It must be met by the relation between an anaphor and its antecedent as well as by the relation between a moved element and the position from which it has been moved, ie its trace. In both cases, the antecedent must C-command the anaphor or the trace. The C-command condition must also be met by the relation between a predicate and its antecedent (or subject). Koster maintained that C-command is a property of government and as

such is also relevant to case-marking, theta-marking and sub-categorization (Koster 1984:425). As the argument goes, we notice that the property of C-command does not characterize just one sentential dependency like anaphoric binding but a cluster of grammatical relations. This constitutes for Koster evidence for the thesis of radical autonomy.

12. Examples (26a,b) are Iwakura's (1985) while (26c,d) are Williams (1980:219).

13. K.P. Mohanan (1982b) demonstrated that these two predictions are inconsistent in Malayalam, a Dravidian language. In a footnote he refers the reader to McCloskey (1981) for a detailed analysis of infinitivals in Irish which raises similar issues.

14. (37) is adopted from Burzio (1986:218)

15. Rizzi's (1990) Relativized Minimality is defined in terms of the variable notion of "Ø-government" ranging over head government and antecedent government.

16. See Radford (1981:379) for a discussion of obviative and proximate uses of PRO. He notes that the situation with PRO "has an obvious parallel with the situation [...] with pronouns like <u>he</u>, <u>they</u> etc, for pronouns too have two uses (i) a proximate use in

which they take their reference from some other NP which they are coindexed with; and (ii) an obviative use in which they have independent reference."

CHAPTER 3

pro in Denya

3.1 Introduction:

In languages like English and French, a null subject pronoun may be used only in the subject position of a non-tensed clause and nowhere else. Such a null subject pronoun is what we have gone to some length to discuss in the preceding chapter. However, there are some other languages like Italian[1], Spanish, Hebrew, Chinese, and Denya that permit a zero pronoun in the subject of a tensed clause as illustrated in (1) to (3) below.

(1) Spanish:

a. Juan come
   Juan eats

b. Ø come
   He eats

(2) Italian:

a. lui parti
   He left

b. Ø parti
   He left

(3) Chinese (examples from Huang 1982):

a. Zhangsan shua [ta xia wu hui lai]
   say he afternoon will come
   Zhangsan said that he will come this afternoon.

b. Zhangsan shuo [e xia wu hui lai]

say afternoon will come

Zhangsan said that he will come this afternoon.

In each of the (b) examples in (1-3), the pronominal subject is "missing". However, it is interpreted as being there, though covertly. The empty category associated with the subject position of a tensed clause has been described by Chomsky (1982) as a pure pronominal EC and is identified as small pro. If we examine the above examples carefully, we notice that the missing subjects have properties usually attributed to pro. The properties of pro will be briefly illustrated in the next section. The main concern in this chapter is similar to the previous ones. After a consideration of the properties of pro which distinguish it from other ECs, there will be a discussion of two of the several approaches which have been used for the licensing and identification of pro. The main interest of this chapter is in Denya as a pro-drop language, a phenomenon which has received a great deal of attention from linguists (Perlmutter 1971; Jaeggli 1982; Suner 1983; Hyams 1983; Torrego 1984; Picallo 1984 and many others). It will be argued that although Denya is a pro-drop language, it differs from the Italian or Spanish type languages on the one hand and the Chinese/Japanese type languages on the other.

In addition, it will be argued on the lines of Suner (1983) and Jaeggli (1987) that there are contexts in Denya in which pro can be interpreted as arbitrary and unspecific unlike what has generally been held in the standard theory of Chomsky (1982). In the standard theory it is held that like overt pronouns, pro must have definite or specific reference.

3.2 The Status of pro:

In his typology of ECs, Chomsky (1982) describes pro as [+ pronominal - anaphor]. In other words, pro is a pure pronominal. Being pronominal we expect it to display properties associated with overt pronouns. For example, from Chomsky's binding condition, we expect pro to be free in its governing category as the following examples illustrate.

(4) a. Eva_i apooge mmyE jií_i jyEÉ ndé gébé
Eva AGR help body his every time
Eva_i helps himself_i every time

b. ji_i apooge mmyE jií_i jyEÉ ndé gébé
Him AGR help body his every time
He helps himself every time

c. pro_i a-pooge mmyE jií_i jyEÉ ndé gébé
pro AGR-help body his every time
He helps himself every time

(5) a. Eva ajÓÓ [CP [C nnó [IP Enoi apoó mmyE jii]]
Eva AGR said [CP [C that [IP Eno AGR help himself]]

Eva said that Eno helped himself.

b. Eva_i ajOO [CP [C nnó [IP Eno a pOÓ ji_i]]]

Eva AGR say that Eno AGR help him_i.

Eva_i said that Eno helped him.

c. pro_i ajOÓ [CP [C nnó [IP Eno a poó ji_i]]]

pro AGR-say CP C that IP Eno AGR help him

He said that Eno helped him

Note that in (4)c and (5)c, pro occupies the position where a lexical NP would have occurred. Following the binding conditions, pro as a pronominal cannot be bound in its GC. By condition B, a pronominal must be free. However, pro can function as the antecedent of another pronominal outside its own clause or governing category. The coindexation above (i) shows the coreferent interpretation. As with other personal pronouns, pro in (4)c and (5)c can be interpreted as free and specific. Note that in each of the examples, pro is not bound by any NP yet it is definite in deictic reference.

Another feature of pro which will be mentioned in passing but which will continue coming up is the fact that pro is case-marked by INFL. In this connection, pro differs from PRO which is caseless. Other properties of pro, in Denya will be discussed in full in section (3.5) when we consider Denya as a pro drop language. For the moment the main interest is to answer the question why certain languages,

among which Denya is one, allow empty subjects in tensed clauses whereas others do not. The question can be put in another way - what conditions formally license pro: ie what conditions allow pro to occur in a given environment? As with other ECs, we will also be interested in knowing the way in which the content of pro is determined or recovered from the phonetically realized environment (Rizzi 1986). The next section, therefore concentrates on these two aspects of pro- licensing and interpretation/identification.

3.3 The Licensing of pro:

Licensing as mentioned above, involves the conditions or circumstances which permit/allow a given EC, in this case, pro to occur in a given environment, ie tensed clauses. As discussed in Rizzi (1986), Jaeggli and Safir (1989); Hermon and Yoon (1990), licensing is concerned with whether a language allows null pronouns of any kind (referential and expletive). What follows is a summary of two approaches[2] to licensing which have been developed to account for the distribution of pro cross-linguistically. We shall show how they help to explain licensing in Denya.

3.3.1 Agreement based Licensing:[3]

There are several versions of this approach but the best known are those of Taraldsen (1978), Chomsky (based on Taraldsen's) and Huang's. For

Taraldsen, the possibility of having null subjects correlates with a 'rich system of' verb-subject agreement ('rich' AGR). What this means is that 'rich AGR' (AGR with person and number specification) found in some languages like Italian is required to license a null pronominal. If one were to go further and question why a 'rich' enough system of subject-verb agreement should license the occurrence of pro, one would hear Chomsky answer in terms of the ECP which states that an EC must be properly governed. A null EC must obey the ECP but this claim is not universally accepted (see Lasnik and Saito (1984), (Chomsky 1986b.16)).

Taraldsen's theory of a "rich" enough AGR, runs into problems when tried cross-linguistically. For example, there are languages with rich AGR but no referential pro-drop like Icelandic and German (Gilligan, 1987; Hermon and Yoon 1989). On the contrary, there are also languages without any AGR node that allow pro-drop like Chinese and Korean. Denya, as noted by Abangma (1990) though it allows a verb-subject agreement cannot actually be described as 'rich' in inflection, yet it licenses pro. The presence of inflection (AGR) is not enough and cannot be the sole licensing factor. Huang (1981) using Chinese as a point of departure modifies Taraldsen's approach by

claiming that both a rich AGR and a null AGR found in languages like Chinese license pro. He further remarked that it is only languages like English or French that have "mixed systems" that do not allow pro-drop. What we need to note is that approaches based on overt morphological agreement might explain data in some languages but not necessarily in all.

3.3.2 The Morphological Uniformity Principle (MUP):

Jaeggli and Safir (1989) claim that the crucial property that licenses null-subjects in tensed sentences is not the "richness of AGR" but morphological uniformity in inflectional paradigms. Thus the null subject parameter can be stated as in (6).

(6) The Null Subject Parameter:

Null subjects are permitted in all and only languages with morphologically uniform inflectional paradigms. Morphological uniformity, in the theory, is defined as in (7).

(7) Morphological Uniformity:

An inflectional paradigm P in a language, L, is morphologically uniform if P has either only underived inflectional forms or only derived inflectional forms.

The terms derived and underived are defined as follows. Given a word W of category K, W is

underived if it is morphologically non-distinct from the stem (or root) of W (ie if it does not contain any affixes attached to W). A word W is said to be derived if it is formed of a stem (or root) W plus an affix attached to W. (Jaeggli and Safir 1989:29)

Jaeggli and Safir claim that in the case of languages like Spanish, Irish, Italian, Japanese, examples given to illustrate their claim, the paradigms were all morphologically uniform. Every form consisted of a stem plus some affix. In the case of Irish, it was observed that the affix signals person-number distinctions while in Japanese the affixes do not. What is crucial, so the argument goes, in licensing null subjects in these languages is the fact that they are either morphologically complex or simple. It is maintained that where there is a mixture of morphologically complex forms with bare stems in the same paradigm as in the case of English and French, there will be no pro-drop. Although the MUP has been criticized for a number of reasons (eg Hermon and Yoon (1989),[4] including its failure to account for the distribution of pro cross-linguistically, it is possible to explain pro-drop in individual languages partly on the basis of the MUP. One such language is Denya.[5] As will be shown later, this is not the only possibility. In Denya, all verbal forms in

tensed sentences, be they in perfective or imperfective aspect, realis or irrealis mood[6], and so on, can be said to be morphologically uniform since any given paradigm in addition to any aspect and/or mood affixes requires obligatorily, a subject concord prefix (SCP/AGR). The markers of perfectivity or imperfectivity are different, so are the markers of conditionality and contrafactuality as illustrated respectively in (8) and (9).

(8) VS = na 'buy'

± subject		Perfective	Imperfective
		+Scp + stem	+Scp + stem + suffix
me	(I)	n-ná (bought)	n-name (buy/am buying)
wO	(you Sg)	O-ná (bought)	O-name (buy/are buying)
ji	(he/she)	a-ná (bought)	a-name (buy/is buying)
Esé	(we)	dé-ná (bought)	de-name (buy/are buying)
Enyú	(you pl)	dé-ná (bought)	de-name (buy/are buying)
EbwO	(they)	á-ná (bought)	á-name (buy/are buying)

(9)

	± S	Conditional	Contrafactual
mbOge	me (1)	n-nagé (I buy)	m-bO n-ná (had I bought)
(if)	wO (you)	O-nagé (you ")	O-bO O-ná (had you ")
	ji (S/he)	a nagé (he ")	á-bO á-ná (had he ")
	Esé (we)	de-nagé (we ")	dé-bO dé-ná (had we ")
	Enyú (you)	de-nagé (you ")	dé-bO dé-ná (have you ")
	EbwO (they)	á-nagé (they ")	á-bO á-ná (have they ")

In (8) as in (9), the paradigms we see are

morphologically uniform. In (8) the perfective (pf) forms consist essentially of the SCP and the stem (Ø-suffix). There is no perfective form in the language which has either stem plus suffix only or some having the SCp and others not. For Jaeggli and Safir, because of the uniformity of marking AGR and other aspectual and modality forms and the productivity of pro-drop, Denya would be considered as a core example to vindicate the MUP. In (9) we have two other construction types - the conditional and the contrafactual. The morphological regularity of the paradigms is equally striking. Notice that in the two tables, the position of subject NP is optional ($\pm$) and indicates that pro-drop is possible.

Since the MUP does not require that the derived forms contain AGR specification, it still remains unexplained why morphological uniformity would license pro in a language like Denya, where the marking of AGR is so crucial to the acceptability of any tensed sentence.

3.4. Identification (interpretation) of pro:

The term identification as used here refers to the phenomenon of how the referential content of pro is determined once it is licensed (Hermon and Yoon, 1989, Jaeggli and Safir 1989). Alternatively, we can ask as Rizzi (1986) does, "How is pro assigned a

content?" Most analyses of the pro-drop parameter intuitively accept that the content of pro in subject position is recovered through the rich agreement specification. In fact, in the standard GB approach to pro, formal licensing and the 'recovery' of content are unified[7], both being performed through government by "strong Agreement". However, in other approaches identification is kept separate from licensing. Some of the well-known approaches which separate licensing from identification include Borer's (1986 Anaphoric AGR Theory and Huang's (1987, 1989) Generalized Control Rule. We shall adopt the standard GB position.

3.5 The pro-drop Parameter in Denya:

At the beginning of this chapter, we claimed that the 'missing' subject pronouns in examples (1)b, (2)b, and (3)b, were pro and implicitly or explicitly accepted the properties Chomsky (1982) attributed to it. The standard GB position on pro is that its content is recoverable from verbal agreement, that it is free in its governing category; and that it is a non anaphoric pronominal with independent (deictic) reference. Again, it is assumed that its presence is guaranteed by the theta criterion in combination with the Projection Principle. Whereas the occurrence of PRO is universal across languages, that of pro is not. For example, among Indo-European languages, it is known

that pro does not occur in English and French but it does in Italian and Spanish. We have assumed in the preceding sections that Denya is a pro-drop language, but is there any justification for that view? Our answer is 'yes'. There is enough evidence to justify that claim and this we will do in this section. Chomsky (1981:240) notes that there is a "clustering of properties related to the pro-drop parameter" and lists the following as the commonest among others.[8]

(10) a. Missing subject
b. Free inversion
c. Long wh-movement of subject
d. Empty resumptive pronouns in embedded clause
e. apparent violations of the * that - t filter.

It is also worth mentioning the other phenomena associated with the pro-drop parameter.

(11) a. absence of expletive pronouns (Hyams 1986, Manzini 1989)
b. Movement of a main verb (V) to I (Pollock 1987, Belletti 1988)
c. Movement of I to front of subject (Hyams 1986).

In this section it will be demonstrated that Denya displays most of the properties in (10)a-e except probably (10)b which should be considered as a parameter independent of the missing subject property. Our task now is to discuss the properties

in (10)a-d considered the core properties of NSLs, one after the other.

3.5.1 The Missing Subject in Denya:

3.5.1.1 The Phenomenon:

It has been noted earlier that NSLs exhibit the possibility of leaving the [NP, IP] position empty. Examples from a variety of languages were given in (1)-(3). Denya is like Italian or Spanish in that it allows a zero (Ø) pronoun in the subject position of tensed sentences. Compare examples (1)-(3) with the following Denya ones.

(12) a. Eva/ji/Ø (ie pro) ana mpO
Eva/him/*Ø AGR buy cow
Eva/He/* pro bought a cow

b. *pro mán-na mpO
pro to buy cow
*pro to buy cow

c. *pro Ø-na mpO

In (12)a, we have examples of a tensed sentence which has three different types of NPs in subject position. There is a possibility of the NP position being filled by a lexical N, an R-expression, or by an emphatic pronominal or by the EC pronominal, pro. In (12)b and (12)c, we notice constructions which are ungrammatical. In (12)b, the AGR is untensed while there is absence of marking of AGR in (12)c. The reasons why the

last two examples are ungrammatical will be explained later. In (12)a, pro occurs as subject of a main clause. However, pro is not limited only to matrix clauses. It is also found in embedded clauses as the following examples show.

(13) a. EbwO/pro ájOO [CP nnó [IP pro acwO njuú]]
them/pro AGR say [CP that [pro AGR come yesterday]]
'They said that he came yesterday'.

b. Eva/ji/pro ana mmOO [CP nnó [IPji/pro ányú]]
Eva/him/pro AGR buy wine [CP that [IP pro AGR drink]]
Eva bought wine that he should drink.

In (13)a, there is the possibility of the occurrence of pro in the subject position of both matrix and embedded clauses. The embedded clause in (13)a is indicative in mood while the one in (13)b is in the subjunctive mood. From the examples given in (12) and (13), it is easy to argue that Denya is a pro-drop language. As shown, the subject position [NP,IP], matrix or embedded in Denya may be null or non-null. If we recalled what was said in the preceding chapter that the Case Filter applies to Denya and that the subject of a clause is assigned nominative case only if it is governed by an element in INFL, then the possibility of having a non-null subject shows that the subject position is governed, and the possibility of a null subject

in the same position shows that Denya is a pro-drop language. We can now pursue the question of case and government a little further by considering the licensing of pro in Denya.

3.5.1.2 Licensing of pro in Denya:

In section (3.3) above we looked at two approaches to licensing. For Taraldsen and consequently Chomsky, the possibility of pro-drop in a language often correlates with the existence of a 'rich' enough inflectional morphology, a rich system of verb/subject agreement. Recent studies reported in Jaeggli and Safir (1989) appear to confirm that it is the special status of the inflectional system of a language and its agreement markers that allows a null subject.[9]

However, so far as Denya is concerned, it will be argued here that features of verbal inflection play an important role in licensing pro. There are two features[10] which play a role with respect to the licensing of pro - whether a verb is marked for aspect, perfective or imperfective and whether or not the verb shows agreement with the subject for person/class. It will be demonstrated here that the potential for inflection for person (noun class) is a necessary condition for a clause to exhibit the null subject phenomenon (Kenstowicz 1989). It is clauses, that inflect for either perfective

aspect (Ø-affix) or imperfective (stem + suffix), that can also show person/class distinction.

3.5.1.3 Role of INFL in Licensing pro in Denya:

In Denya the constituents of a clause are ordered as in (14).

(14) S ——> NP INFL VP

In Chomsky (1981) it is assumed that INFL is a collection of features [± Tense, AGR]. If INFL is [+ Tense] it will contain AGR, an underlying number, subject-verb agreement, consisting of the features person, gender and number. It is important to note that in Denya, INFL contains an overt AGR node which is realized as a subject concord prefix (SCP). Each noun class has a SCP and Denya has about fourteen different noun classes. Tense in Denya is abstract tense, there being no morphologically realized tense. What is crucial morphologically for Denya is aspect, and as remarked earlier, the distinction between perfective and imperfective. In Abangma (1990) it was argued that a generalized verbal structure in Denya can be given as in (15) and that INFL represented by AGR, constitutes a syntactic constituent.

(15) Verbal form (Vf) in Denya:

Vf ——> AGR + VS + Ø /{ʃ-ge}

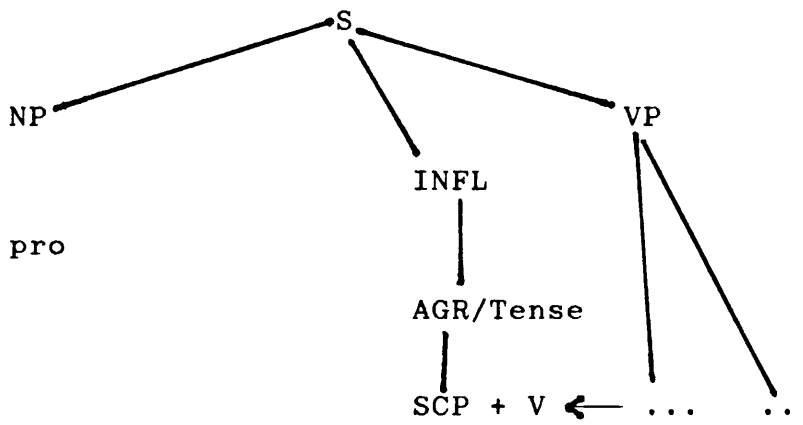
In (15), we claim that in Denya, a verbal form

(Vf) in a tensed clause consists of a verb stem (VS) which is preceded by the SCP, the AGR element. The perfective form of the verb is identical with the VS and takes a zero (Ø) suffix. The VS may be followed by a suffix, a marker of imperfective aspect. The imperfective aspect has several variants and in (15) above, -ge , represents such a morpheme with several allomorphs.[11] The form of the AGR (SCP) will depend upon the noun class. I wish to argue here that AGR or SCP in Denya cannot be considered as structural or tonic pronominal subjects (NP, IP) but should be considered as subject clitics (Kayne 1975), Rizzi (1982), Brandi and Cordin (1989), Koopman 1984, Burzio (1986)). We have assumed that in Denya, the verb carries inflectional markings expressing subject verb agreement and that SCPs are themselves a realization of AGR and that sentences like that in (16) should in reality be assigned the S-structure represented in (17).

(16) a. pro a-wá-Ø meshu
pro AGR kill-pf elephant
S/he killed an elephent.

b. pro á-wá-ne meshu
pro AGR kill-impf elephant
they kill elephants.

(17)



⟶ = indicates V to I movement

The AGR (SCP) in Denya has the following characteristics:

(i) Unaccented forms: SCPS/AGR are never used in the emphatic form. The subject position in Denya can only be occupied by a lexical noun, an emphatic pronoun or a null subject. This also explains why in the language there are no expletive subject pronouns such as 'there' in English or 'il' in French since they are inherently unaccented. Compare (18)a and (18)b.

(18) a. Eva/ji/Ø (or pro) a-na gepú
Eva/Him/pro AGR buy house
Eva/(s)he/*pro bought a house

b. *a a-na gepú

Example (18)b is ungrammatical because there appears to be a doubling of the SCP. The form of the pronominal subject given here is non-emphatic. As shown in (18)a, the pronominal in

subject position must be emphatic or null.

(ii) Adjacency to V.

Like subject clitics in two Italian dialects, Trentino and Florentino (Brandi and Cordin 1989) SCPs in Denya must appear adjacent to a verb. Although they realize INFL, they are attached to V in the above examples by a hyphen, to show their close relationship.

(iii) Insertion of Lexical Material.

No lexical material can separate the SCP from the verb, except certain infixes which express the various aspectual meanings. Consider examples (19) and (20).

(19) a. Eva/ji/pro a-na-Ø mekwa fi
Eva/him/pro AGR buy-pf box today
Eva/He bought a box today.

b. *Eva/ji/pro a-mekwa na.

c. *Eva/ji/pro a-fi-na mekwa.

Notice that in these examples, (19)b and (19)c are ungrammatical because a lexical word mekwa has been inserted between AGR and V. Next consider (20).

(20) a. Eva/ji/pro a-ma-na mekwa
Eva/Him/pro AGR-REP-buy box
Eva/S/He bought a box

b. Eva/ji/pro a-lé-ná mekwa
Eva/Him/pro AGR INCEP buy box

Eva/He has started to buy a box.

In (20), the infixes -<u>má</u> and lé <u>can</u> be inserted because they are themselves incorporated into the V (cf Baker 1988). The infix -<u>má</u> expresses a repetitive action while -<u>lé</u> indicates inceptive aspect.

(iv) <u>Obligatoriness</u>:

As shown in (18)a, unlike tonic pronominal subjects that may or may not be realized phonetically, SCP/AGR must appear obligatorily in tensed sentences. In all the grammatical examples given above, we assume, therefore, that SCP in Denya are the spelling out of AGR under INFL.

(v) <u>Not used as an independent word</u>:

AGR or SCP is inseparable from other elements of INFL such as negation and cannot be used as an independent word. A question like (21) cannot be answered by (22)a but only by (22)b which is the emphatic pronoun form.

(21) a. Waá ákÉlege mán nyÉ gékwá
Who AGR want-impf to eat plantains
Who wants to eat plantains?

(22) a. *m- I *de- 'we'
b. me "me" Esé 'we'

Again, the SCP cannot be coordinated by the

coordination marker ne[12] and as in the case of (22), only the strong/emphatic pronominal forms will be used.

(23) a. *m ne O fÉ
I and you left
I left with you

b. *a ne Eva fÉ
S/he and Eva left
S/he left With Eva.

To render (23)a and b, acceptable strong pronominal forms as in (24)a and (b) have to be used.

(24) a. me ne wO défÉ
me and you AGR go
you and me went

b. ji ne Eva á fÉ
him and Eva AGR go
He and Eva went.

What we have done so far is to assert that Denya has an INFL node which in the context [+ Tense/Aspect] (even though [+ tense] is an abstract notion) must have [+AGR]. Before proceeding further, compare the following Denya paradigm for the verb <u>mánjOO</u> "to talk" in (25) with the Italian one given in (26).

(25)

	a.		b.	
me	n-jOOge	'I talk'	pro n-jOOge	(1st person singular)
wO	O-jOOge	'you talk'	pro O-jOOge	(2nd person singular)
ji	a-jOOge	'S/he talks'	pro a-jOOge	(3rd person singular)
Esé	de-jOOge	'we talk'	pro de-jOOge	(1st person singular)
Enyú	de-jOOge	'you talk'	pro de jOOge	(2nd person singular)
EbwO	á-jOOge	'they talk'	pro á-jOOge	(3rd person plural)

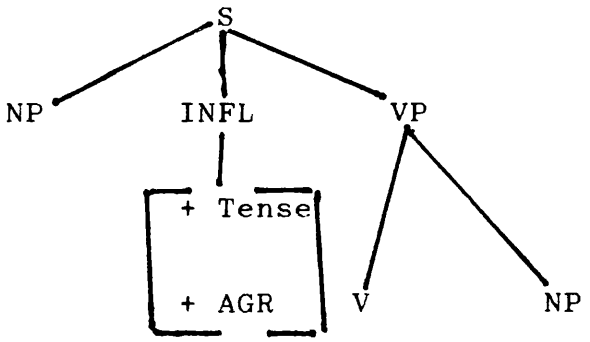
(26)

	a.		b.	
io	parlo	'I talk'	pro parlo	(1st person singular)
tu	parli	'you talk'	pro parli	(2nd person singular)
lui	parla	'he talks'	pro parla	(3rd person singular)
noi	parlamo	'we talk'	pro parlamo	(1st person singular)
voi	parlate	'you talk'	pro parlate	(2nd person plural)
loro	parlano	'they talk'	pro parlano	(3rd person plural)

If one examines the two paradigms carefully, one notices that the (a) column differs from the (b) only in the simple fact that (a) contains emphatic, nominative pronouns, phonetically realized while (b) contains pro or the missing subjects. In (25), the AGR elements are n-, a-, a-, o-, de- and de-. The AGR element in Denya is therefore a prefix. In Italian, as (26) shows AGR is realized in S-structure by the following markers: -O, -i, -a, -amo, -ate, -ano. The point that needs to be made here is that although Denya appears superficially different as regards the S-

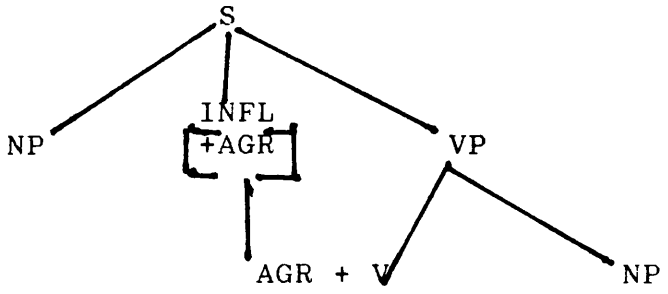
structure realization of the AGR node, they are in reality the same, the function of AGR in determining the content of pro is the same. Chomsky (1982) notes that at d-structure, AGR is part of INFL governing the subject position and at S-structure it is possible for AGR to be attached to the main verb. In the case of examples (25) and (26) we can assume that AGR at S-structure is attached to the main verb as a prefix in Denya and as a suffix in Italian. This can be represented schematically as follows:

(27) <u>D-Structure Representation for both Denya and Italian</u>:

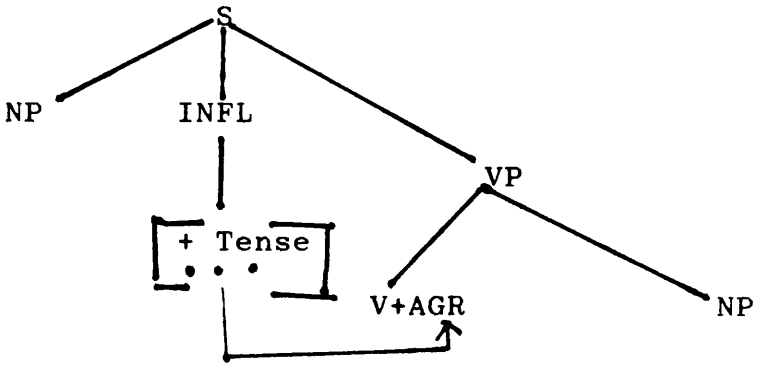


(28) <u>S-Structure Representation</u>:

a. Denya

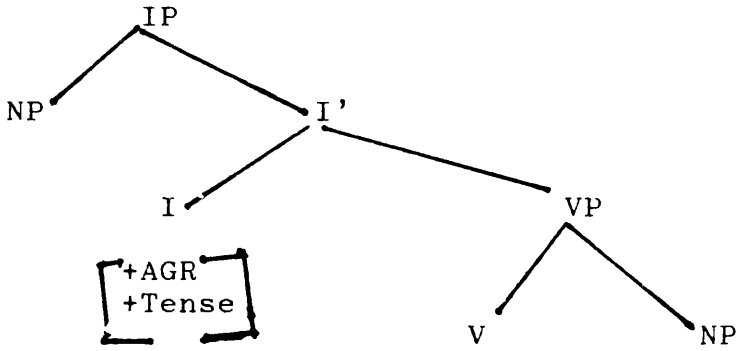


b. Italian



The function of AGR in both languages is the same. In each of these languages, AGR is specified for number, gender and person, without which the content of the missing subject will not be determined. From this it is clear that Denya and Italian are similar in that AGR licenses pro. If one turns to the IP analysis of Chomsky (1986b), it is still possible to explain the relation between the AGR element and the subject of IP. Consider (29) below.

(29)



We assume in (29), as does Chomsky, that sentences are maximal projection of INFL and that in (29) the relation between the NP-subject and the AGR element of I is one of SPECIFIER-Head agreement. The role of AGR here is to case mark or identify the subject. Chomsky assumes that

Spec-Head agreement is a form of feature sharing, sharing features of person, gender and number. Thus in Denya, as in other pro-drop languages, it is the sharing of these features of AGR with pro that enables the speaker to identify the subject.

3.5.2 Free Inversion (FI)

Free Inversion in simple sentences is one of the canonical properties associated with the null subject parameter. Inversion is said to be free when it is not dependent on any trigger (Riemsdijk and Williams, 1986:301). In fact, the following generalisation, (30), is said to be an accurate description of NSLs.

(30) A language L has free inversion if L has missing subjects.

However, several studies (Chao 1980, Rizzi 1982, Safir 1985 etc) have shown that the correlation of free inversion with the property of missing subjects is not necessarily true. It will be argued here following Safir (1985) and consistent with Denya data that (30) conflates two quite independent parameters - the missing subject property available in Denya and free inversion, absent in Denya. But before looking at these issues, let us consider first, the phenomenon of free inversion. Examples (31) and (32) show free inversion in Spanish and Italian sentences

respectively.[13]

(31) a. Juan contestó la pregunta
John answered the question.

b. EC contestó la pregunta Juan
pro answered the question John
John answered the question.

(32) a. Le brigate rosse hanno telefonato
The brigades red have called
The red brigades have called.

b. EC hanno telefonato le brigate rosse
pro have called the brigades red
The red brigades have called.

In the above examples it is clear that both Spanish and Italian display free inversion in that in the (b) examples, the subject NP is optionally moved to the post verbal position (see Rizzi (1982) Jaeggli (1982) and Torrego (1984)). As the English translations show, the (a) and (b) sentences mean exactly the same. Certain issues arise concerning the syntax of inversion but probably the most important concerns how the post-verbal subject receives case and ø-role. Chomsky (1981), Rizzi (1982), Safir (1985), Borer (1986) tend to treat the problem from slightly different points of view.[14]

Chomsky (1981) assumes that the post verbal NP is adjoined to the VP and because the VP node

created by adjunction blocks government from AGR (INFL), there must be movement of AGR to the VP if nominative case assignment is to be possible. In other words, the INFL node can optionally be absorbed into the verb leaving no trace. This is the so-called Rule R, the rule of affix hopping. In pro-drop languages, it is assumed that Rule R can apply in the syntax.

It is worth reiterating that for Chomsky (1981) the existence of free inversion is treated as a property of the pro-drop phenomenon. So far as Denya is concerned, this account will be unsatisfactory in that, since Denya allows pro-drop, it predicts that it should permit free inversion and that Rule R should apply in the syntax. Denya does not allow Rule R to apply in syntax. NP-post-posing in Denya renders the sentence ungrammatical as (33) shows.

(33) a. bO rEd brigato átO meko
SCP red brigades sent voice
The red brigades called.

b. pro_i á-tO meko [bO rEd brigato]$_i$
pro AGR-send voice SCP red brigades
* called the red brigade.

Chomsky's account would require that since R applies in the syntax, it must leave the subject position ungoverned and because INFL is placed on V- as in (31)b or (32)b, it can assign nominative

case to the post-posed NP.

In Denya as shown in (33)b, there is no possibility of moving AGR, thus the subject position is governed, hence pro. The post-posed subject is not governed and therefore receives no case. Denya is like English in this respect that it does not permit Rule R to apply in the syntax.

From the above, we can assert that Denya unlike Spanish and Italian on the one hand and like English on the other, does not allow subjects to appear normally in post-VP position. In other words, free inversion is not permitted in Denya. The question one may ask is whether there is any further empirical evidence to support the view that free inversion is not possible in Denya. Evidence can be found in strict word order and agreement phenomenon.

Strict Word Order:

In Abangma (1987; 1990) it was claimed that Denya was a strict SVO language and that constituents of a clause in the language are ordered as in (34) and configurations such as in (35) are outright ungrammatical in the language.

(34) S ——→ NP INFL VP

(35) a. * INFL VP NP

b. * VP INFL NP

c. * VP NP INFL

To exemplify (35), consider the following sentences in (36).

(36) a. Eva a-na géba
Eva AGR buy bag
Eva bought a bag

b. *EC a-na geba Eva
pro AGR buy bag Eva
*pro bought a bag Eva

c. *na-a geba Eva
buy AGR bag Eva
bought bag Eva

d. *na geba Eva a-
buy bag Eva AGR.

The examples in (36 a-d) illustrate that the strict word order in a clause in Denya must be observed, otherwise ungrammaticality results. This strict word order is due to the relation between S, INFl and VP, shown.

Agreement Phenomenon:

As mentioned earlier, the subject NP obligatorily triggers subject-verb agreement in the language and this is manifested in the forms of AGR. The AGR element of INFL must be present in all tensed clauses. In examples such as in post-VP position, such agreement is impossible. Consider

the examples in (37-39).

(37) a. Esaá ÉkE me
Cutlass AGR wound me
A cutlass wounded me

b. ma-naá ma-nywalé WO
Rain AGR- soak you
The rain soaked you

(38) a. pro É-KE me
pro AGR-wound me
It (cutlass) wounded me

b. pro E-KE me Esaá

(39) a. pro ma-nywalé WO
pro AGR soak you
It (rain) soaked you

b. * ma-nywalé WO ma-naá

In (37 a,b) the subject NPs belong to different noun classes. The subject verb agreement is manifested by the AGR agreeing with the noun class prefix. In (37)a, the noun class prefix is E- and in (37)b is ma-. In (38b) and (39b) where the subject NP is in post verbal position, the sentences are ungrammatical.

I accept the claim made by Borer (1986) that agreement with the verb is a manifestation of nominative case. In Denya, therefore, the post-

verb NP cannot be nominative because Borer's generalisation applies in the language.

(40) An NP that does not agree with the verb cannot be nominative.

We have shown that in Denya, the availability of an empty [NP, IP] position and post verbal nominative assignment are not related, thus confirming the observation of Rizzi (1982), Safir (1982, 1985) and others cited at the beginning of this section, that the free inversion property is independent of the missing subject property of NSLs. If we classify languages on the basis of the two properties, free inversion and missing subject, we notice that languages may fall into four typological groups as shown in (41) below.

(41)

Language Type	pro (ie Missing Subject)	Free Inversion
Spanish, Italian Type	+	+
Denya Type	+	-
Trentino[15] Type	-	+
English, French Type	-	-

What this table shows is that the generalisation made in (30) repeated here as (42).

(42) "A language L has free inversion iff L has missing subjects"

is definitely too strong in that it is appropriate only for Spanish/Italian or English/French type languages and not for languages, like Denya or Trentino that provide counter examples. Denya permits missing subjects but not free inversion while Trentino (Safir 1985) Brandi and Cordin 1989) allows free inversion but not missing subjects. English and French allow neither missing subjects nor free inversion.

3.5.3 Extraction:

In this section, two related phenomena will be dealt with -

(a) the [that - trace] effects and

(b) long wh- movement.

3.5.3.1 The [that - trace] effect:

It has been observed (Perlmutter 1971) that in languages like English, a sentence which contains an overt complementizer that is followed by a trace is ungrammatical whereas a similar one with a non-overt complementizer is not. In other words, while in English it is impossible to extract a subject from a position adjacent to a that or wh-phrase, the corresponding extractions are well formed in languages like Italian or Spanish. Thus in the sentences which follow,

(43)a violates the so-called *[that-t] filter, while (43)b and c do not.

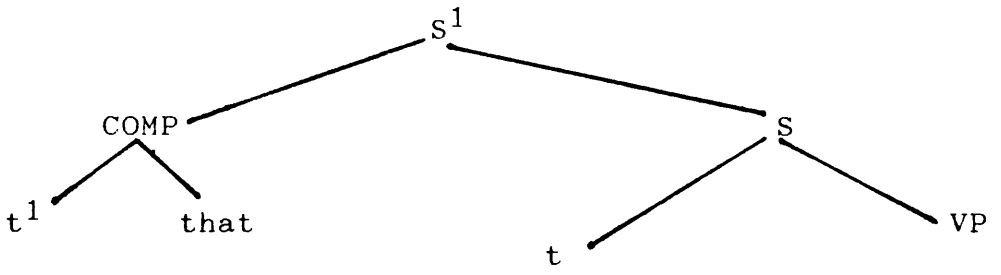
(43) a. *who does John think [t^1_i that [t left]]

b. who does John think [t that [Bill saw t]]

c. who does John think [t e [t left]]

There is obvious subject - object asymmetry between (43)a and (b), suggesting some ECP influence. The grammaticality of (43)b and c and the ungrammaticality of (43)a can all be explained in terms of the Empty Category Principle. Under the standard analysis of COMP, it is assumed that when COMP contains an element that binds an EC in subject position then that element in COMP counts as a proper governor for the subject EC. If however, 'that' occurs in an example such as (43)a above, then the element in COMP no longer C-commands the subject (Kayne 1984) because COMP branches and proper government fails. Tree diagram (44) illustrates this more visually.[16]

(44)



In (43)a, we will assume that t is not properly governed because the complementizer, <u>that</u>, intervenes between the t^1 in COMP and the subject

trace (t), thus blocking the C-command relationship for government. As already mentioned, in pro-drop languages, sentences of type (43)a are grammatical while those of (43)c are not. In this respect Denya is similar to other pro-drop languages. Consider examples (45)a and (45)b for Italian and (46)a and (46)b for Denya.

(45) a. Chi_i credi [t che [t verra]
Who do you believe [t that [t will come]
Who do you believe will come?

b. *Chi_i credi [t e [t_i verra]
Who do you believe [t e [t will come]
Who do you believe will come?

(46) a. Waá (wO) OfÉrege [t nnó [t a CwO]]
Who you AGR think [t that [t AGR come]]
*Who do you think that came.

b. *Waá (wO) OfÉrege [t e [t a cwO]]
Who (you) AGR think [t e [t AGR come
Who do you think came?

In these examples, (45)a is grammatical while (45)b is not. Similarly, (46)a is grammatical in Denya while (46)b is not. As the translations make clear, the reverse is true of English in each case. How do we explain this? Many explanations have been suggested (Chomsky 1981, 1986b, Rizzi 1982, 1990, Kayne 1984, Manzini

1989). but the suggestion of Riemsdijk and Williams (1986) seems to me to be adequate. In (46)a, the complementizer nno 'that' does not block government of the subject trace, t by the trace in COMP, t' because t does not require to be properly governed by t'. In pro-drop languages, and in particular, the case of Denya, we assume that AGR can C-command the subject trace, t and can properly govern it. In this case there is no need to account for the presence of the lexical complementizer. All that we may say is that languages parameterize on the basis of AGR, those in which it can act as a proper governor and those in which it cannot. Pro-drop languages are those in which AGR can function as a proper governor and thus license the extraction of a subject adjacent to a complementizer.

3.5.3.2 Long Wh- movement of subject:

The effects of long Wh-movement are similar to those of the that-trace filter. By long-wh-movement we mean the extraction of a Wh-phrase from subject position across at least one clause boundary/bounding node.[17] Once more consider the following sentences.

(47) a. who do you think [t saw John]

b. *Who do you think [that [t saw Bill]]

In (47)a, who is moved from the subject of the

embedded clause to COMP of the matrix clause via COMP of the embedded clause. Here, the subjacency condition stated in (48) below is respected.

(48) Subjacency Condition:
No rule can relate X, Y in the structure.

.. X .... [a .... [B .... [Y .... (or Y ... B ... a .. X ..)

In (47)b, who moves from subject position of S, not to COMP of S but to COMP of the matrix clause. It cannot move to COMP of its clause because this is already filled by that. This is a case of long wh-movement. Thus the ungrammaticality of (50)b can be accounted for by the fact that extraction of a wh-phrase from the subject position next to a lexically filled COMP is illicit in English.

In NSLs, long wh-movement from nominative position is possible. Denya is again similar to languages like Italian in this respect. Thus sentences like (47)b are predicted to be acceptable while those corresponding to (47)a are not, as (49)a and (49)b illustrate.

(50) a. waá á-fÉrege [S [tnno S [t agÉ Eva]]
who AGR think [S [t that S [t AGR see Eva]]]
*who thinks that saw Eva?

b. *waa afErege S [t e S [t a-gÉ Eva]]

who AGR think [S t e S [t AGR see Eva

who thinks he saw Eva?

In Denya, what constitutes a bounding node is not S but S-bar (Rizzi 1982). As such, it is possible to have long wh-movement from inside S to COMP of the matrix sentence.

3.5.4 Expletives:

Expletive pronouns such as 'it' 'there' in English, 'il' in French, for example, have been extensively studied and found to exist in a number of languages distributed over different language families. Clark (1978) gives an overview based on more than 30 languages. In the case of English and French, the expletive element must be overtly realized. In some other languages like Chamorro, Chinese, Hebrew, Italian, Papiamentu, and Spanish, (Reuland, and Ter Meulen 1987) the expletive pronouns must or may be empty. In fact, it has been claimed that in a language like Italian and other pro-drop languages, there is simply no word for such an expletive as 'there'.[18] Consider the following Italian examples taken from Manzini (1989).

(50) a. There comes a man

b. Arriva un uomo

The standard GB analysis (Chomsky 1981:86) of (50)a, assumes that the post verbal NP, 'a man' has been moved from the subject position and

(50)a has (51) as its D-structure.

(51) [NP a man] [VP comes]

In (51), 'a man' bears the GF [NP, S] and gains its Ø-role thereby. The S- structure of (50)a therefore involves the insertion of the expletive element 'there' in the position of the moved subject.[19] One explanation given why <u>there</u> must be inserted is based on number agreement. 'There' takes on the number of the NP coindexed with the trace for which it substitutes as in (52) given by Chomsky (1981:87).

(52) a. there is arriving a man from England
b. there are arriving three men from England
c. there seems to be a man arriving from England.
d. there seem to be three men arriving from England.

We also assume that <u>there</u> not being an argument, following the theta-criterion, is not assigned a theta-role. On the question of how the post-verbal subject receives its case, the theory of inversion (Rizzi (1982), Burzio (1986) assumes that the structure in (50)a requires a transmission convention, which Rizzi (1982:133) states as follows:

(53) in the structure

... $dummy_i$ ... NP_i ...

Where NP_i is coindexed with and in the domain of $dummy_i$, copy the case of $dummy_i$ on NP_i.

What (53) says is that where NP_i is coindexed with and in the domain of $dummy_i$, we should copy the case of dummy on NP_i. According to Rizzi, (53) can be assumed to be operative in the derivation of (50)b. Here the dummy pronominal inflection absorbs nominative case, and transmits it to the post verbal subject via the convention in (53).

Under this theory the Italian example in (50)b has an empty expletive in subject position. Viewed from this angle, the problem becomes one of lack of overt expletives rather than expletives in general' (Manzini 1989).[20] On the question of expletives, Denya is in some ways similar to Italian and in others different from it. Like Italian, Denya does not have a corresponding word for such an expletive as '<u>there</u>' in (49)a or in contexts such as (53) where in English the dummy subject <u>it</u> is required in [NP, S] position.

(54) a. It is raining/snowing/dark

b. It is held that these truths are self-evident.

To express the same idea in (50) and (54), Denya resorts to some other syntactic devices. For example, (54)a can be expressed in Denya as in (55).

(55) a. Manaá akwene

Water AGR fall

Rain is falling/it is raining.

b. gekó gépyÉE

Snow AGR make

It is snowing.

Denya is different from Italian in that it does not allow empty expletive in [NP, S] position. It is not possible to express (56)b in Denya as

(56)* a cwOO muú

AGR come man/person

comes person/man.

To express (50) in Denya, giving a presentational 'there' interpretation, we must create some pragmatic context by first calling attention by saying 'look' and then pointing a finger and followed by an expression such as (57).

(57) gÉ muú a cwOO

see/look person AGR come

look person —— comes

'There comes a man.

The question to answer is "why are there no expletives, including empty expletives in Denya?" The main explanation lies in the absence of the inversion structure in the language. It was shown in (3.5.2) that free inversion was inadmissible in Denya, and that a post verbal NP will not be assigned case. It follows from the

above discussion that unlike Denya, in Italian pro can be expletive.

3.5.5 Empty Resumptive pronouns:

One of the properties of the pro-drop parameter outlined in (13) is the existence of empty resumptive pronouns in [NP, S] position of embedded clauses. The term resumptive pronouns will be used in the sense of Sells (1984) and defined in (58).

(58) A pronoun that is interpreted as a bound variable whose antecedent is an operator is a resumptive pronoun.

We shall use the term 'operator' in (58), to refer to any NP occupying an A position (ie a position to which a grammatical function, GF is assigned), which takes scope, specifically quantified NPs and wh-phrases. Consider the following Hebrew examples given by Sells (1984:34).

(59) Kol gever se Rina Xosevet alav
every man that Rina thinks about him
Every man that Rina thinks about.

Here the operator is kol, 'every' and the resumptive pronoun is alav, 'him'. Resumptive pronouns occur predominently in relative clauses (Chomsky 1982). In Denya resumptive pronouns occur obligatorily in the following environments:

(i) Determiner of NP:

(60) ndé muú S̄ [O S [(WO) Okaá ntE*Ø wuú
What person S̄ [O S [you AGR know father-/his
What father do you know?
In (60), the determiner of the NP, ntE wuú, cannot be omitted. Hence the asterisk in the gap.

(ii) Member of a coordinate NP:

(61) Waá (wO) O-gEné Eva ne *Ø/ji
who (you) AGR see Eva with-/him
who do you see along with Eva

(iii) Object of a preposition:

(62) Waá Eva ágbóo ne *Ø/ji
who Eva AGR die with-/him
who is Eva in love with?

In Denya, resumptive pronouns are not obligatory in constructions where they are the subject of a tensed clause introduced by a complementizer. Consider the following examples:

(63) a. Waá (wO) O-kÉ lege s̄[nno s[ji/Ø ácwO]]
Who (you) AGR wants that him/- AGR come
Who do you want (that should) come?

b. ndé (wO) O-kÉlege s̄ [nno s [ji/Ø áná]]
What (you) AGR want s̄ [that s [him/Ø AGR buy]]
what do you want him to buy?

In examples (63)a and (63)b, we notice that the resumptive pronoun ji 'him' is operator bound and that its occurrence alternates with non-occurrence. It is a characteristic of pro-drop languages as noted earlier that the missing subjects of tensed embedded clauses are sometimes available as resumptive pronouns. Denya is thus similar to other pro-drop languages in this respect.

3.5.6 Conclusions about the pro-drop parameter in Denya:

The main interest in this section of the chapter has been to show that Denya permits missing/null subjects. It was shown that the SCP was in fact a subject clitic which spells out AGR under INFL and that pro in Denya is licensed by AGR. We considered a number of other phenomena associated with the pro-drop parameter. Except for the property of free inversion, the study reveals that the other major properties associated with the pro-drop parameter are also characteristic of Denya. As regards free inversion, Denya is one more language where the claim that a language permits missing subjects if it also allows free inversion does not hold. With the counter-example from Denya, we have been able to illustrate that on the basis of the properties, missing subjects and free inversion, languages fall logically into four typological classes.

This is definitely a new insight although a lot remains to be investigated in Denya in this respect.

3.6 **Arbitrary pro in Denya**:

In the standard GB theory, it is held that pro like overt pronouns must have definite or specific reference. However, it has also been observed that just as PRO can receive an arbitrary reading/reference, ie the reference is not fixed by an overt controller and consequently is not definite, pro can have the same reading as well. In other words, despite the claim that pro coindexed with AGR cannot be arbitrary in reference (Chomsky 1981:262) there is evidence to the contrary. The goal here is to provide Denya data in support of the notion of arbitrary pro (pro arb) on the lines of Jaeggli (1986) and Suñer (1983).

3.6.1 The phenomenon of pro arb:

Let us consider the following sentences in which pro arb occurs.

(64) a. pro: á$_i$-wá Eno

AGR-kill Eno

Eno has been killed = They have killed Eno

b. pro$_i$ ájO nka yá

AGR steal money my

They have stolen my money = My money has been

stolen.

Arbitrary pro is coindexed with AGR, and thus interpreted as indefinite, third person plural. Thus the construction type which involves pro arb must have the marker of AGR in the third person plural; pro=á-. This construction type is similar to the one involving arbitrary plural pronominals in English as shown by (Jaeggli 1986). One notable characteristic of pro arb in Denya as well as in other languages, that have been cited in the literature, is that it permits ambiguous interpretations. If we consider (64) for example, we notice that it is ambiguous between an arbitrary reading for the subject and a definite and referential one. Thus (64)a could refer to some unknown, unspecified number of people on one reading and to some specific people known to the speaker and hearer on another. However, if instead of pro, a lexical, third person plural emphatic pronoun were used there would be no ambiguity as (65) shows.

(65) a. EbwO á-wá Eno
Them AGR-kill Eno
They killed Eno

b. EbwO á-jó nka yá
Them AGR steal money my
They stole my money.

In (65), there is no ambiguity. The subjects of (65)a and b are interpreted as a group of people who killed Eno in (65)a and stole my money respectively. If we re-examine the arbitrary interpretation of pro in (65), we notice that pro is indeterminate as to the number of people referred to. Arbitrary interpretation of (64)a and b would be true if only one individual was involved. Following Jaeggli (1986), the [+ plural] feature of the verb in these constructions is purely 'formal' and does not suggest information concerning the number of the referent of the subject of the verb. Another important point worth noting is that sentences with pro arb have the same truth conditions as sentences involving existentially quantified NPs in subject position. Thus (64) has the same truth conditions as "someone killed Eno or someone stole my money". In other words, 'there is an X, X, a human being, such that X killed Eno and 'there is an X, X a human being, such that X stole my money'.

3.6.2 Distribution of pro arb in Denya:

Our task here is to show that pro arb occurs in subject position in matrix clauses and in a wide range of embedded contexts. It is however, excluded in a number of other contexts.

3.6.2.1 In Matrix Clauses:

The examples given in (64) are illustrative of pro arb in matrix clauses. A few more examples may be given to illustrate the point.

(66) a. pro á-wá Eno $\bar{S}$ [nno S [pro ásÉ nka jií]

b. AGR-kill Eno $\bar{S}$ that S [pro AGR take money his]]]

They killed Eno so that they could take his money.

b. pro ádo memOmbí PRO mankpE mmu

AGR-knock door PRO to enter in

They knocked at the door to enter.

3.6.2.2 pro arb in Embedded Clauses:

(67) a. Eno a-jOO $\bar{S}$[nno S[pro á-tO me nka geya]]

Eno AGR-say $\bar{S}$[that S[pro AGR send money tomorrow]]

Eno said that money will be sent tomorrow.

b. [NP Mendé $\bar{S}$[yi S[pro áké ameé gebwOO]]]

woman S that S pro AGR say AGR sick madness

The woman that is said to be mad.

These examples are obvious enough to merit no further comment. What one may call attention to is the fact that (67)a contains an arbitrary pro in a clause embedded under a verb of saying and in (67)b, a relative clause. What is worth noting here is that pro arb is limited to [NP, S] position.

3.7 Conclusion to the Chapter:

In this chapter, we have examined the various

aspects of the EC, pro, first by considering its characterisation within the GB theory and then its place in Denya. We have been able to show that Denya is a pro-drop language on the basis of certain properties associated with the pro-drop parameter. We have also been able to present data to confirm the claim that there is such a thing as arbitrary pro parallel to arbitrary PRO. Not every conceivable aspect of pro has been treated but it seems to me that the key issue of whether Denya is a pro-drop language or not has been answered.

N O T E S

1. The pro-drop or null-subject parameter has been studied mainly with regard to Romance languages (e.g. Perlmutter 1971, Taraldsen 1981, Chomsky 1981, pp 240 ff, 253 ff, 1982, section 5; Rizzi 1982, ch. 4). Other European languages that the phenomenon has been studied in recent years include Irish (McCloskey and Hale 1984, McCloskey 1986) the Scandinavian languages (Platzack 1987) Hungarian, (Farkas, 1987) etc.

2. Some of the approaches that will not be dealt with here include Adam's (1987) Theory of Directionality of Government and Rizzi's (1986) Multivalue Licensing Scheme for Pro.

3. The terms agreement based licensing is borrowed from Herman and Yoon. It neatly brings together approaches such as Taraldsen (1987), Chomsky (1982), Huang (1984) and others not mentioned here.

4. Hermon and Yoon (1989) argue against the MUP for the following reasons:

   a. Morphological uniformity cannot be a sufficient condition to license pro because there are languages like Swedish (Platzack 1987*, *Holmberg 1988) where there is morphological uniformity but no possibility of pro-drop.

   b. The notion of uniformity is said to be unclear. They question whether it is a paradigmatic notion or

whether it is determined language by language. They suggest that the authors of the theory ought to add the condition that uniformity is determined for a language as a whole and that if a certain paradigm counts as non-uniform, the whole language counts as non-uniform, Hermon and Yoon reject the MUP because they feel that it is not successful in predicting the distribution of pro cross-linguistically. Instead they propose what they call a theory of subject-predicate agreement.

5. It is my guess that this might be the case with other Bantu languages. However, it needs to be verified.

6. The terms realis and irrealis are used here in the sense of Lyons (1977).

7. Rizzi (1986: 518-19) argues that "this unification is surprising in the broader context of the standard typology of null elements: in the theories of the other types of null elements, formal licensing and "recovery" are generally kept separate, Trace and variable are formally licensed (in part) by the Empty Category Principle (ECP) and their feature content is recovered through formation of an A- or Ā-chain with an antecedent or an operator, respectively. PRO is formally restricted to occur in ungoverned contexts, and its content is recovered through the theory of control, which designates an antecedent for it/or assigns arbitrary

interpretation. In all three cases formal licensing appears to involve some kind of (positive or negative) government relation, and the recovery process involves some kind of binding relation, in extended sense".

8. Chomsky (1981) suggests that only properties (10)a and (10)b truly characterize pro-drop languages because properties (10)c and (10)d are derivable from principles (a) and (b). It is worth noting that property (b) although important for Italian type languages, is not found universally among null subject languages. A fact which leads Rizzi (1982) and Safir (1985) to assert that free inversion is independent of the "missing" subject property.

9. Peter Sells (1985:75) on the role of inflection in licensing pro notes:
"... the presence of inflection cannot be the sole factor allowing correct "identification" of pro, for many highly inflecting languages fail to exhibit missing subject, and others such as Japanese, allow any verbal argument to be dropped even though there is no inflection whatsoever. So the parameter that determines whether pro will be present in a given language or not has not really been fully isolated yet- though presumably the presence of informative verbal inflection will ultimately be part of that formal determination". Notice that Sells does not separate licensing from identification.

10. In Bantu languages there is usually a dozen or more noun classes. A 'class' is characterized by a certain noun prefix which in turn requires the appropriate "concord" prefix on such word classes as the verb, numeral, demonstrative possessive, relative pronoun, associated (genitive) marker (Hedinger 1987, Brian 1957, Watters 1981, Bot Ba Njock 1985, Welmers 1973).

11. The morpheme {-ge} marks imperfective aspect in the language. In Abangma (1987) this form was called the non-past but the terminology has since been dropped to avoid connotations of tense, since Denya is a tenseless language (Comrie, 1976, 1975). This morpheme has four different variants:

-le

-me/ne

-vv

-ge

On the basis of the type of suffix, the monosyllabic stems are sub-divided into three:

(a) those containing -le eg. a-SE-le he takes/is taking

(b) those containing -me/ne eg. a-ba-ne S/he marries/is marrying

a-nOme S/he bites/biting

(c) those containing the lengthening of the vowel -vv eg. a-ta-a S/he touches/is touching.

Disyllabic stems invariably take an additional

syllable, -ge and it is this suffix that has been selected as the morphemic representation of the imperfective aspect. (see Abangma 1987 chapter 2).

12. Koopman (1984) noticed a similar phenomenon with Kru languages, Vata and Gbadi where le is a coordination marker.

13. The Spanish example is taken from Aoun (1986:112) while the Italian one is from Riemsdijk and Williams (1986:300).

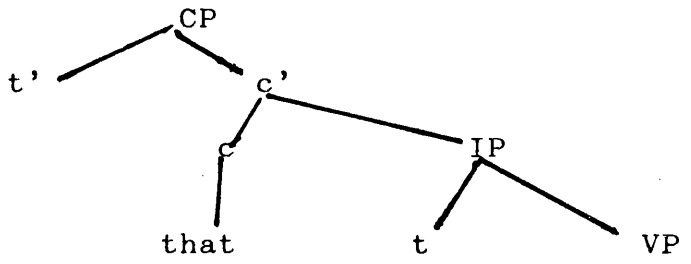
14. Rizzi's (1982) account dealt with the free inversion property by not relating it to the missing subject property. As noted earlier, Rizzi (1982) treats the relation between INFl and the empty subject position as a clitic/trace and that NSLs have the property that INFL can be pronominal and that a pronominal INFL can absorb case that would otherwise be assigned to the subject position. As for free inversion, Rizzi remarks that the expletive elements there and il in English and French serve as dummy subjects that transmit case and theta-role to a post verbal subject with which they are coindexed. He claims that pronominal INFL can serve the same function except that it permits equally the proper government of subject position. (See Rizzi 1982; ch. 4 for full discussion) (See Safir (1985) for a discussion of another approach.

15. Trentino is a Northern Italian language which has

some characteristics very similar to French and others that are much more like Italian. See Safir (1985), Brandi and Cordin (1989) for a full discussion.

16. The Barriers' approach of Chomsky (1986b) treats complementizer projection as given below:

(16)a



In the above, t^1 is the specifier, <u>that</u> is the head of C.

Note that the C-command relations are not affected. In Chomsky (1986 b), he uses the minimality condition given below to explain the [that-t] effects.

Minimality Condition:

(16)b A[Y.... S .... B]

A does not govern B in (16)b if Y is a projection of S excluding A.

According to this formulation S 'protects' B from government by A even though Y may not be a barrier or even a maximal projection. In example (16)a, t is 'protected' from antecedent government by C (=that) by virtue of the Minimality Condition.

Chomsky would argue that in (43)c, the e is featureless and therefore does not serve as an appropriate choice for A. In fact, a minimal governor, according to him, must be a category with features to serve as a barrier to government.

17. On the issue of bounding nodes, see Chomsky (1977), Rizzi (1978), Van Riemsdijk (1978a, b) and Sportiche (1981).

18. Hyams (1986, 1987) considers expletives as one phenomenon crucially associated with the null subject parameter. Hyams' theory set out to account for the phenomenon of subject drop in early speech. Hyams claimed that expletives act as a trigger for the reanalysis of the system and the rejection of the pro-drop by the child. The reason for this is that the presence of an expletive in subject position, a semantically empty element argues for the obligatory syntactic presence of a subject in a non-pro-drop language like English. As far as the child is concerned, this will constitute evidence that the target language is not pro-drop. See Lebeaux (1987) for critical comments on Hyams' theory. Lebeaux's theory on the same subject (see Roeper & Williams (1987:23-40) for further discussion) differs from Hyams.

19. This view of 'there' insertion differs from Stowell's (1978) where it is assumed that <u>there</u> constructions are 'ergative', in nature. It is

claimed that the understood subject is base-generated in the post verbal position and is then optionally moved to [NP, S] position. He argues that in the absence of such raising the pleonastic element 'there' is inserted to prevent appearance at S-structure of an empty [NP, S] position.

20. Manzini's (1989) version of the null subject parameter treats the inversion structures of (50) differently. For her, (50)b can be generated without empty expletive subjects.

CHAPTER 4

NP-TRACE IN DENYA

4.1 Introduction:

In this chapter, we will be considering NP-trace, a co-indexed EC that results from the transformational rule of move alpha. NP-trace is therefore not a base-generated EC like PRO or pro. It is similar to wh-trace in a number of ways but at the same time different from it (see Chomsky (1981: 55ff) for discussion). In 4.2, there will be a brief discussion of NP-trace in GB as a basis for a discussion of Denya data. The main interest of this chapter is in 4.3. Here there will be a discussion of NP-trace in Denya. It will be shown that NP-trace has a rather restrictive distribution in the language mainly because certain construction types that permit NP-movement and therefore NP-trace in other languages are not found there. Consequently, we shall illustrate that NP-trace occurs in Denya in construction types such as ergatives and middles but not in unaccusatives as found with passives and raising verbs. We shall justify why this is so. The chapter ends with a summary.

4.2 NP-trace in GB:

In 4.1, we noted that NP-trace is an EC that results from the rule move alpha. Chomsky (1981: 56) lists the following as general properties of trace.

(1) a. trace is governed.

b. the antecedent of trace is not in a theta-position.

c. the antecedent-trace relation satisfies the subjacency condition.

In what follows we shall show how these properties apply to NP-trace. It is worth noting that in Chomsky (1982: 78) NP-trace is described as [+anaphor - pronominal]. This characterisation implies that the relation between NP-trace and its antecedent is essentially the same as that between a lexical anaphor like himself, myself, each other etc. and the antecedent that binds it.

Before turning to these issues let us consider briefly the mechanism of NP-movement.

4.2.1 The phenomenon of NP-movement:

NP-movement or any other movement as Chomsky (1986a) notes is "a last resort" phenomenon. A consideration of the sentences in (2) with their D-structure representations in (3) provides an account of NP-movement in passive and raising constructions in English.

(2) a. John$_i$ was seen t_i at the shop.

b. John$_i$ seems [IP t_i to be sad]

(3) a. [IP e [I' was [VP seen [NP John [PP at the shop]]]

b. [IP e [VP seems [IP John [VP to be sad]]]

In (2a,b) we have the syntactic representation of two core cases of constructions involving NP-movement. Example (2a) is a passive construction while (2b) is a raising one. In each of these [John$_i$, t_i] constitute a chain with John$_i$, the head of the chain, and the trace, t_i the foot of the chain. In order to explain why John must move to the new position, we must consider the representation in (3) with respect to case assignment and theta role assignment. Considering (2a,3a) we can say that passive constructions in English display two distinct properties.

(i) Ability to absorb case assigning properties of the verb. In (3a) the passive verb seen fails to assign structural case to the complement NP, John. The result is that this NP has to move to a position in which it can be case-marked. It is moved to [NP, IP] position because here it will be case-marked by INFL.

(ii)Ability to absorb the external argument of the verb. In (3a), the [NP, IP] position is empty because the passive has absorbed the ability of the verb to assign an external argument to this sentence. Thus the D-structure subject is generated empty. This, of course, facilitates the movement of the complement NP since the landing site of movement must be an

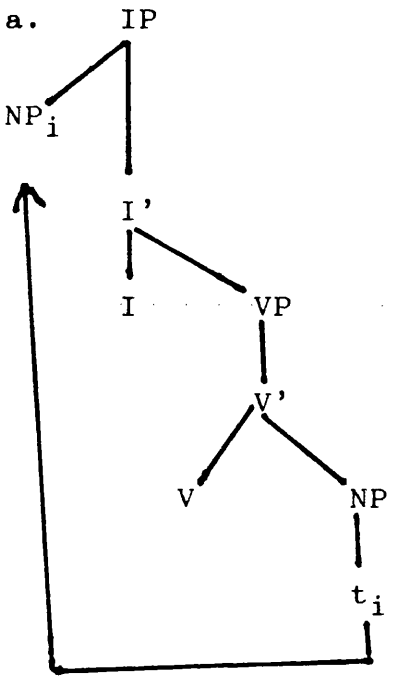
empty position, to which no theta role is assigned. It can also be noted that movement of the complement NP to [NP, IP] is also dictated by the Extended Projection Principle which requires that all sentences must have subjects (see 1.3.2).

If we turn to (2b, 3b) we notice that raising constructions in English are similar to passive ones in two principal ways - similarity of argument structure and inability to assign structural case. In terms of argument structure, we notice that the verb seem is a one place predicate which takes a sentential/clausal complement. In (3b), we see that the [NP, IP] of the matrix clause is empty. This implies that no theta-role has been assigned to it. This failure is also due to the inability of the matrix verb seem to assign case across a clause boundary to [NP, IP] of the complement clause. Equally, the INFL of the complement verb being [-TENSE] cannot assign nominative case to John. Hence movement to the subject position of the matrix clause.

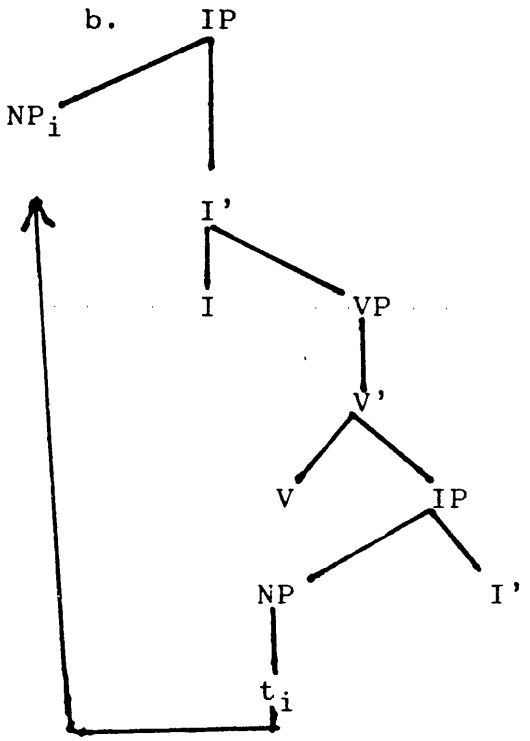
In the examples given above, it is clear from our discussion that NP-movement has been forced on the given NP because of the theory internal reasons given above. In (2a), we have an example in which an NP moves from a VP-internal position to the subject position of a sentence while in

(2b) we have an instance where an NP is moved from the subject position of a lower clause to the subject position of a higher clause. Thus schematically NP-movement operates as follows:

(4) a.



b.



From these diagrams, two points need to be noted. First, it is evident that NPs are moved up, never down.[1] Second, the antecedent C-commands the trace in the configurational relation between them.

4.2.2. Distribution of NP-trace:

In 4.2.1 we have given two contexts in which NP-trace occurs, passive constructions and raising ones. Since NP-trace occurs mainly in positions in which case is not assigned, it is worth noting some of these. Bouchard (1984:78) gives the following illustrative sentences in (5) to indicate contexts where NP-trace occurs.

(5) a. John seems [IP t to be happy]

b. John was seen t here.

c. John was referred to t in the paper

d. Rome's destruction t

e. Jean est tombé t

In (5a) we have an example of NP-trace in the subject of an infinitive clause (ie with raising verbs); in (5b) we have the object of a passive verb; while we notice in (5c) the object of a preposition re-analysed with a passive verb. In (5d) we have NP-trace as the object of a category that does not assign case. Bouchard describes the French example in (5e) as ergative. We shall illustrate this in 4.3. Bouchard's list in (5) is not intended to be exhaustive. We shall examine other contexts like middle constructions, raising adjectives and other unaccusative constructions in which NP-trace occurs.

4.2.3 NP-trace, the ECP and Subjacency:

In 4.2 it was noted that as a general characteristic, trace is governed. In other words a trace must satisfy the ECP as stated in (15-16) of chapter one of this work. In Chomsky (1986b:17) it is stated that A properly governs B iff A theta governs or antecedent governs B.

If we consider the NP-trace in (2a) and (2b), we can claim that they are licensed because they satisfy the ECP. In (2a), the NP-trace is in the

complement position. It is theta governed by the matrix verb seen and equally antecedent governed by being co-indexed with its antecedent in [NP, IP] position. In (2b), the matrix verb cannot theta-mark [NP, IP] of the lower clause. However, the NP-trace here can be antecedent governed since there is no CP, a possible barrier to government. In these examples, the object trace must be theta governed while the subject trace must be antecedent governed.

It is not our intention to pursue this subject further since it has already been dealt with in chapter one. Now let us consider the claim that NP-traces observe subjacency. Examine the following sentences[2]:

(6) a. John seems [IP t^2 [VP to be certain [IP t^1 to win]]

b. * John seems [CP that [IP It will be difficult [CP [IP t to feed himself]]]

In (6a), we assume that the derivation is successively cyclic. The subject NP John moves from t^1 to t^2, crossing VP, a maximal projection. The matrix verb seems does not theta mark [NP, IP]. It is a blocking category and by inheritance, a barrier. Movement of John to the subject position of the higher clause crosses only one barrier. However, a single barrier does

not block movement. Hence (6a) is ruled in as grammatical. In (6b), the picture is different. The link between John and t crosses more than one barrier, a violation of the subjacency condition. Notice that two CPs are crossed and by definition a CP constitutes a barrier. We do not intend to labour this point here since it will be handled in 4.3 and the next chapter.

4.3 NP-Trace in Denya:

A discussion of NP-trace in English and many other languages invariably involves a discussion of the passive and raising constructions in that language because these are the core constructions involving NP-trace. In Denya this will not be the case because these construction types, as mentioned in 4.1, are absent. In this section, we will begin with those that are present before moving to the absent ones simply to explain why this is so. In 4.3.1 and 4.3.2 we shall discuss NP-trace in ergative and middle constructions respectively. In 4.3.3 and 4.3.4 we shall consider reasons for the absence of passive as well as raising constructions respectively in the language.

4.3.1 NP-Trace in Ergative Constructions:

Before defining the term ergative, consider the following examples in English and Denya.

(7) a. The sun melted the ice

b. The ice melted

c. John sings

(8) a. Mewe É-nyií ma wií

fire AGR melt oil

The fire melted the oil.

b. Mawií mányií

oil AGR melt

The oil melted.

c. Eva akwane (makwa)[3]

Eva AGR sing (songs)

Eva sings.

In example (7b) and (8b) we find one-argument predicates. The theta-roles of the subject NP in these sentences is not agent or experiencer but that of THEME. In (7c, 8c), on the contrary, the subject NP has the semantic role of agent, the animate instigator of the action. Although (7b, 8b) and (7c, 8c) are similar structurally in being intransitive, it has been claimed (Burzio (1981, 1986), Keyser and Roeper (1984), Fagan (1988)) that examples such as (7b, 8b) differ clearly from (7c, 8c). Following Burzio (1981), the pair of verbs in (7a,b) and (8a,b) are termed ergative pairs. Radford (1988:446) following Burzio's use of the term defines an ergative clause as an "intransitive clause which has a transitive counterpart in which the transitive object corresponds to the ergative subject."

Ergative formation is a very productive process in the language. Before isolating the surface features of ergatives and the mechanism needed to produce them in Denya, consider the following sentences.

(9) a. Eva a-mu gepú
Eva AGR-pull down house
Eva pulled down the house.

b. $gepú_i$ gé-muú t_i
house AGR- break down
The house has broken down/fallen.

(10) a. Eva a-gbE Ékpé
Eva AGR-capsize canoe
Eva capsized the canoe

b. $Ékpé_i$ É-gbElé t_i
Canoe AGR-capsize
The canoe capsized.

(11) a. Eva a-gbÉ menómbí
Eva AGR-shut door
Eva shut the door.

b. $Menómbi_i$ É-gbé t_i
door AGR- shut
The door shut.

The first thing to note in the ergative pairs (9-11) is the difference in verbal morphology. All the examples are in perfective aspect with a past-time reading. It is also possible to have

imperfective aspect forms with a present or progressive time reading. However, let us concentrate on what we have in (9-11). Ergative morphology requires that the following changes and modifications be made to the verbal form of the non-ergative examples.

(i) The SCP/AGR must receive high tone instead of low.

(ii) low-tone monosyllabic verbs must have high tone on the additional aspectual syllable (suffix).

(iii) High-tone monosyllabic verbs retain the high tone on the stem syllable without any suffixation.

It is important to note that the verb form in ergatives in Denya is identical to that of process verbs derived from adjectives. Such verbs are typically intransitive and lack a transitive counterpart. Consider the following examples:

(12) a. [NP gékwá ge-gÉlé]
plantain AGR-ripe
The ripe plaintain = The plantain which is ripe

b. [IP [NP gékwá [I' gé [VP gE lé]
plantain AGR ripe pf.
The plaintain ripened/has ripened.

c. *[IP [NP Eva [I' a [VP gElé gekwá]]]

Eva AGR ripen plantain

* Eva ripened the plaintain.

In (12a), the 'noun head', gékwá has the adjective gegÉlé as its complement. It describes a state. In (12b) where the verb form is identical to ergatives, the verb describes an event or happening[4] (12c) illustrates the fact that mán-gElé "to ripen" is not a transitive verb in Denya.

Having illustrated the phenomenon of ergative morphology, consider now its role in licensing NP-trace. Ergative morphology in Denya works in much the same way as the passive does in English and other languages that have it. Let us examine (8b) repeated here as (13a) and its D-structure given in (13b).

(13) a. mawií_i ma-nyií t_i

oil AGR-melt -pf

The oil melted.

b. [IP e [I má- [VP nyií mawií]]]

AGR melt-pf oil

melted oil

As in the case of the passive in English illustrated in 4.2.1, the ergative morphology which underlies (13b), has the ability to absorb case from the case assigning verb, nyií. In (13b), [NP, IP] position is generated empty and

follows Burzio's generalisation stated in (14) below,

(14) Burzio's generalisation:

(i)) A verb which lacks an external argument fails to assign accusative case (Burzio, 1986:178-9).

(ii) A verb which fails to assign accusative case fails to theta-mark an external argument (Burzio, 1986:184).

We can assert that the complement NP is not assigned case. In order to satisfy the case filter, mawií must move to [NP, IP] position and receive nominative case from INFL. Thus (Mawií$_i$ t_i) constitute an A-chain because it satisfies the chain condition. The trace, t_i in (13a), is in a theta position, and although the position is not case-marked, it is visible for theta-role assignment because the head of the chain, mawií, is in a case-marked position. The chain in (13a) is typical of A-chains. According to Chomsky (1986a:96), such a chain "is headed by a case-marked position and terminates in a theta position; case is "transferred" from the head to the terminal position of the chain making the latter visible to receive the theta role that it, in turn, "transfers" to the argument that heads the chain."

There is a sub-class of verbs in Denya that behave as ergative but in other languages like

English would give adjectival reading. Examine the following sentences.

(15) a. manaá / menya / NKa má-/á-/É- byÉ
Water / meat / money AGR/AGR/AGR finish
The Water / meat / money is finished

b. mawií má-fú
oil AGR- leak
The oil leaked out.

c. gékwá/ gé bE né
plantain AGR- mature
The plaintain is mature.

These examples lack a corresponding transitive counterpart. Thus the examples in (16) are unacceptable.

(16) a. * Eva abyÉ manaá
Eva AGR-finish water
Eva finished the water.

b. * Eva a-fú mawií
Eva AGR- leak oil
? Eva leaked out the oil.

c. * Eva a-bEné gékwá
Eva AGR-mature plantain
* Eva mature the plaintain

4.3.2 NP-Trace in Middle Constructions:

As in the case of ergative constructions, we may start our treatment of middle constructions in

Denya by considering the following examples, the so-called middle pairs.

(17) a. Eva a-nyú mego wi
Eva AGR-drink-pf palm wine this
Eva drank this palm wine.

b. mego wi É-nyúu
palm wine this AGR- drink - impf
This palm wine drinks easily.

c. * mego wi * É-nyú / * E-nyuu
palm wine this AGR-drink-pf / AGR-drink impf

(18) a. Eva a-kpOO mandeé
Eva AGR-sell-impf clothes
Eva sells clothes.

b. [IP [NP mandeé Eva]$_i$ á-kpOO t_i
Clothes Eva AGR-sell-impf t_i
Eva's clothes sell easily.

c. [IP [NP mandeé Eva]$_i$ *á-kpO / * á kpOO
clothes Eva AGR-sell-pf / AGR-sell-impf
? Eva's clothes sold / are selling.

Consider the middle pairs in (17a,b) and (18a,b). The (b) examples are middle constructions. Morphologically, these verbs in the middle constructions are similar to the ergative ones. Both have high tone on the SCP/AGR. However, the middles have high tone in the verb stem and low tone on the imperfective suffix. It is important

to note that the middles have only one verbal form, the imperfective used with wh-movement. The (c) examples in (17-18) show that the perfective and imperfective verb forms used in simple declarative clauses, nyú, 'drink', kpó, 'sell', on the one hand, and nyuú, 'drinking', kpoo, 'selling', on the other, are unacceptable in middles. Middle constructions are a relatively new phenomenon, found mainly in the language of the younger generations of Denya speakers.[5] Middle verbs are equally limited.

As in the case of ergative constructions, let us illustrate the mechanism of NP-movement in Denya middle constructions by considering the examples in (19a,b).

(19) a. [NP mmoó mí]$_i$ má-nyúu t_i
Wine this AGR- drink-impf
This wine$_i$ drinks easily

b. [NP e [I' má- [VP nyúu mmoó]]]

We shall assume that in Denya as in other languages that have the middle construction, the middle verb has the ability to absorb case. As such, in (19b), the complement NP is not assigned accusative case. Again referring to Burzio's generalization, the middle verb is unable to theta mark the external argument. That is why in (19b) [NP, IP] position is empty. The complement

NP, mmoó, 'wine', is compelled to move to a case-assigned position. Again like in the case of ergative, the pair [mmoó, t] constitute an A-chain.

Having shown that ergatives and middles in Denya do have NP-trace, let us consider another aspect of our subject, the anaphoric nature of NP-trace in Denya.

4.3.3 The Anaphoric Nature of NP-Trace:

In 4.3.1 and 4.3.2 examples of ergative and middle constructions were given. The (b) examples in (9-11) are repeated below as (20a-c) while those in (17-18) are given in (21a,b).

(20) a.[IP gepú$_i$ [I gé [VP muú t_i]]
The house broke down

b. [IP Ékpé$_i$ [I É [VP gbE lé t_i]]]
The canoe capsized

c. [IP menombi$_i$ [I É [VP gbÉ t_i]]]
The door shut.

(21) a. [IP [NP mego wí]$_i$ [I É [VP nyúu t]]]
The palm wine drinks easily$_i$

b. [IP [NP mandeé Eva]$_i$ [I á-kpóo t_i]]]
Eva's clothes sell easily/well.

It is easy to note that the NP-trace and its antecedent in each case here constitute an A-

chain because the head of the chain is in an A-position. The status of the trace as an anaphor, in each of the examples is easy to establish. Firstly, movement of the NP is within a single clause, the governing category for the NP-trace. Secondly, the NP-trace in each case above satisfies condition A of the Binding Theory in being bound in its GC, as indicated by coindexation. Being an anaphor, NP-trace must be governed. In each of the cases in (20) and (21), the NP-trace is both theta governed and antecedent governed. As anaphors, the trace in (20a-c) and (21a,b) have the feature [-pronominal]. Because NP-trace and its antecedent form an A-chain as indicated above, we assume that the chain is assigned only one theta role. If we take example (20a) the chain, [gepú, t_i], the verb <u>mán-mu</u>, 'to break down', requires a direct object NP and is assigned a theta role. This means that the subject or head of the chain is not assigned another theta role. As with other anaphoric ECs, the A-chain in ergatives and middles in this language has case assigned to the highest position, (the head), of the chain.

So far, we have considered contexts in which NP-trace exists in Denya. In the next section we shall try to argue that passive and raising constructions do not exist in Denya. Consequently, no NP-trace should be expected

here.

4.3.4 Absence of Passive Constructions in Denya:

In 4.2.1 we illustrated the phenomenon of NP-movement in passive sentences in English. Let us consider the phenomenon again by examining the following sentences.

(22) a. The policeman arrested John.

b. John was arrested (by the policeman).

In the literature, (22a) is described as an active sentence/clause while (22b) is the corresponding passive. The D-structure of (22b) is in (23a) and the S-structure in (23b).

(23) a. [IP e [I was [VP arrested [NP John] by the police]]]

b. [IP [NP $John_i$ [I was [VP arrested t_i] by the police]]]

Assumptions and arguments for NP-movement in passive constructions are well known and briefly summarized in 4.2.1 and need not take our time unnecessarily. Since the passive construction does not exist in Denya, we shall account for this fact briefly, indicating some of the devices used in the language to express similar meanings to the passive. In "Passive in the World's Languages" Keenan (1985) makes the following generalisations concerning the distribution of passives.

(24) a. Some languages have no passives.

b. If a language has any passives, it has ones characterized as basic [...]; moreover, it may have only basic passives.

What Keenan calls basic passives refers to constructions such as (22) repeated below with an addition as (25).

(25) a. The policeman arrested John.

b. John was arrested.

c. John was arrested by the policeman.

The claim we are making here is that Denya falls under (24a) and that while it is possible to express (25a) in Denya, it is impossible to express either (25b) or (25c) as shown in (26).

(26) a. Eva a-do Démbé
Eva AGR-beat/slap-pf Démbé
Eva slapped/beat Démbé

b. * Démbé$_i$ a-do t_i

c. * Démbé a-do t Eva.

If we consider carefully the Denya examples in (26), we notice that the form of the verb does not change with the movement of the object NP. The permutations in (26b,c) do not produce a grammatical structure. As can be seen (22) and (23), English uses an auxiliary verb together with the past participle form of the main verb.

In Chichewa, a Bantu language, (Trithart 1979), it is a strict morphological modification system that exists. Thus in this language the passive verb form includes an additional suffix.[6] In the languages cited, the passive verb form is different from the active one. In GB it is assumed that the passivized form of the verb is neutralized with respect to the features [$\pm$ N]. In particular, a passive verb form does not have the feature [-N] since objective case is assigned under government by [-N]s, the direct object is not case-marked and therefore has to be moved to a case-marked position. Now consider Denya again. Because Denya lacks passive morphology as defined above (ie there are no auxiliary verbs, no morphological modifications such as prefixes, suffixes, ambifixes, internal vowel change, tone changes), the verb in (26) cannot absorb case. This of course, contrasts ergative and middle verbs as discussed in 4.3.1 and 4.3.2 respectively. Burzio's generalisation stated in (14) but repeated in (27) in positive terms can be applied to (26).

(27) Burzio's generalisation:
A verb assigns structural case to its (direct) object if and only if it theta marks its subjects.

As shown above, what might cause a verb not to

assign case to its object is the presence of passive morphology. The passive morpheme attaches to the verb, takes away the ability to assign case (Sells, 1985:43) forcing movement and causes the external theta role to be suppressed. Since the suppression of the external theta role is a precondition for movement, and since suppression is dependent on the passive morphology, it stands to reason, that where no passive morphology exists as in Denya, exemplified by (26), there will be no NP-movement. Movement would violate the chain condition.

The absence of the passive construction does not mean that speakers of Denya do not express meanings equivalent to those expressed in a passive construction. In fact, Denya uses lexical, syntactical and discourse devices to convey the functional equivalents of basic passives. Consider the following examples.

(28) a. John$_i$ was killed t$_i$

b. pro á- wá Eva

AGR kill-pf Eva

Eva was killed.

In (28b), we have an approximate semantic equivalent of (28a). This use of pro corresponds to what has been described as "impersonal" third person plural subject (see 3.6). It is

impersonal and "arbitrary" in the sense that the third person plural element is not understood to refer to any specific group of individuals. Let us turn now to raising constructions in the language.

4.3.5 Absence of Raising Constructions in Denya:

Raising involves the movement of an argument from a lower to a higher clause as shown in diagram (4b). It has been suggested that sentences such as those in (29) involve (subject) raising and consequently NP-movement.

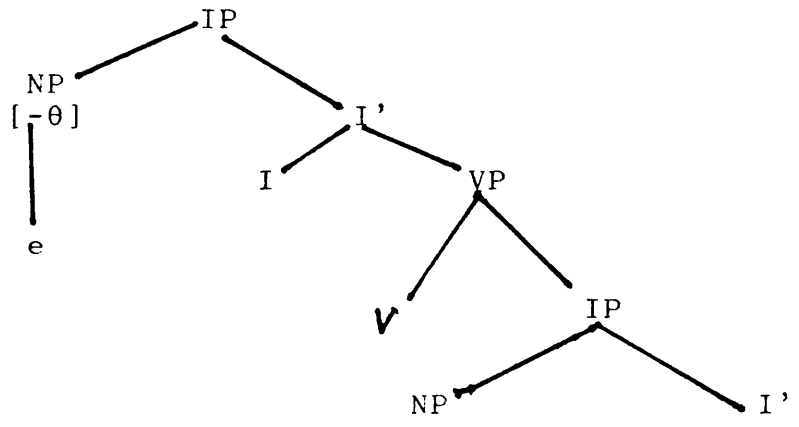
(29) a. It seems [CP that [IP Mary is angry]]

b. Mary$_i$ seems [IP t_i to be angry]

In (29b), the familiar claim is that the matrix clause subject, Mary originates as embedded clause subject in (29a) and has been displaced by NP-movement to its present position. Thus (29b) has the following underlying structure.

(30) a. [IP [e] seems [IP Mary to be angry]]

b.



The verb 'seem' in English is a one place predicate which takes a clausal complement. It does not theta-mark its subject and at S-structure this is filled by the expletive, it. Equally, the embedded subject cannot receive case from its own verb since it is [-TENSE]. Thus it must be raised to the subject of the matrix clause, giving rise to the S-structure in (29b). As in the case of the passive, ergative and middle constructions such movement is legitimate in that it satisfies the condition on chains as well as the subjacency condition and the ECP.

If we turn to Denya, we can say categorically that raising constructions of the type exemplified in (29b) with underlying representations in (30) are ungrammatical as the example in (31b) shows. To convey the same information, we would use (31c).

(31) a. [IP pro É-lú [CP Eké [IP Eva a-mee]]]
AGR-be [that [Eva AGR-sick]]]
It seems that Eva is sick.

b. *[IP Eva_i a-lu [IP t_i mán-mee]]
Eva AGR-be [IP t_i to be sick
Eva seems to be sick.

c. [IP Eva a-lu [CP Eké [IP_t amee]]]
Eva AGR-be [CP that [IP AGR-sick
Eva seems to be sick.

In (31), -lu, "tensed form of mánbÉ, "to be" translates the English "seem". There is no separate lexical word in the language for "seem". If there was an equivalent verb to "seem" in Denya, (31b) ought to be grammatical. There is no verbal morphology for raising verbs as we have for ergative and middle verbs. It may be noted that the absence of raising constructions in Denya should not be a surprise since, as shown earlier, Denya lacks a passive. Haegeman (1991:296) remarks that raising verbs are like passive verbs in that they fail to assign structural case and lack an external argument. But why is (31b) ungrammatical in Denya while (31a,c) are grammatical? As can be noticed, in (31a,c) the verb of the upper clause sub-categorizes for a CP-complement, but not for an IP-complement. The verb mán-bÉ does not theta mark the [NP, IP] of the lower clause. In (31a,b) the subject NP of the lower clause receives case from INFL [+TENSE]. Thus in (31a), the [NP, IP] position is realized by a lexical word, a noun Eva. In (31c), we have pro instead. It is not trace, although the D-structure of (31b) is (32).

(32) [IP e [I a [VP-lu [IP Eva mán me]]]

Movement of Eva to its position in (32b) does not produce an acceptable sentence.

To conclude, the main reason for the absence of raising constructions in Denya is that the language lacks raising verbs. Before leaving this subject of raising, it may be worthwhile illustrating some examples of raising from the object position of the complement clause to the subject position of the main clause, the so-called tough movement. Consider (33).

(33) a. [IP pro É-jwérege Eva [PRO mando EyO]]
AGR-difficult Eva PRO to beat Eyo
It is difficult for Eva to beat Eyo

b. [IP Eyo a-jwerege Eva [IP PRO mando t]
Eyo AGR-difficult-impf Eva [IP PRO to beat t]
Eyo is difficult for Eva to beat

In (33b), we cannot claim that NP-movement has actually taken place because there is no reason for it. Both (33a) and (33b) are alternative ways of expressing the same information. Each of them is perfectly acceptable. In (33a) Eyo is in object position of the matrix clause and assigned accusative case. The [NP, IP] of the matrix clause is pro and it is licensed by INFL [+ TENSE]. Movement to this position is uncalled for.

4.4. Summary:

In this chapter, we have shown that NP-trace exists in Denya in two constructions, the ergative and the

middle. We illustrated the claim that the trace and its antecedent form an A-chain and that NP-trace in these construction-types displays properties associated with this type of EC. It has the features [+anaphor-pronominal], it conforms to condition A of the Binding Theory. As regards the case theory and government, it was shown that NP-trace in the language is not case-marked but governed.

We attempted an explanation for the absence of the passive and raising constructions in the language. It was suggested that lack of passive morphology accounts for this fact. As regards raising constructions, it was also evident that Denya really does not have raising verbs like "seem" or raising adjectives such as "likely". We cannot therefore talk of NP-trace in these construction types. This, of course, confirms our claim in the introduction to this chapter that NP-trace has limited occurrence in Denya.

N O T E S

1. This is an example where movement involves a maximal projection. Chomsky (1986b) argues that there are two types of movement: head-to-head movement and movement of a maximal projection.

2. The sentences in (6a,b) are taken from Bouchard (1984:82). However, Bouchard uses the old-fashioned, pre Barriers, $\bar{S}$-analysis which we have avoided here.

3. Examples similar to (8c) include:

   a. mánkwiá gakwia
      to cough cough
      to cough

   b. mánchií uchi
      to sneeze sneeze

   c. mánjwa géjwa
      to laugh laugh
      to laugh

   d. mán myE UmyE
      to fight fight
      to fight

   In all these examples the complement NP does not have the semantic role of patient or theme (see Chafe (1970)).

4. For a discussion of the difference between states

and events, see Lyons (1977:482 ff).

5. This statement is based on the responses of a small sample of Denya speakers who were asked to indicate whether the sentences in (18) were acceptable to them or not. 15 out of 20 of the population whose ages ranged from 15 to 30 years, accepted the sentences without hesitation, while only 6 out of 20 whose ages ranged from 40 to 80 accepted these as grammatical. Although the sample is small, the results reveal that there are marked differences in the attitude of different generations to the middle construction in the language.

6. Chichewa is a Bantu language spoken in Malawi. Like other Bantu languages, Chichewa is SVO with an agglutinative verb morphology and has a very productive passive. NPs which stand in a number of different grammatical or semantic relations (eg. direct object (patient), indirect object (recipient), benefactive, instrumental and locative) can be made the derived subject of the passive sentence (see Trithart for a full discussion).

CHAPTER 5

WH-TRACE IN DENYA

5.1 Introduction:

This chapter deals with a non-base generated EC, wh-trace, described in Chomsky (1982:78) as [-anaphor, -pronominal]. Like NP-trace, wh-trace results from the transformational rule of move-alpha. In 5.2 this wh-movement is described and discussed; 5.3 deals with the status of wh-trace as a variable. The main interest of the chapter is 5.4 where a detailed investigation of wh-movement in Denya is presented.

5.2 The phenomenon of wh-movement:

Since Bresnan's (1970, 1972) COMP substitution universal, it has been generally accepted in the generative literature that the initial position of a clause is filled by a complementizer (COMP), schematically represented in (1).

(1) $\bar{S} \longrightarrow$ COMP S

The rule for expansion of COMP in English, (also true of Denya) is (2)

(2) COMP $\longrightarrow$ X^{max} [$\pm$ WH]

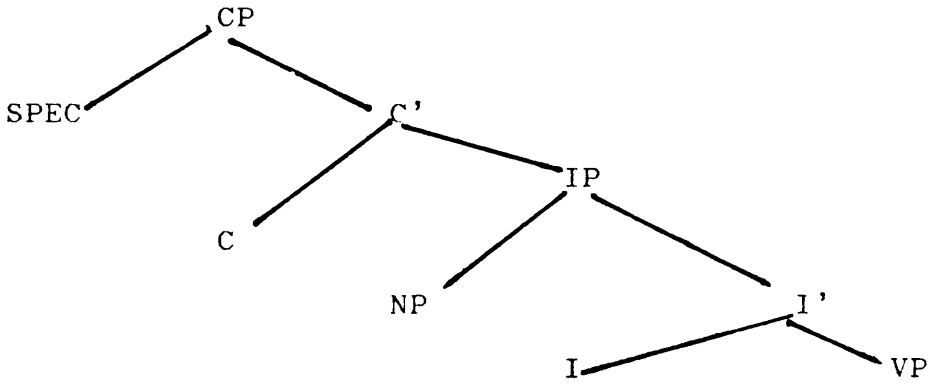
The feature [+WH] introduces direct andindirect questions and [-WH] stands for other complement clauses. Examples of +WH items in Denya and the English equivalents are given in (3).

(3) ± WH in Denya and English:

a. +WH	Waá	=	Who
	ÉfO	=	Where
	ndé	=	What
	Wá	=	Whether
	ndégébé	=	When
	ulá nnó	=	Why
b. -WH	nnó	=	that
	Ø	=	for

It has also been assumed that if a language has Wh-morphemes, a clause initial COMP and a movement rule applying to Wh- phrases, then the landing site of these Wh-phrases is invariably the left sister node of S, dominated by $\bar{S}$, ie the COMP node. However, for our purposes, we shall adopt the CP- analysis in Barriers, already introduced in chapter one. The structure of a sentence/clause is given in (4).

(4)



In (4), C is the head of CP (= $\bar{S}$), I the head of IP. SPEC refers to the specifier position. Within this framework, the wh-phrase moves to the specifier position of CP. This position will be referred to

as C spec. Wh-movement like that of other maximal projections is either adjunction to a maximal projection or substitution. It is a stipulation that wh-phrases may not be adjoined to IP. See Frampton (1990) for a modification of the Barriers system and a claim that adjunction to IP is permitted.[1]

In (5), we accept that wh-movement underlies the formation of the sentences without further justification.

(5) a. [CP [Cspec Who, [C did [IP John send t_i]]]]

b. [NP the man_i [CP [Cspec that [IP John sent t_i]]]]

c. It is [NP the man_i [CP [Cspec Ø [John sent t_i]]]]

In these sentences, (5)a is an example of a wh-question while (5)b is an instance of a relative clause. Example (5)c is a cleft construction. Each of the sentences in (5) contains a wh-trace. The central problem of this chapter is to show that Denya allows wh-movement and therefore permits the occurrence of wh-traces. But before turning to this, let us review briefly the status of wh-trace in GB.

5.3 The Status of Wh-trace:

The basic assumption of GB concerning Wh-trace is that it results from the transformational rule of move alpha or more specifically, move WH. On this, there is general agreement. However, when we

consider the relation between the wh-phrase and its trace, there are differences of opinion. There are those like Chomsky who consider the wh-trace as a variable[2] and others like Aoun who think that wh-trace is an anaphor. For Chomsky, wh-traces are variables assimilated to names rather than to anaphors. As such wh-trace is subject to Condition C of the Binding Theory and not Condition A. We shall adopt Chomsky's view that wh-trace is a variable not an anaphor. This claim is based on a number of arguments. First, let us consider facts based on the Binding Theory. It can be argued that if we take the definition of governing category, a central notion in Binding Theory, given in the preceding chapter and repeated below as (6) for ease of reference,

(6) A is the governing category for B if and only if A is the minimal category containing B, a governor of B and a subject accessible to B.

We notice that it is impossible to define the traces left by wh-movement as anaphors since the antecedent for the trace will always be outside a possible governing category if NP and IP are taken to be candidates for governing category.

Following Freidin and Lasnik (1981), it can further be argued that wh-traces are not anaphors because they are not subject to the usual opacity

conditions, ie can be extracted from the domain of a specified subject and the domain of a tensed clause. Another reason why we must assume that wh-traces are subject to Condition C and not Condition A of Binding Theory is the fact that wh-traces are similar to names (See May (1977)). This point can be illustrated with the sentences in (7) and (8).

(7) a. [CP* Who$_i$ [IP t_i thought [CP t_i [IP John would meet t_i]]]]

b. for which X, X thought that John would meet X

(7)a receives the interpretation (LF) given in (7)b. If we replace the Xs in (7)b by names we can very easily notice the similarity in behaviour of wh-traces and names. Compare (7) with (8) below.

(8) * Susan thought that John would meet Susan.

Another important argument for identifying wh-traces with names is based on the phenomenon of strong crossover (Postal 1971, Wasow 1972). Examine the following sentences with their associated LF representations.

(9) a. [CP Who$_i$ [IP t_i said [CP that [IP Mary likes him]]]

b. For which X, X a person, X said that Mary likes X.

(10) a. *[Cp Who$_i$ did [IP he say [CP that [Mary likes t_i]]]]

b. For which X, X a person, X thinks Mary likes X.

In (9)a, him can be co-referential with wh-trace but he in (10)a cannot. Postal (1971) called this phenomenon crossover because "one of a pair of co-referential expressions crosses over another via wh-movement". In (10)a, the wh-phrase crosses over the personal pronoun he to be in the position it is. In (9)a, there is no such crossover. Now consider Wasow's account as to how this phenomenon confirms that wh-traces are variables. In addition to examples (9) and (10), consider (11).

(11) a. John said that Jane had kissed him.
b. He said that Jane kissed Bill.

Wasow argues that a wh-trace must obey Condition C of Binding Theory. In (11)a, the pronoun him can be co-referential with John. In (10)a, the wh-phrase cannot be co-referential with he, equally, the name Bill in (11)b cannot be co-referential with the wh-phrase.

The arguments summarized here do not in any way constitute an exhaustive treatment. They are merely indicative of the type of claims made in the literature. To give further space to the subject would be irrelevant.

5.4 Wh-movement in Denya:

In this section, we will demonstrate that syntactic wh-movement underlies the formation of wh-questions, relative clauses and focus constructions in Denya.[3]

One example of each of these constructions is given in (12).

(12) a. [CP Waái [IP Eva á- gÉ né t_i]]
who Eva AGR- see t
who did Eva see?

b. [NP Mende [CP y_i [IP Eva á- gÉ né t
man who Eva AGR see t.
The man who/that Eva saw

c. Lé mende [CPne [IP Eva á-gÉné t
Focus man [CP that [IP Eva AGR see
It is a man that Eva saw.

Notice that despite the superficial differences in these examples in terms of the clause indicators and associated pronouns, the three sentences are alike at the more abstract level, especially in having an empty C Spec position into which the wh-phrase moves. At surface level, one can notice an obvious similarity in what is described below as wh-agreement, and summed up in a wh-Agreement Rule.

5.4.1 wh-Agreement:

In Denya, wh-movement in questions as well as in other construction types shown in (12), triggers morpho-phonological changes involving tone changes and affixation. If we compare the sentences in (12) with those in (13).

(13) a. [CP^{e} [IP Eva a-gÉ Waá]]

Eva AGR see who

who did Eva see?

b. [CP^{e} [IP Eva a-gÉ muú fO

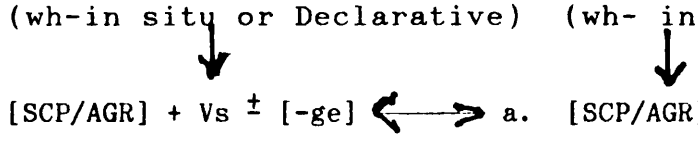
Eva AGR see person some

Eva saw somebody.

We notice that the tonal pattern when the wh-phrase is clause initial is different from when it is clause final. In wh-questions, when the wh-constituent is clause final, the form of AGR and main verb is identical with the unmarked declarative form as in (13)b. In such a case, the SCP/AGR bears low tone except in the third person plural, and the main verb retains the tone pattern appropriate to its class. On the contrary, when the wh-phrase is moved to C Spec, the concord prefix (AGR) now bears a high tone and the main verb undergoes two changes. First, there is an additional affix, specifically, a suffix associated with imperfective verb forms and second, a high tone occurs on the stem syllable if the verb is perfective. This characterisation can be seen to be true of the examples in (12) and any other sentence in which wh-movement is involved, including vacuous movements. The schema in (15) is intended to make the point clearer.

(15) Unmarked verb form ———— marked form

(wh-in situ or Declarative) (wh- in C Spec)



where a. = Imperfective

b. = Perfective

What this scheme represents can be stated informally in the following wh-agreement rule (WHAR).

(16) Wh-Agreement Rule (WHAR):

In Denya, a wh-phrase moved to C Spec must be accompanied by morpho-phonological changes on I and V, specifically:

a. Affixation of an imperfective suffix appropriate to the verb class.

b. High tone on SCP/AGR; on first syllable of verb stem if imperfective or on second if perfective.

5.4.2 Wh-questions in Denya:

From the various Denya examples used so far, it is obvious that Denya permits wh-movement in questions. If we accept that syntactic wh-movement is possible in Denya, the next question to answer is whether such movement is obligatory or optional. Not only will this question be answered here, but we shall go further to show that Denya displays most of the properties found in wh-questions in many other languages. While

some of these will be discussed presently, emphasis will be placed on those properties which appear to give Denya its distinctive character.

Languages differ as to where in S-structure they place the wh-phrase in wh-questions. English, obligatorily places the wh-phrase in specifier position of CP, our C Spec. In some other languages like Chinese (Huang 1982, Henry 1988), there is no syntactic wh-movement, although LF movement is assumed. The wh-phrase is said to be in-situ. A language like French (Kayne 1980, 1984) is said to have both syntactic wh-movement and wh-in-situ. From the above, it is clear that typologically, on the basis of syntactic wh-movement, there are three types of languages, (Chomsky 1986b:45): those in which wh-movement is obligatory (English), those in which it is impossible, LF movement being the only option; and finally, those in which it is optional (French, Igbo (Uwalaka 1991). It is our claim here that Denya is similar to French and Igbo in having both syntactic and LF, wh-movements. On the formation of wh-questions in Denya, there are also two main processes in operation.

a. Optional movement of wh-phrase to C Spec.

b. Wh-Agreement, already described in (5.4.1)

Having already illustrated (b), we can now go on to illustrate (a).

5.4.2.1 Optionality of wh-movement:

That wh-movement in wh-questions in Denya is an optional process is clear from the fact that direct questions can have the wh-element either in clause initial position or in situ position. Consider the sentences in (17).

(17) Denya:

a. Eva agÉ waá
Eva AGR see who
who did Eva see?

b. Waá$_i$ Eva á-gÉ-né t_i
who Eva AGR see
who did Eva see.

In Denya, these two sentences are interpreted as direct questions with identical meaning, as reflected in the English translations. The sentences in (17) are identical in meaning to the French ones in (18) where wh-movement is equally an optional process.

(18) French:

a. Jean a vu qui?
Jean has seen who
Who has Jean seen?

b. Qui Jean a-t-il vu t?
Who Jean has seen
Who has Jean seen?

If we compare (17-18) with the parallel English

examples in (19) we notice that there are differences in interpretation.

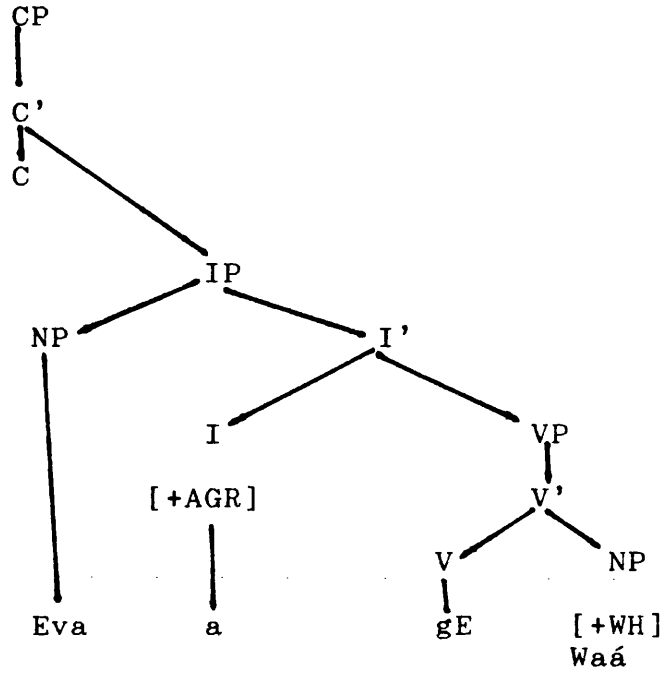
(19) English:

a. John has seen who?

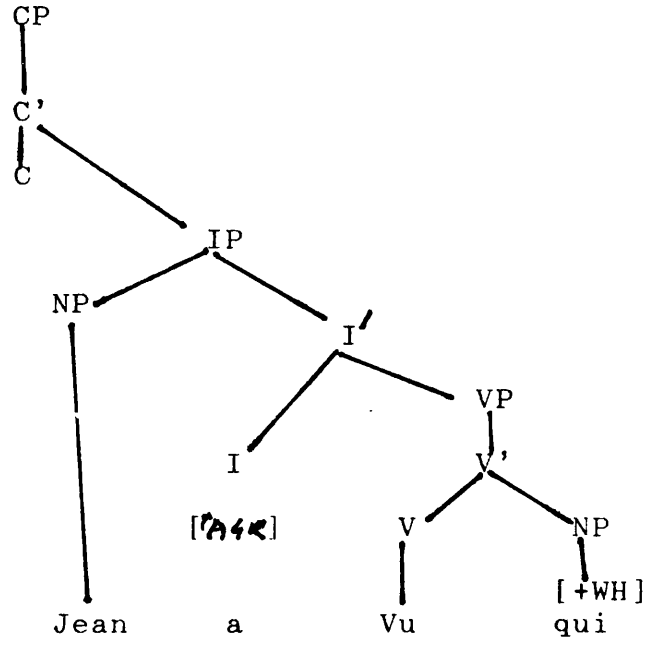
b. Who has John seen?

In English, only (19)b is a real question. The other, (19)a, will not be interpreted as a real question requiring an answer but as an echo or incredulity question (see Perlmutter and Soames 1979:255). To avoid such interpretation in English, the wh-phrase must be moved obligatorily from its D-structure position to derive (19)b. The Denya and French examples given above exemplify the phenomenon of wh-in-situ where crucially (I assume) there is a 'direct' not an echo interpretation. The term wh-in-situ has been used without being formally defined. A wh-in-situ is a wh-phrase which has not been subjected to wh-movement (Chomsky, 1976; 1977, Aoun, Hornstein and Sportiche 1981; Pesetsky 1987). In other words, the wh-phrases in (17)a and (18)a appear at S-structure in their base-generated positions in (20) a and b respectively.

(20) a. Denya:



b. French:



It should be emphasized here that the optionality of wh-movement in questions applies to simple direct questions, whether it is the subject, object or adjunct position that is questioned, as the following examples further illustrate.

(21) a. [CP^{e} [IP Eva a-CWO CYEÉ ndé Eta (E) Sé
Eva AGR come give what to us
what did Eva bring to us?

b. [CP Ndé [IP Eva á-CWO CYEÉ t Eta (E) sé]]
what Eva AGR come give t to us
what did Eva bring to us.

(22) a. [CP^{e} [IP Eva a-lO Waá [CP nnó [IP t á CWO]
Eva AGR-invite who [CP that [IPt AGR come
who did Eva invite to come?

b. [CP Waá [IP Eva á lOO t [CP nnó [IPt á CWO]]]
who Eva AGR invite that AGR come
who did Eva invite to come?

(23) a. [CP^{e} [IP Eva a gÉ Eno ÉfO njuú]]
Eva AGR-see Eno where yesterday
Where did Eva see Eno yesterday.

b. [CP ÉfO [IP Eva á-gE né Eno njuú]
Where Eva AGR see Eno yesterday
Where did Eva see Eno yesterday?

(24) a. [CP [IP Dókta a CWOO ndé gébé
Doctor AGR come-Impf what time
When will the doctor come?

b. [CP ndé gébé [IP dókta á CWOO]]
What time doctor AGR come-Impf
When will the doctor come?

(25) a. [CP [IP Eva a-kú bOO á-nií
Eva AGR-call-pf people AGR-Mary
How many people did Eva call?

b. [CP bOO anií [IP Eva á-kuú t]

people-AGR-many [IP Eva AGR-invite

How many people did Eva invite/call?

Examples (21-25) all illustrate the claim that wh-movement in simple direct questions in the language is an optional process, because each of the pairs is a genuine question requiring an answer. The examples given so far in this section have been described as simple direct questions. In what follows we will examine other features of wh-movement in questions, including multiple wh-questions; the phenomenon of pied-piping and indirect/embedded questions. We shall then consider the effects of the ECP and subjacency.

5.4.2.2 Multiple wh-questions:

The main interest here is to illustrate that the phenomenon of multiple wh-questions exists in Denya. In Denya multiple wh-questions may take the form they do in English. In other words, one wh-phrase moves to C Spec of the [+Wh] CP and the others remain in-situ. Consider the examples in (26).

(26) a. Waá ánamé ndé

Who AGR bought what

Who bought what?

b. [CP Waá i[IP t_i anamé ndé]

c. *[CP ndé$_i$ [IP Waá ánamé t_i]

In (26)a, there are two wh-constituents Waá (=who) in subject position and nde (=what) in object position. As (26)b shows, only one of these is in C Spec position, being vacuously moved to this position. Example (26)c is intended to illustrate superiority effects (Chomsky, 1973, Huang, 1982, Hornstein and Sportiche 1981). Chomsky (1973) noted that a superiority condition constrains movement at S-structure. However, it has since been re-stated as a condition on S-structure representations (Pesetsky 1989).

(27) Superiority Condition:
In a multiple interrogation, where a wh-phrase is in COMP and another is in-situ, the S-structure trace of the phrase in COMP must c-command the S-structure position of the wh-in-situ.

The predictions of (27) hold for both (26)a and (26)b. In (26)c, the ungrammaticality can be explained as follows:

The trace of the wh-in C Spec does not C-command the wh-in-situ. Hence it is ruled out. The reverse is true of (26)a where the trace of the wh-in C Spec correctly C-commands the position of the wh-in-situ as can be seen in (26)b. Consider the following additional examples.

(28) a. ?[CP ÉfÓ; [IP wO ∅-fEré [CP nnó [IP Eno agÉ

where you AGR think that Eno AGR

waá t_i]]]]

see who

where do you think that Eno saw who t?

b. [CP Waá$_i$ [IP wO O-f Eré [CP nnó [IP Eno a-gÉ t_i ÉfO]

In example (28)a, there is a clear violation of the superiority condition since the trace of the moved wh-phrase does not C-command the wh-in-situ. Although this sentence is not ruled out absolutely, its acceptability is very greatly reduced if compared to (28)b where the superiority condition is respected.

It is worthy of note that in the examples (28a,b) given above, the wh-phrases originate in the same clause. In (28)a and b, they both originate from the embedded clause. In the following example, one wh-phrase originates in the matrix clause and the other in the embedded clause.

(29) [CP Waá [IPt á-fÉrege [CP nno Eva a-tyaá Waá]]

Who$_i$ t_i AGR thinks that Eva-AGR embraced who

Who thinks that Eva embraced who?

Denya, like English, does not permit more than one wh-phrase to be moved to C Spec, unlike languages like Polish (Lasnik and Saito 1984:280) where this is possible. For Denya examples, consider (30) below.

(30) a. [IP Eva á kaá wó [CP ndé nwE [Éno á-name t mbaa Wáá]
Eva AGR know Neg what book Eno AGR buy for who
Eva does not know which book Eno bought for whom.

*b. [IP Eva á kaá wó [nde nwE$_i$ mbaá Waá$_j$ [IP Eno á-namé $t_i t_j$
Eva AGR know Neg what book for whom Eno AGR bought
Eva did not know what book for whom Eno bought?

In (30)a, only one wh-phrase is moved to C Spec of the embedded clause, the other wh-phrase remaining in-situ. In (30)b, both wh-phrases are moved into C Spec thus producing an ungrammatical structure. We can argue here on the lines of Haegeman (1991:355) that wh-movement in Denya, like in English, is not done by adjunction but by substitution where only one wh-element can move to C Spec.

5.4.2.3 Wh-movement and pied-piping:

In the following sentences, we will notice wh-elements in prepositional phrases where the wh-element is not the head of the moved phrase but the specifier of the moved phrase. We will assume here that the features of the specifier also determine the features of the entire phrase and that the features of the specifier may percolate to the maximal projection (see Hornstein and Weinberg (1981), Kayne (1984) for discussion). In the following sentences, it will be observed that the phenomenon of pied-piping is possible in Denya as illustrated in (31)c but

there is no possibility of preposition stranding as shown by example (31)d. Preposition stranding exists in a language when a preposition has been left behind after its complement has been moved out. The phenomenon where a preposition is moved along with the complement NP is called pied-piping.

(31) a. Eva a-cyEÉ nka Etá Eno
Eva AGR-give money to Eno
Eva gave money to Eno.

b. Eva a-cyEÉ nka Etá wá?
Eva AGR-give money to who?
To whom did Eva give the money?

c. [CP Etá Wá [IP Eva a-CYEE nka t]]
To whom Eva AGR-give money t?
To whom did Eva give the money?

d. *[CP Waá [IP Eva a-CYEE nka Etá t]]
Whom(m) Eva AGR give money to
Whom did Eva give the money to t]]

e. [CP Waá [IP Eva á-CYEÉ nka Eta wuú]
Who Eva AGR give money to him
*Who did Eva give the money to him?

Example (31)d is unacceptable because the preposition is stranded. The use of a resumptive pronoun would restore its grammaticality as illustrated by (31)e. In such a case as (31)e,

we would maintain that the wh-element in C Spec is base-generated and not a result of move alpha. It would be interesting to explain the difference between a language with preposition stranding such as English and one without, such as Denya or Italian (Rizzi:1982) or French. Kayne (1984) relates the difference between English and other languages to the fact that in English prepositions assign structural ACCUSATIVE while in other languages like Denya, prepositions assign an inherent case. The phenomenon of preposition stranding involves parametric variation cross-linguistically.

5.4.2.4 Subjacency and wh-movement in Denya:

In this section, we will illustrate the extent to which Denya observes the subjacency condition. In fact, Denya exhibits the subjacency condition in most of the standard constructions. If we accept the formulation of subjacency given in (21) of chapter 1, which states that movement must not cross more than one barrier and the phenomenon of VP-adjunction (see 1.3.4.7), we would be able to explain either the grammaticality or ungrammaticality of the sentences in (32-34).

(32) a. ndé Eva á-namé t?
what Eva AGR buy t?
what did Eva buy t?

b. [CP ndé [IP Eva [I a [VP t" [VP namé t]]]

(33) a. ndé genó wO OjOO [CP nnó [IP Eva a na.
what thing you AGR said that Eva bought
what did you say that Eva bought.

b. [CP ndé genó [IP WO [I O [VP t" [jOO [CP nnó
[IP Eva [I a [VP t' [VP na t]]]]]]]]]]

(34) a. Waá (WO) O-fEré [CP nnó [CP Eva ameÉ
who you AGR think that Eva assume
who did you think that Eva assumed
[CP nnó [IP Eno [I a [VP t" [VP jOO [CP nno [IP Dembe
that Eno said that Dembe
that Eno said that Dembe
[I a [VP t' [VP gÉ t]]]]]]]]]]
AGR see
saw

b. [CP Waá [IP (wO) [I U- [VP t" [VP fEré [CP nno
[IP Eva [I a [VP t" [VP mEÉ [CP t nnO [IP Eno [I a [VP
t' [VP jOO [CP nnO [IP Dúmbe [I a[VP t' [VP gÉ t]]

Each (a) example has its corresponding S-structure representation in (b). (32) a is perfectly grammatical in Denya. How does it satisfy the subjacency condition? As the S-structure in (32)b shows, the wh-phrase is moved from the object position. (32)a represents a normal example of short object extraction. How many barriers are crossed by the wh-phrase from its position inside the VP to C Spec? If we assume adjunction to lower VP, then the first

step/stage of the movement is to the VP adjoined position where VP, though a maximal projection is not a barrier because only a segment of it is crossed at this time. Still assuming successive cyclic movement, the wh-phrase moves to C Spec. In so doing it crosses IP which is a BC because it is not L-marked. But here, as already stated elsewhere in 1.3.4.6, IP is not an intrinsic barrier. It only becomes a barrier by inheritance. But why does IP in (32) not inherit barrierhood from VP? The simple answer is that, as we can see in (32)b, only a segment of a maximal projection is crossed between the VP-adjoined position and IP. There is no full blocking category. Thus (32)a is ruled in as grammatical. If we turn to example (33)a, an equally grammatical sentence in the language, and also to (33)b its corresponding S-structure, we notice that the same principle is at work. As (33)b shows, the wh-element is extracted from the object position of the embedded clause and moved to C-spec of the matrix clause. Again, this movement is cyclic and there is VP-adjunction as in (32)a. As can be noted movement from the VP-adjoined position in the lower clause to C-Spec in the upper clause crosses, CP, VP, and IP. We expect that movement from t^2 across IP and CP should constitute a barrier since by definition a combination of CP and IP creates a barrier.

However, we may argue that the CP of the lower clause in the example is not a blocking category since it is L-marked by VP of the matrix clause. With adjunction of this to the VP of the higher clause, no barriers are crossed. Hence the grammaticality of (33)a.

In example (34) successive cyclic movement is made possible by the apparently vacant [CSpec] of the embedded clause which provide a type of escape hatch.

Having illustrated the phenomenon of subjacency, let us consider now some standard examples of island constraints by looking at extraction from various positions in the clause. Consider the following examples for further discussion:

(35) a.

*[CP Waá [IP (WO) O-kaá [NP bií [CP bí [IP Eva á kuú t]

who you AGR-know day that Eva AGR invite

*who do you know the day that Eva invited t?

b. ?[CP ndé gébé [IP wO O-kaá [NP mende [CP yi [IP Eva akuú t]]]

what time you AGR-know man that Eva invite

*when do you know the man that Eva invited?

The S-structure of (35) is given in (36).

(36) a. [CP Waá [IP wO [I O- [VP t" [VP Kaá [bií [CP bí [IP Eva [I á- [VP t' VP kuú t]]]]]

b. ?[CP nde gebei [IP wO [I O- [VP t" [VP-kaá [NP mende [CP yi_j [IP Eva [I á [VP t' [VP kuú ti]] ti]]]]]]]]

In what follows, we shall show that in (35)a and (35)b, the subjacency condition is violated and that the two sentences are hence ungrammatical, although (35)a is worse than (35)b. In (35)a, as seen in S-structure (36)a, the wh-phrase waá is extracted out of a complex NP whose head is modified by a relative clause (RC). Movement of waá from its D-structure position to C Spec of the upper clause in S-structure can be assumed to take place in three stages. In the first step waa adjoins to the VP of the embedded clause. No BC has been crossed since only a segment of VP has been crossed.

The next stage involves movement of waá from the lower VP-adjoined position to the matrix VP position. In so doing, waá crosses the lower IP, CP and NP, some of which are BCs and barriers. The IP in the embedded clause is a BC, though as already stated, it is not an inherent barrier. On the other hand, the CP of the embedded clause, being a maximal projection and not being L-marked, qualifies as a BC and a barrier. In other words, since CP C-commands IP, it automatically becomes a barrier by inheritance. Similarly, NP, being a maximal projection which dominates a BC, is also a barrier by inheritance.

Thus at this point two barriers have already been crossed. Movement of waá from the adjoined matrix VP-position, to C Spec of the matrix clause involves the crossing of only IP.

In example (35)b, extraction is once more out of a complex NP whose head is modified by a relative clause. But unlike (35)a, the extraction phrase is outside the VP. Again, two barriers are crossed and thus there is a subjacency violation. Hence the ungrammaticality of the sentence. The last two examples illustrate extraction from RCs. The next two examples will illustrate extraction from an adjunct position as well as from a subject clause.

(37) a. *ÉfO Eva ájyEÉ Mamfe manpyE UtOO?
Where Eva AGR-go Mamfe to work work
Where did Eva go to Mamfe to work t

b. [CP EfO [IP Eva [I a[VP t' [VP jyEÉ Mamfe [IP PRO mámpyE utOO]]]t]]

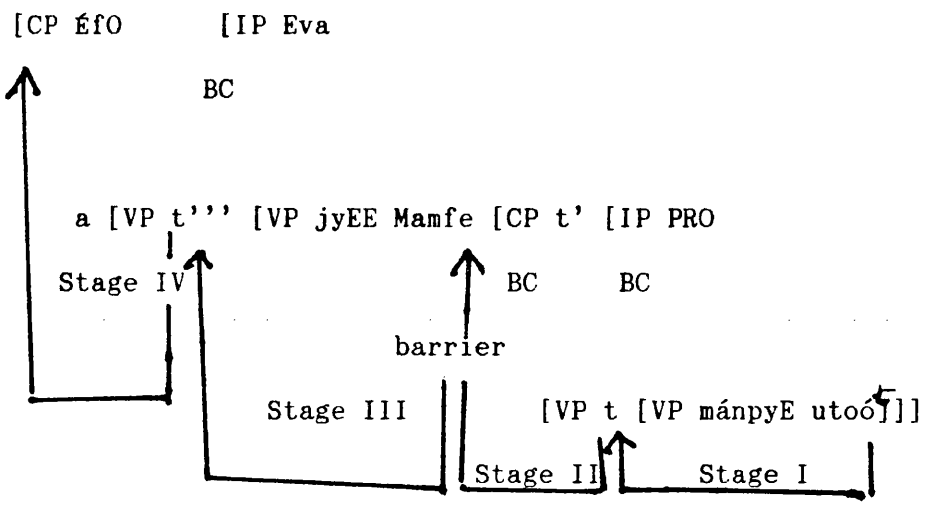
(38) a. lé/gÉ ndeé yi mánswOné t ájwé rege me
see cloth that washing AGR difficult me
This is the cloth/wrapper which washing would be difficult for me

b. [NP ndeé [CP yi [IP PRO [VP t_i [VP mansOné t_i [IP pro [I a [VP t_i [VP jwerege me]]]]]]]]

In (37)a, the ungrammaticality is due to subjacency violation. As can be seen in the

alternative representation in (37)b, the wh-element is moved from outside VP of the lower clause. The following diagram illustrates that movement is in four distinct stages.

(39)



The first stage is to the lower VP where adjunction takes place; the second stage is from here to lower CP. To get here we have crossed IP, a BC but not a barrier. The third stage which involves movement from the lower CP to the matrix VP-adjoined position involves the crossing of a barrier since CP here is a BC. We notice that between stage two and stage three, two BCs have been crossed, thus constituting a barrier. The fourth stage crosses only a BC, IP but this is not a barrier. Thus in (37)a only a weak subjacency violation has been noticed.

In (38) we have an example of extraction from subject clause. There is a clear subjacency violation in that two barriers have been crossed. Still as an illustration, the movement of yi

crosses two maximal projections, NP and IP. The NP not being L-marked is a BC and a barrier. IP is a maximal projection which dominates a BC. It thus, becomes a barrier by inheritance, hence the ungrammaticality. So far, we have been able to show that extraction from certain clause positions either satisfies or violates the subjacency condition as defined in Chomsky (1986b). However, the subjacency condition may be met and yet the sentence may be unacceptable because the trace has not been properly licensed by fulfilling the ECP stated in chapter one. In what follows, we will show how the ECP licenses wh-phrases in Denya and how violation of the principle will lead to ungrammaticality or not.

5.4.2.5. The ECP and the licensing of wh-traces in Denya:

5.4.2.5.1 The That-trace Effects

Our discussion of this subject starts with the familiar That-trace Effects (see 1.3.4.5). The contrasts in (40) give a standard illustration of this phenomenon in English. (40) must be contrasted with (41) showing the equivalent structures in Denya.

(40) a. who do you think [Cp t' that [IP Bill saw t]]
b. *who do you think [CP t' that [IP t left]]
c. who do you think [CP t' [IP t left]]

(41) a. [CP Waá [IP wO O-fE ré [t nnó [IP Eva a-gÉt]]

who you AGR think [t' that [IP Eva AGR see

who do you think [CP t' that [Eva saw t]]

b. [CP Waá [IP wO O-fEré [CP t' nnó [IP t a-fÉ]]

who you AGR think [CP t' that [IP t AGR-go

*who do you think [CP t' that [IP t left]

c. *[CP Waá [IP wO O-fEré [CP t' [IP t afÉ]]

who you AGR think [CP t' [IP t AGR Go

who do you think [CP t' [IP t left]?

A careful comparison of the data in (40) with that in (41) reveals the following:

There is an obvious subject-object asymmetry revealed between (40)a and (40)b which is absent in the Denya examples, (41)a and (41)b.

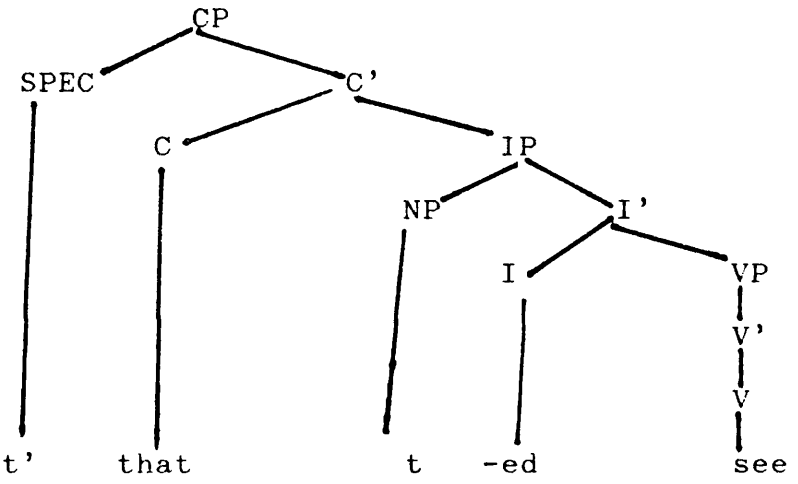
This subject-object asymmetry suggests that the ECP is involved (Chomsky 1986b:47-48; Rizzi, 1990:29).

These data pose a number of problems, so far as the ECP is concerned. As regards (40)a and (41)a, there is no problem.

The licensing of t is straightforwardly accounted for by the ECP requirement that complements be theta-marked by their heads. In both cases, t is properly governed by V. The problem, however, is with (40c) and (41c). The assumption in (40)b,c is that an overt complementizer blocks antecedent-government whereas a null one does

not. On the other hand, (41b,c) attest differently. In (41b), there is an overt complementizer yet the trace t in the subject is licensed. In (41c), where there is a null complementizer, the trace in the subject position appears not to have been licensed since the sentence as a whole is ungrammatical. The partial trees in (42) and (43) illustrate these differences between English and Denya.

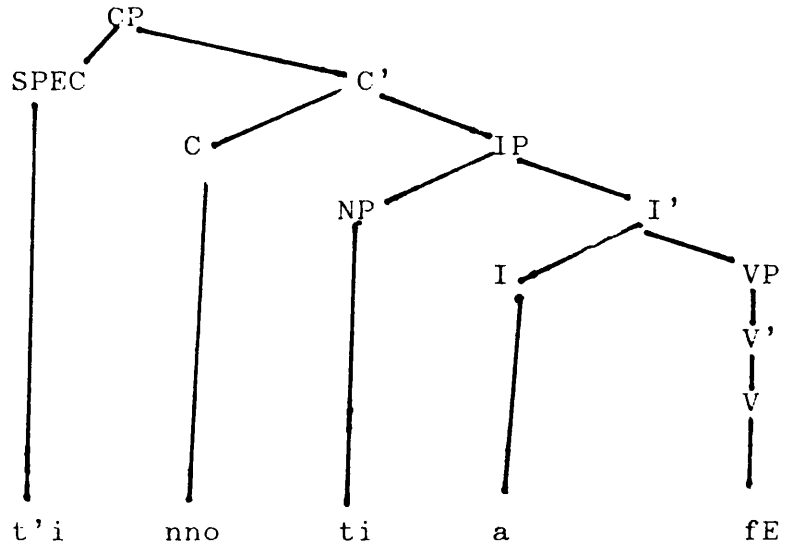
(42) English:



a. t' that t -ed see

b. t' ∅ t -ed see

(43) Denya



a. t'i nno ti a fE

b. *t'i Ø ti a fE

How do we account for these differences in Denya within the ECP? In the Barriers system there is no way in which (43a) can be grammatical for the following reasons. First, although the complementizer nno is the head of C and a potential governor, since IP is not a barrier for government, it does not theta-mark the trace and hence does not govern it. Second, there is no possibility of antecedent government since according to the minimality principle, Waá is a closer potential governor even though the intermediate trace can govern into IP and since the latter, as already said, is not a barrier for government. Thus [t, IP] is left without a proper governor and thus violates the ECP. It is only to be expected, following what has just been said, that (43)b ought to be grammatical. But like (43)a, the reverse happens. Faced with this problem there are two assumptions that can be made.

(a) The presence of a complementizer nnó in (40b,43a) for example, does not block antecedent government t by t'.

(b) Antecedent government is not a sufficient or even a necessary condition to license a trace in subject position considering that Denya is a pro-drop language.

My intuition is to settle for the second assumption because to adopt the first is to claim that antecedent government is involved in (41b, 43a). If the presence of a complementizer did not block antecedent government of t by t', we would expect a sentence without a complementizer to be even more grammatical. Such expectations are not fulfilled in (41c, 43b). Rizzi (1982) demonstrated that the Italian example equivalent to (41b, 43a,b) would be grammatical. He claims that acceptability of such examples is due to the fact that Italian is a null subject language. Rizzi (1990:75-6) on the same problem asks: "why is it that subject extraction is systematically possible from wh-islands and across overt complementizer in a language like Italian? He answered by saying that this property is related to the fact that in such languages the subject can be placed in VP-final position.

But as shown in chapter 3, Denya though a pro-drop language does not permit free subject inversion. My proposal why (41, 43a) are grammatical is based on the notion of head government. As shown in the diagram, nnó, the head of C, can govern into IP and would properly govern it if we relax the condition that it must theta-mark the trace. It has been held that an overt complementizer is not a proper governor (inert for government) because it cannot theta

mark the subject trace. If the overt complementizer in Denya did license the subject trace, its absence would not have made a difference in (41c, 44b). We cannot even argue convincingly that because Denya is a pro-drop language, the subject trace must have been licensed by I and C. If this were true, the licensing should be for both (43a,b) and not dependent on the presence or absence of an overt complementizer. For these reasons, I conclude that C as a lexical head licenses the subject trace.

5.4.2.6 Adjuncts:

Chomsky (1986b: 17) remarked that in general subjects and adjuncts should behave alike under the ECP in a language with X-bar structure. What this implies is that in a chain, a subject or adjunct can only be properly governed by antecedent government. As we know, subjects and adjuncts are non-complements and there exists an asymmetry between complements and non-complements - complements are governed by their heads (ie lexical/head government) while non-complements are licensed by antecedent government. In the following examples, we will show that this claim is true of Denya.

(44) a. [CP ndé gébé] Eva ápyEÉ ndÉ
what time Eva AGR do what

when did Eva do what?

b. [CP spec nde_1] spec nde gebe]$_2$ [IP Eva [I a- [pyEEt_1]]t_2]

(45) a. *[CP ndé [IP Eva ápyEÉ ndé gébé]]
what Eva AGR do what time
what did Eva when.

b. [CP ndé $gébé_2$ [spec ndé [IP Eva [I á- [VP pyEÉ t_1 [t_2]]]]

It can be noticed that in (44b), the variable bound by nde 'what' t_1 is properly governed because it is theta governed by the verb. In other words, t_1 is the complement of the verb, pyE, 'do'. If we consider the second variable, bound by ndé gébé, 'when', t_2 we realize that it is equally properly governed because ndé gébé 'when' is the head of [spec, CP] and antecedent governs its trace. The sentence is thus ruled in. The ungrammaticality of (45) can be accounted for as follows: In this example, nde is the head of [spec CP] and nde gebe, 'when' which is wh-raised at LF, will not be able to antecedent govern its trace. Equally, it is to be noted that the trace is not theta-governed by the verb. Thus (45a) is a clear violation of the ECP. It is therefore not surprising that the sentence is ruled out as ungrammatical. Consider yet two other examples:

(46) a. [ula nnO]$_1$ Eva ájOO ndé t_1

reason how Eva AGR-say what t_1

why did Eva read/say what t_1?

b. [C spec ula nnO$_2$ [C spec nde$_1$ [IP Eva a-jOO t[t_2]

why what Eva AGR say/read t]

t]

why$_2$ what$_1$ did Eva say/read t_1] t_2]

In (46a) as in (44a) t_1 is lexically/theta governed being the complement of jOO, say/read. However, t_2 is not lexically/theta governed because it is an adjunct. However, t_2 is antecedent governed by C spec since C spec is definitely close enough, ie no barriers to prevent antecedent government. Now consider the following unacceptable example in (47a) with its corresponding LF in (47b).

(47) a. *nde$_1$ Eva ajOO t_1 ula nnO

what Eva AGR say/read why

what did Eva read/say t why

b. *[C spec ula nnO, [C spec nde [IP Eva ajOO t_1] t_2]]

The ungrammaticality of (47a) can be explained in exactly the same terms as that given above for (46)a. t_1 is licensed because it is theta governed as well as antecedent governed. This is because it is the complement of the verb and also because C spec binds it. The consequence of this

is that t_2 is left with nothing to properly govern it. The sentence is therefore ruled out because it is neither theta governed nor antecedent governed. Now let us look at another type of adjunct trace by considering the following example:

(48) ndé gébé (WO) O-garé ji [CP nnO [IP Eno a-cwOO]
when you AGR tell him/her that Eno AGR come
when did you tell him/her that Eno is coming

In this example, we find the temporal adjunct nde gebe 'when' in the sentence initial position. This temporal adverbial can be construed with the activity expressed in the matrix clause ie 'gare' "telling" or with that in the embedded clause, cwOO, "coming". The trace of the moved phrase will indicate which clause the time adjunct modifies. Examples (49b) and (50b) suggest the type of answer for each interpretation.

(49) a.
[ndé gébé]$_1$ (WO) O-garé ji t_1 [CP nnO [IP Eno a-cwOO]]
when$_1$ did you tell him/her t_1 that Eno is coming
b. N-garé ji njuú [CP nnO [IP Eno a-cwOO]]
AGR tell him/her yesterday that Eno AGR come
I told him/her yesterday that Eno is coming.

(50) a.
[ndé gébé]$_1$ O-garé ji [CP nnó [IP Eno a-cwOO t_1
when AGR tell him [CP that [IP Eno AGR come
when did you tell him/her that Eno is coming t_1

N-garé ji [CP nnó [Eno a-cwOO geyá

AGR tell him/her that Eno AGR come tomorrow

I told him/her that Eno is coming tomorrow.

In each of these cases, the adjunct is antecedent governed. However, t_2 as in (46b) is not allowed to occur here because it will neither be antecedent governed nor lexically/theta governed.

We have illustrated ECP effects here by relating them to subject-object asymmetries; subjects as we have seen, differ from objects with respect to the ECP. Because adjuncts are not theta-governed, they need to be antecedent governed to satisfy the ECP. In this respect, Denya is in no way different from English.

5.4.3. Wh-traces in Relative Clauses (RCs) in Denya:

5.4.3.1 Introduction:

In this section we shall show that Denya RCs involve the movement of an element to COMP or more precisely, to a position adjoined to CP. Movement takes place in the syntax, leaving an EC behind if subjacency would not thus be violated. However, a resumptive pronoun may be used and this moves at LF. Such movement is possible only if conditions applying at LF are not violated. Relativization in Denya exhibits clearly the properties expected. Consider the following RC constructions in the language:

(51) a.

pro N-kaá [NP mende [CP yi [IP Eva ákuú t]]]

AGR know [NP man [CP that [IP Eva AGR invite t]]]

I know the man that Eva invited.

b.

[NP mmOO$_i$ [CP mí [IP Eva ánamé t_i] mágbElé

[NP wine $_i$ [that [IP Eva AGR buy t] leak

[The wine that/which Eva bought t] leaked

c.

Eva a-gÉ [NP Esaá$_i$ [CP wí [IP Eno ájOO t_i]]]

Eva AGR-see [NP cutlass [CP that [IP Eno AGR-steal t]]]

Eva saw [NP the cutlass [CP that [IP Eno stole t_i]

Each of the examples in (51a-c), contains a complex NP with a post-head relative clause. The complex NPs in (51) consist of the head noun, mende, 'man' in (51a), mmOO, 'wine' in (51b), and Esaá, "cutlass" in (51c) modified by a clause (CP). In English, the head of CP is either a relative pronoun such as who, whom, which, what etc or a complementizer, that. The relative pronouns of Denya are morphologically distinct from regular personal pronouns but identical with the demonstrative pronouns. The form of the relative pronoun is determined by the noun class, a point we made earlier in chapter 1. Notice that in (51), there is a different form of the relative pronoun for each of the head nouns (ie yi, mi, wi). Unlike English, where the form of

the relative pronouns is identical to the form of the set of interrogative pronouns, Denya relative pronouns differ in form fromm interrogative pronouns, with respect to number and gender. Compare the following English examples in (52) with the Denya ones in (53).

(52) a. The man <u>who</u> came here is my uncle.

b. The men <u>who</u> came here are my uncles.

c. <u>Who</u> came here?

(53) a.

Mende yi á-cwOÓ fa alu meŋmÓ ntE wa

man who AGR come here AGR be brother father my

The man who came here is my father's brother/uncle.

b.

Ande <u>bí</u> á-cwOÓ fa á-lú aŋmÓ ntE wa

men who AGR-come here AGR-be brother father my

The men who came here are my father's brothers/uncles

c.

ndé mú/bÓ á-cwOÓ fa

what person/people AGR came here

who came here?

Notice that in English the single form, <u>who</u> occurs both as an interrogative pronoun (51) and relative pronoun (51a,b). It is used for either singular or plural nouns. Denya has distinct forms for these as can be seen in (53).

5.4.3.2 The Distribution of ECs in Denya RCs:

Here, an attempt will be made to show contexts where ECs can occur, where resumptive pronouns are required and cases where relativization by any strategy is not possible. Let us first consider the distribution of ECs in RCs which consist of just a single, simple sentence.

In such sentences, a gap occurs obligatorily where the relativitized position is subject or object. Consider the following noun phrases containing RCs.

(54) a.

[NP bOÓ [CP bí [IP t á-jOÓ nwE wa]

[NP people [who [t AGR steal book my]

The people who stole my book.

b.

*[NP bOÓ [CP bi [Eva ajOÓ nwE wa]]]

(55) a.

[NP nwE wa [CP yi [IP bOÓ bi á jOC t]]]

[NP book my [that [people these AGR steal t]]]

My book which these people stole t

b.

*[NP nwE wa [CP yi [IP bOÓ bi á-jOÓ ji/mekwa

[NP book my [CP that [IP people these AGR-steal it/ box

My book that these people stole it/box.

In (54a) the relativized position is a subject

while in (55) it is an object. Where the positions are filled respectively by lexical nouns/pronouns, the constructions are unacceptable. That is why (54)b and (55)b are ungrammatical. Another feature of the distribution of ECs in RCs in the language is that if the position being relativized is the object of a preposition, it will not admit an EC but must be filled by a pronoun. In this respect Denya is similar to some other languages like Chinese (see Henry 1988) but different from English. Examine the following sentences.

(56) a.

[Np mende [CP yi [IP pro/me n-jOÓ mejOÓ ne*e/ji

[NP man [CP that [IP pro/me AGR talk with*e/him

The man that I talked with*e/him

b.

[NP maa nwE [CP yi [IP me/pro njyEE ne*e/ji]]

[NP child book [CP that [IP me/pro AGR go with *e/him

The pupil that I am going with e/*him.

c.

[The man [CP that [IP I talked to e/*him]]]

From what we have noted so far, we can sum up by saying that in Denya simple sentences containing a RC permit a gap to occur in subject and object positions, but a resumptive pronoun is not possible in these positions. Conversely, a gap

is not possible in the [NP, PP] position; here a resumptive pronoun must occur obligatorily.

Our study has revealed another fact about RCs in Denya. Just as in English, it is not possible in Denya to relativize a position within a RC. Such sentences as before are ungrammatical as the examples in (57) show because of subjacency violations.

(57) a.

[NP muú [CP yi [IP t á namé moto wa] a-cwO

[NP person [that t AGR buy car my come

The person who bought my car came

b.

*[NP muú [CP yi [IP t ánamé moto wa [CP yi

[NP person [CP that [IP AGR buy car my [that

[IP a-lu megile [IP pro a-cwO

[IP AGR be black [IP pro AGR come]]]]]

*The man who bought my car which is black came

c.

[CP e [IP [NP moto [CP yi [IP muú [CP yi [IP pro á-namé t

[IP pro á-lú mejeé wa] a-choó]]]

[CP e [IP [NP vehicle CP which [person [CP who [AGR-buy t

AGR-be friend my AGR break down

*The vehicle which the person who bought is my friend broke down.

5.4.3.3 Relativization and Move-alpha:

We can now show that RC formation in Denya involves wh-movement, (in the same way as it does in English). In other words, we are claiming that there exists in Denya a transformational rule that moves wh-phrases into COMP (ie CP) in the same way as it does in English. It is probably unnecessary to show here that this claim is based on the type of criteria outlined for wh-movement in Chomsky (1977). However, evidence for move-alpha in Denya RC comes mainly from two facts:- subjacency and the wh-Agreement Rule (WHAR) discussed in (5.4.1). These issues will be illustrated as we progress but first reconsider example (51a) and examine the internal structure of the RC. In (51a) we notice that the RC is IP which is preceded by a relative pronoun (RP), yi. The relative clause together with the relative pronoun form a sentence, CP. The structure of CP in Denya is much the same as in English. The
rules for expansion of CP are as follows:

CP ⟶ Spec C'

C' ⟶ C IP

giving the sequence Spec C IP.

In (51a), the [Spec, CP] position is occupied by the RP. The predicate of the RC, the verb kuu, invite/call, requires an internal argument. It

is evident that there is no overt direct object. As in the case of wh-questions, we assume that the verb kuú is followed by a trace whose antecedent is the RP and in this case yi. Compare the possible S-structure (58a) and D-structure (58b).

(58) a. [CP RP_i [IP Eva [VP á-kuú t_1

CP RP, [IP Eva [VP AGR invite t

CP $whom_i$ Eva invited t

b. [CP [IP Eva invited RP]

Since this analysis assumes wh-movement, we must also assume that RCs should be subject to Subjacency Condition on movement. Let us test this by considering the sentences in (59).

(59) a.

[NP gepú [CP yi (ge) Eva á-bÉnege mmyE nnO

house which Eva AGR-praise-impf self that

(ji) á-tEné

him AGR build-pf

The house which Eva praises himself that he built.

b.

*gÉ [NP mende [CP yi Eva á-garé me nde

see [NP man [CP whom Eva AGR-tell-pf me what

gébé ji á-kúu-nyÉ

time he AGR-invite/tell-impf.

*This is [NP the man [CP whom Eva told me when he will invite/call

The S-structure of (59) is given in (60) below.

(60) a.

gepú [CP yi(ge)$_i$ [IP Eva á-bénege mmyE [CP t^1_i nnO [IP j_i a-tEné ti]]]]

b. mende [CP yi$_i$ [IP Eva agaré me [CP ndé gebé [IP ji á-kuú nyE t_i t_j]]]

How can we account for the fact that (59a) is grammatical and (59b) is not. This is simple. In (59a) we have an example of long movement. As noted in chapter one and in this chapter, one barrier is sufficient to block government while more than one blocks movement. Considering the structure of (59a) given in (60a) movement is possible from t_i position to t_i^1 position because in doing so only IP is crossed. IP though a BC is not an inherent barrier. Movement from t^1_i to CP is equally legitimate because no barrier is crossed. Again it is IP that is crossed. If we turn to (59b) and the corresponding S-structure in (60b) we notice that there is a violation of the wh-island constraint. Movement of the adverbial adjunct ndé gébé 'when' from t_j to matrix CP crosses IP, CP and IP. In moving from t_j position to the lower CP, only IP is crossed. But as we know a single barrier does not block movement. Movement of the relative pronoun from

the complement position t_i to the higher CP crosses CP IP, CP. The lower CP not being L-marked assumes barrierhood by inheritance. Again, let us consider in terms of subjacency some of the constructions in which relativization leaving a gap is not possible. Consider first the prepositional phrase in (61).

(61) a.

*[NP maá nwE [CP yi [IP me njyEÉ ne ti]

[NP child school [CP whom [IP I AGR I-go with t]

The student with whom I went

The structure of this is as in (61b).

b.

[NP ... [CP ... t^2_i [IP ... [VP ... [PP ne t^1_i]]]]

In this example, movement from t^1_i to outside the higher CP will cross PP, a barrier obviously because it is not L-marked by the verb; IP as expected, will inherit barrierhood from PP. Movement will involve crossing two barriers, thus violating subjacency. These examples and earlier ones have shown that RC formation in Denya involves wh-movement. We have, however, not looked at subject relatives that involved vacuous movement.

(62) a. mmOO [CP $mí_i$ [IP ti má pyEné Eva]

wine [which [IP t^1 AGR-catch Eva

The wine [$which_i$ [IP ti intoxicated Eva]]

b. [NP 1Eta [CP yi i [IP ti ásOO Eva metOO]]
letter [CP that [IP ti AGR-hurt Eva heart
The letter that annoyed Eva

In both (62a) and (62b), we assume that the RP, yi has moved vacuously leaving a trace, t, in the subject position. The two traces satisfy the ECP. yi in each case, antecedent governs its trace; subjacency is not violated. Movement crosses CP, a barrier, but a single barrier does not block movement. Hence the sentence is ruled in.

5.5. Summary:

In this chapter we have illustrated fully two main contexts in which wh-movement takes place ——— wh-questions and relative clauses. Such movement leaves behind a wh-trace, [-pronominal - anaphor] EC. We have equally shown that wh-trace is licensed by the ECP and that movement obeys subjacency in both wh-questions and relative clauses.

NOTES

1. Frampton's article (cf-Linguistic Inquiry 211:49-78) aimed at proposing and justifying some revisions of Chomsky (1986b) barriers theory especially as it pertains to wh-movement. The revisions focus on modifying the constraints on wh-movement. As noted by himself, "the constraints are relaxed in one direction by allowing adjunction to IP. But they are made more stringent in another direction by imposing a canonical head government condition on adjunction. On the subject of canonical government see Kayne's (1983) "connectedness" theory.

2. Aoun (1986) notes that the term variable is introduced in recent linguistic usage in connection with the logical interpretation of wh-interrogatives by analogy to standard logical usage where X below is called a variable bound by the quantifier, <u>everyone</u>.

   [everyone] i [Xi likes football]

3. Our main interest will be in wh-interrogatives while only casual treatment will be given to the others.

CHAPTER 6

PARASITIC GAPS IN DENYA

6.1 Introduction:

This chapter looks at parasitic gap (PG) constructions in the language. In 6.2 the phenomenon of PGs is illustrated, the distinction between PGs and real gaps (RGs) is made and the environments in which PGs occur are discussed. In 6.3 issues concerning the derivational status of PGs are given. In 6.4 we look at properties of PGs. Section 6.5 examines PGs in Denya. Here, it is shown that although the distribution of PGs in the language is limited, they behave in much the same way as they do in other languages. There is a confirmation of the claim by Chomsky that properties of PGs should follow from general principles of universal grammar. By this we understand that no language specific rules need be introduced into the grammar to account for PGs in Denya. The chapter ends with a summary.

6.2 The Phenomenon of Parasitic Gaps:

The phenomenon of PGs illustrated in (1a,b) below has received considerable attention in the current literature since the pioneering articles by Taraldsen (1981), Engdahl (1983) and Chomsky (1982)[1]. The reason for such awakened interest in this phenomenon is partly due to, in the words of Bordelois (1986), "their intriguing properties"

In our treatment of the various aspects of this subject, we accept Chomsky's (1982:75-8) statement that properties of PGs should follow from general principles of Universal Grammar. Now consider the English examples[2] in (1) (where t is a real gap (RG) and e a parasitic gap (PG).

(1) a. which articles did John file t without reading e.

b. This is the kind of food you must cook t before you eat e.

Engdahl (1983, 1985) and Chomsky (1982) define a PG as a gap that is dependent on the existence of another gap. In the examples in (1), the e gaps are called PGs because their occurrence is in fact dependent on t. If the t-gap did not exist, the PG e could not also as the ungrammaticality of (2) attests (see Bennis 1987:14 for discussion).

(2) *John filed this report without reading e,

PGs, according to Engdahl (1983), can be optional or obligatory.

The characteristics of each of these are given in (3) and (4) respectively.

(3) Optional Parasitic Gaps:

a. follow the real gaps

b. primarily occur in untensed adverbial complement clauses.

c. are in almost free variation with unstressed personal pronouns, which are understood to be

co-referential to or bound by the filler.

(4) Obligatory Parasitic Gaps:

a. precede the real gap

b. primarily occur in gerunds and noun complements.

c. can normally not be replaced by a co-referential pronoun without a significant loss of acceptability (see Engdahl 1983 for discussion).

Bordelois (1986) after a careful study of specific contexts required for PGs to occur in Spanish concluded that in Spanish "only tenseless adverbials exhibiting an infinitival verb admit parasitic gaps." She went further to remark that PGs appear in subjectless contexts and require adjacency of the main and embedded verb.

Bennis (1987:44) for his part, remarked that the distribution of PGs in Dutch is much more limited than in other languages, especially English. He tries to account for this fact in terms of two restrictions on PG constructions in the language - the fact that the two gaps must be of the same type, and that the gaps must be contained in different clauses. He noted that while in English it is possible to find parasitic gaps in clauses embedded in NPs as in (5).

(5) This is the book [that everyone [who reads e] becomes enthusiastic about t]

in Dutch, constructions of this type are definitely

impossible because the clause embedded in the NP is not canonically governed since clauses follow nouns in Dutch. On constructions with adjunct clauses, Bennis demonstrated that PGs do not occur in tensed adjunct clauses but can be found in tenseless ones. He tried to account for this fact within the framework of Connectedness Theory of Kayne that he adopted. This brief survey of contexts in which PGs may occur is intended to provided the background against which we can discuss Denya ones.

6.3 Status of Parasitic Gaps:

As regards the question of PGs as ECs there is still very active debate.[3] The apparent conceptual problem with regards to PG construction is that if we accept move-alpha and the Bijection Principle (Koopman and Sportiche, 1982), there should be a one-to-one correspondence between traces and their immediate antecedents, since as we know, a moved category leaves only one trace behind. To deal with this problem, so far as PGs are concerned, two approaches have been adopted, a derivational one and a non-derivational one. The derivational approach requires a one-to-one correspondence between wh-phrases and their traces. This requirement does not exist with the non-derivational approach which deals with the problem differently.

The non-derivational approach is seen clearly in Chomsky's (1982) analysis of PGs. In this approach,

PGs are considered to be ECs at D-structure. It is equally further assumed that PGs are variables; this structure, of course, being determined at S-structure or LF as a result of the functional determination of ECs.

In Chomsky (1986b), it is claimed that this non-derivational approach, based on the functional determination of ECs, cannot be correct and that the PG constructions involve empty operator movement, a move intended to restore the one-to-one correspondence.

Chomsky's (1986b) approach is known as the Chain-Composition analysis (see also Contreras (1987). According to this view, a PG construction involves two traces, and therefore two chains, that are somehow compounded by an abstract operator O. Chomsky (1986:b 60) writes:

"We conclude that a parasitic construction involves two chains C and C' where C is the chain of the real gap and C' is the chain of the parasitic gap. These are formed into a single chain (C, C') in accordance with a chain Composition Condition ...".

Chomsky argues that operator movement is involved in PG constructions and that although truly parasitic on the real gap in Taraldsen's sense, it is a "real gap" in its own chain headed by an empty operator. It is worth noting that chain composition takes

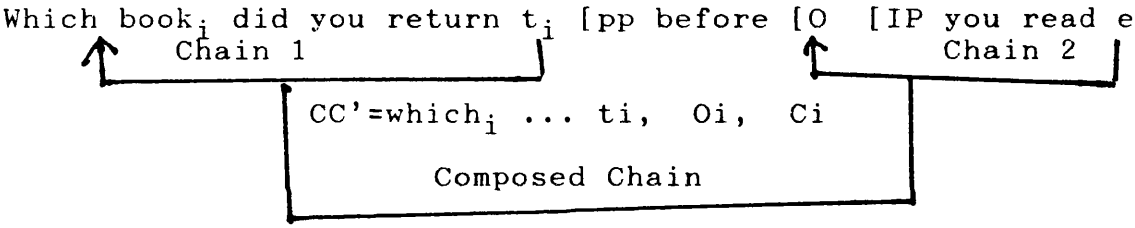
place at S-structure. Chomsky formalized the chain associated with PG constructions as in (6).

(6) If $C=(a_1, \ldots, a_n)$ is the chain of the real gap, and $C'=(B_1, \ldots B_m)$ is the chain of the parasitic gap, then the "Composed Chain"

$(C\ C') = (a_1, \ldots a_n, B_1, \ldots B_m)$

is the chain associated with the PG construction and yields its interpretation. The following sentence illustrates what has been described in (6).

(7)



One advantage claimed for this analysis is that it does not violate the Bijection Principle. In the non-derivational analysis, there was a violation of the Theta-Criterion because the two gaps formed an A-chain which got assigned two theta-roles. In the case of (6), exemplified in (7), the intervening null operator breaks the chain and therefore restores the Bijection Principle and respects the Theta-Criterion. Contreras (1987) presents convincing evidence for the existence of the empty operator in constructions such as (7). He demonstrates clearly that PGs, in reality do obey subjacency, a fact rejected in Chomsky's (1982)

approach.[4] It has also been argued that further evidence for the analysis proposed in Chomsky (1986b) comes from the fact that adjuncts not containing CP cannot have PGs: Consider the sentence in (8).

(8) *Which articles did you file t without [NP a look at e].

In this example, the complement to the matrix clause is not an embedded clause with a CP but a nominal phrase. Hence the ungrammaticality.

The chain composition analysis presented here has been very severely criticised, especially by Koster (1987:362) who claims that he sees no empirical evidence for chain composition in PG constructions. Frampton (1990) reasserts an earlier position (Chomsky 1982) that the two wh-chains in parasitic chain formation are headed by the same operator. Lasnik and Uriagereka (1988) hail the functional determination of ECs because PGs illustrate clearly how this works. They make no mention of the chain composition analysis in their treatment of PGs. For this study, we shall use chain composition as being relevant in accounting for PGs in Denya.

6.4 Some Properties of Parasitic Gaps:

In the literature, PGs have been claimed to have a number of inherent properties, some of which are still controversial. We shall examine the main

properties associated with PGs. In 6.5 we shall relate these to Denya PG constructions. The following is a listing of the properties. The list is in no way exhaustive.

(9) Properties of PGs:

a. A PG is licensed by an operator-variable chain at S-structure.

b. A PG involves chain composition:
(C C') = (a_i ... a_n, Bi ... B_m)

c. The real gap cannot C-command the parasitic gap ie the so-called anti-C-command requirement/ condition.

d. Subjacency will hold for each of the composed chains (C C').

One basic property of a PG that the various theories of PG constructions agree on is (9a). Differently put, it is usually agreed that a PG is licensed by a wh-trace or other operator-bound trace in object position but never in subject position (Chomsky 1986b:54).[5] Consider the examples in (10).

(10) a. What did you file t [before reading e]

b. What did you file t [before you read e]

c. *Who [t met you [before you recognized]

In (10a,b) the PGs are licensed by the real gaps t, themselves wh-traces bound by wh-phrases. In (10c), where the wh-trace is in subject position, the PG cannot be licensed. Hence its ungrammaticality.

Chomsky (1986b) remarks that this phenomenon of not having the licensing trace in subject position is linked to the anti-C-command condition first proposed by Engdahl (1983).

(11) The Anti-C-command Condition:
A parasitic gap may not be C-commanded by the real gap.

Most theories of parasitic gaps (Kayne (1984); Longobardi, (1984), Aoun and Clark (1985), Chomsky (1986b)) will rule out the sentences in (12) by an appeal to (11).

(12) a. *Which papers [t fell off the table without John reading *e/them.
b. *Which man [t warned the police that they should not arrest *e/him]
c. *Which man did you think [t warned the police that they should not arrest *e/him].

The examples in (12) show that the real gap occurs in subject position and C-commands everything that is in the embedded clause including the adverbial phrase which contains the PG. As noted by Engdahl (1983), it turns out that the configurations where PGs are disallowed as in (12) are exactly the configurations which have been taken to require no co-reference (cf. Lasnik (1976) and Reinhart (1976)). Engdahl argues that if we assume the relation between the real gap and the PG is some form of anaphoric linking and furthermore that PGs

are understood to be co-referential with the real gap, then it would not be a surprise if PGs were excluded just in those contexts where the anaphoric rules of the language assign disjoint reference. It is important to note that the various parasitic gap theories derive the anti-C-command condition from different principles of universal grammar.

In Chomsky's Barriers, the anti-C-command constraint is considered as a licensing condition for PG constructions. As shown in 6.3, Chomsky affirms that a PG construction is composed of two chains, the chain binding the real gap to the overt operator and the one connecting the PG to the overt operator. Chomsky remarked (but did not pursue the problem) that chain composition can take place if the real gap does not C-command the PG. However, he indicated that the anti-C-command constraint would follow from one of two principles.

(i) From Principle C of the Binding Theory, on condition that it holds for composed chains.

(ii) From the chain condition which states:

(13) Chain Condition:

A maximal A-chain $(a_1 \ldots, a_n)$ has exactly one case-marked position (a_1) and exactly one theta-marked position (a_n).

The implication of this for the anti-C-command requirement is that if in a composed chain the real

gap C-commands the PG, they form an A-chain with two case positions and two theta positions. This would be a clear violation of (13). This would then be an explanation for the ungrammaticality of cases like (12a-c) above.

So far, we have shown various theories which assume the anti-C-command constraint as a licensing condition for PGs. Contreras (1984), however, argues that the anti-C-command condition is rather restrictive in its description of the distribution of PGs. Based on some illustrative sentences[6], he argues that the anti-C-command condition on PGs is empirically wrong. He thus advocates a revision of Chomsky's (1982) analysis. (See Chomsky 1986b: 63 ff and Safir 1987 for reaction to this suggestion).[7]

In the non-derivational approach, it was held that the relation between the PG and its antecedent was not subject to the bounding condition or subjacency (see 1.3.4.6). This claim was not altogether unreasonable since PGs were not derived by movement. However, in the chain-composition analysis adopted, it is assumed that subjacency will hold for each link of the composed chain. Further discussion of this subject is reserved for 6.5.

So far, we have presented the phenomenon (data) and a pre-theoretic discussion. Our main concern now is to present the Denya data and provide an analysis and discussion of them.

6.5 Parasitic Gaps in Denya:

6.5.1 Contexts for PGs:

So far, Denya examples of constructions containing PG gaps have been incidental. In this section we shall discuss in detail the phenomenon and distribution of PGs in the language.

It has been noted that some languages like the Scandinavian ones (Engdahl: 1983) or Spanish (Bordelois 1986) offer a rich array of syntactic structures which display very clearly the properties of PGs discussed in (9). In Denya, however, the range of constructions that permit PGs is rather limited, although in those contexts which they share with English, they show basically the same distribution of grammaticality. In Chomsky (1986b) two major cases of PG constructions, adjunct parasitic gaps and subject parasitic gaps are extensively illustrated. The former type is exemplified in (14a) and the latter in (14b).

(14) a. What book did you buy t[before [O reading e]

b.Who would [a picture of e please t]]

Example (14a) would correspond to what Engdahl (1983) describes as an optional PG. The embedded clause which contains the PG is an adverbial clause. Meanwhile, (14b) is what she calls an obligatory PG (cf 6.2). Our study reveals that

Denya has adjunct-type PGs (ie 14a) but not subject-type PGs. Now consider examples (15a,b).

(15) a. ndé mmOO Eva áfánégé t [ne [O [IP ányuú e]]]
what wine Eva AGR pour t [before [O [IP drink/ drinking]]
what wine did Eva pour t before drinking e?

b. *waá [foto mbaá e alome metOO t]
who photo to AGR good heart
who would a photo if please

The ungrammaticality of (15b) is due to two factors. Unlike English, Denya does not allow preposition stranding as discussed in chapter five. The NP in Denya, is never modified by a prepositional phrase. Clauses that allow PGs in the language, like in English, permit PGs in wh-questions and non-question contexts. We shall illustrate these in what follows.

6.5.2 Parasitic Gaps in Wh-Questions:

This is the commonest context in which we find the occurrence of PGs in the language. The example we have used so far, (15a), is a wh-question. The clauses that contain PGs can further be distinguished in terms of their polarity, positive and negative. The sentences in (16) illustrate positive polarity while those in (17) negative.

(16) a. ndé menyEÉ Eva ányÉgé t [ne [O[ákaá e]]]

what food Eva AGR eat - t [before [O[AGR know e]
what food did Eva eat before knowing e?

b. ndé menyEÉ Eva ányÉgé t [ne [O [IP á lé kaá e]]]
what food Eva AGR eat t [before [O [AGR know e]
what food did Eva eat before he knew e?

c. ndé menyEÉ Eva átyÉÉgé t [ne [O [IP á nyEÉ e]]]
what food Eva AGR cook t [before [O [AGR eat]]]
what food did Eva cook t before eating e?

d. ndé menyEÉ Eva átyÉÉgé t [ne [O [IP á lé nyÉ e]]]
what food Eva AGR cook t [before [O starting
what food did Eva cook before starting to eat e?

(17) a. ndé menya Eva áwané t [O [O [IP álá kaá e wO]]]
what animal Eva AGR will t [Ø [O AGR know Neg
what animal did Eva kill without knowing e?

b. ndé Eva ánamé t [O [IP álá mEÉ e wO]]
what Eva AGR buy t [O AGR measure Neg
what did Eva buy without measuring e?

Notice that in both (16) and (17) the PG occurs in temporal adverbial clauses. However, in the positive clauses, in (16), there is overt marking of the temporal clause by the prepositional phrase. This is, of course, absent in the negative clauses in (17a,c) on the one hand and (16b,d) on the other. The formal differences reflect differences in aspectual meanings. In (16a,c) where the clauses containing the PG are

perfective in aspect, the emphasis is on the totality of the action. However, in (16b,d) where the clauses containing the PGs are marked for inceptive aspect, the emphasis is on the inception or start of the action. These aspectual differences are not new (see Comrie 1976, Abangma 1984, 1985). What is important to note here is the context in which PGs occur. In the case of (16), they occur in wh-questions where the clause is marked for either perfective or inceptive aspect. In negative clauses containing PGs, as in (17), the main clause containing the real gap expresses a positive action while the adverbial containing the PG expresses a negative action. A formal characteristic of negative temporal clauses containing PGs is the absence of the temporal marker. This is shown by Ø. Let us consider other contexts in which PGs occur in the language.

6.5.3 Parasitic Gaps in Non-Question Contexts:

Non-question contexts that permit PGs include relative clauses and the so-called tough movement constructions. These are all illustrated below.

6.5.3.1 PGs in Relative Clauses:

(18) a.

[NP mandeé [CP yi [IP O-swOnégé t [ne [O [IP oti e]]]]]

clothes [that AGR wash t before [AGR iron

The clothes that you must wash t before you iron e.

b.

[NP NWE [CP yi [IP Eva á ná gé t [ne [O [IP á

Book that Eva AGR buy t before AGR

jOO e]]]]

read e.

The book that Eva bought before reading e

In examples such as (18a,b); relativization, as discussed in the last chapter, involves wh-movement. In such a context PGs are possible. However, in contexts where relativization does not involve wh-movement, as in the case of the resumptive pronoun strategy, PGs are not permitted. Consider the following sentences:

(19) a.

[NP mmOO [CP mí [IP m fané mámí njuú ma-lu mmu]]

wine that AGR pour it yesterday AGR be

inside

The wine that I poured it yesterday is inside.

b.

*[NP mmOO [CP mi mfané mami [Ø [nlá nyu e wO]]]

wine that AGR pour it AGR Neg drink e Neg

*The wine that I pour it without drinking e

c.

*[NP Nku [CP yi [IP nswOné ji [Ø [IP pro n la ti e wO]]]

shirt that AGR wash it AGR Neg iron e Neg

*The shirt that I washed it without ironing.

In (19a), we have a sentence which is only marginally acceptable because of the presence of a resumptive pronoun. In (19b,c) where the resumptive pronoun occurs with a PG, the sentences are unacceptable. This means that resumptive pronouns do not license PGs. In this regard English and Denya are similar. Let us turn to examples involving tough movement.

6.5.4 PGs in Constructions Involving Tough Movement:

For theory internal reasons, (Chomsky 1977) the following sentences, described in the literature as tough movement, are claimed to involve wh-movement.

(20) a.

mmOO mi matOO dOO [PRO manyu ti [Ø [IP pro Olábelé e wO]]]
wine that AGR strong which PRO drink t AGR put
This wine is too strong to drink without putting e down

b.

* mmOO mi matOO dOO [PRO mányú mami [Ø [IP Olábélé wO]]]
wine that AGR-hand much PRO drink it AGR put
This wine is too strong to drink it without putting e down

It is worth noting that like in relative clauses, constructions involving tough movement that contain resumptive pronouns do not permit PGs. This is seen in the contrast of grammaticality between (20a) and (20b).

One characteristic of the clauses in which PGs

occur, as seen above, is that they must be tensed, whether it is realis or irrealis, perfective or imperfective, negative or positive. Even the case of constructions involving tough movement, the clause containing the PG must be tensed. In the grammatical examples given in (17-20) it is clear that the clause containing the PG is "tensed" in that it is inflected for number and aspect. In some languages, as noted earlier, (6.1) the distinction between a tensed and non-tensed domain is an important factor in determining the occurrence of PGs. For purpose of emphasis we may recapitulate some of the remarks made earlier on this matter. Engdahl (1983) in her Accessibility Hierarchy[8] for occurrences of PGs notes that clauses with untensed domains are more accessible, ie higher up in the hierarchy than clauses with tensed domains. Bordelois (1986) remarks that in Spanish, PGs occur only in tenseless "adverbial clauses exhibiting an infinitival verb". She also noted that for Spanish, PGs occur in subjectless contexts. In this context, subjectlessness is understood as a lack of a lexical subject in the infinitival clause. What this implies is that in Spanish overt lexical subjects do not allow PGs under their domain. In the Denya examples given so far, the subject of the embedded clauses containing the PGs are pro,

not PRO. This, of course, is no surprise, since in Denya the clause containing the PG must be tensed. (See chapter 3 for a full discussion of the licensing of pro). In Denya, the substitution of pro by a lexical subject (pronoun) produces only marginally acceptable sentences. Consider the following sentences with lexical pronouns filled in instead of pro.

(21) a.

?ndé menyEÉ Eva ánágé t [ne [O [IP pro/* ji afwOree]]

what food Eva AGR-buy t [before [O [IP pro/him AGR tasted]]

?what food did Eva buy i before he tasted e

b.

?ndé mEnyEÉ Eva ánamé t [Ø [O [IP ji áláfwOré e wO]]

what food Eva AGR buy t him AGR tasted

?what food did Eva buy without he drinking e

c.

?[NP mEnyEÉ [CP yi [IP (wO) O-tyÉE ge t [ne [wO OnyE e]]]]

food that (you) AGR cook t before you AGR eat

The food that you must cook t before you eat.

In example (21a) the embedded clause containing the PG is positive while (21b) is negative. The example in (21a) shows that the generalization also applies to relative clauses containing PGs. Another relevant remark worth making about PGs in temporal adverbial clauses in Denya is that the

parasitic gap is obligatory. If the position of the PG were to be plugged with a lexical (ie resumptive) pronoun, the structure would be ungrammatical as the following examples illustrated.

(22) a.

[NP Ndeé [CP yi [IP Eva á gyalé t [CP gébé [O [IP pro
cloth that Eva AGR tear when

á swOnege e/*E_ji]]]]]
AGR wash e/*it

The cloth that Eva tore t on washing e/*it

b.

[NP geswO [CP yi [IP Eva a-wane t [CP gebe [O [IP
calabash that Eva AGR break when

pro a kpane e/*ji]]]]]
AGR carry e/*it

The calabash that Eva broke t on carrying e/*it

So far, we have illustrated the contexts in which PGs occur in Denya and what licenses them. It may be appropriate to re-examine the properties of PGs, outlined in (6.4) in the light of Denya data presented so far. In 6.4., we enumerated a number of properties associated with PGs. Since Denya has PGs in the contexts defined above, we presume that the properties outlined in (9) should apply to Denya. For example, the property that a PG is licensed by an operator-variable

chain can be shown to be true of all Denya examples given above. We have indirectly shown that where the real gap does not exist or is plugged by a resumptive pronoun, the PG is not licensed and the construction will be ungrammatical or only marginally acceptable.

The claim that a PG involves chain-composition underlies all representation of Denya examples given so far even in cases of negative temporal adverbial clauses which lack overt markers. The whole question of chain-composition has been illustrated in 6.4, so it need not be repeated. In all the grammatical examples given in this section, it can be claimed that the anti-C-command condition which requires that a PG may not be c-commanded by the real gap applies. Consider the following Denya examples.

(22) a.

*ndé nwE [t ákwené mme Eva álá jOO e wO]

which book [t AGR fell down Eva AGR Ng read a Neg

which book fell down without John reading.

b.

*Ndé muú [t á-lOO meKo Eta bOpOlis [nnO [IP

which man AGR send voice to police that

ÉbwO á-pyE e?]]]

they AGR arrest e?

which man [t telephoned the police that they should arrest.

As in the case of the English examples in (12), the examples in (22), are ungrammatical because the real gap in subject position C-commands everything that is in the embedded clause including the adverbial phrase which contains the PG.

6.6. Summary:

In this chapter, we have been able to show that the PG construction exists in Denya primarily in questions, relative clauses and tough-movement constructions. We also noted that unlike the Scandinavian languages or Spanish, Denya does not have a wide range of syntactic environments that permit PGs. Again unlike these languages, PGs in Denya occur principally in tensed clauses. As regards properties associated with this type of construction, Denya confirms most of these. Like English, PGs in Denya, do not occur in nominative subject position, a fact Chomsky linked to the anti-C-command property.

In explaining the distribution of PGs in Denya, we have not resorted to devising new rules for the language. This is also a confirmation of Chomsky's (1982) claim that the properties of PGs should follow from the general principles of Universal Grammar.

NOTES

1. See also Bennis (1987 ch 1), Bennis and Hoekstra (1984), Bordelois (1986), Chomsky (1986b), Cinque (1990), Contreras (1984, 1987), Frampton (1990), Huybregts and Riemsdijk (1985), Kayne (1984 ch. 8), Kiss (1985), Koster (1987:357-367), Safir (1987).

2. The English examples are from Engdahl (1983).

3. Chomsky (1982) considers PGs as variables because both the real gap and the PG are bound by wh-phrases. Cinque (1983b) argues that PGs must be considered to be pro, the empty resumptive pronoun. This view is at variance with that expounded in Chomsky (1986b) where PGs are considered to be traces bound by an empty operator. Bordelois (1986) claims that PGs are a special type of anaphoric variable, thus departing from the usual distinction between variables and anaphors postulated in the Binding Theory (Chomsky 1981).

4. Contreras (1987) used the following sentences to illustrate the relevance of subjacency, (Example (a) below corresponds to his (6) and (b) to his (7).)

   (a) * He is a man who$_i$ everyone [CP O [who meets the woman who marries e$_i$ admires ti (from Chomsky 1982).

   (b) * Which girls, did you admire ti because [CP O, [IP you had some pictures that were taken of

e_i?]] (from Engdahl 1984).

Contreras argues that if the structure of (a) and (b) is as shown, then the ungrammaticality can easily be explained as due to a violation of subjacency. Surely in these examples e is not subjacent to the empty operator.

5. Chomsky however qualifies the statement concerning subjects by noting that a subject can license a PG that it does not C-command as noted by Longobardi (1985b). Chomsky also noted that where the subject is more deeply embedded it can regularly license a PG.

6. Contreras's (1984) argument against the anti-C-command condition is based on an analysis of the following sentences:

(1) John is a man whom everybody who meets e admires t.

(2) Which articles did you file t without reading e?

Contreras argues that although the anti-C-command requirement may be true for (1), it is not for (2) as shown by the facts in (3-4).

(3) Everybody who meets John, admires him.

(4) *John filed $them_i$ without reading [Mary's articles]$_j$

Contreras maintains that the ungrammaticality of (4)

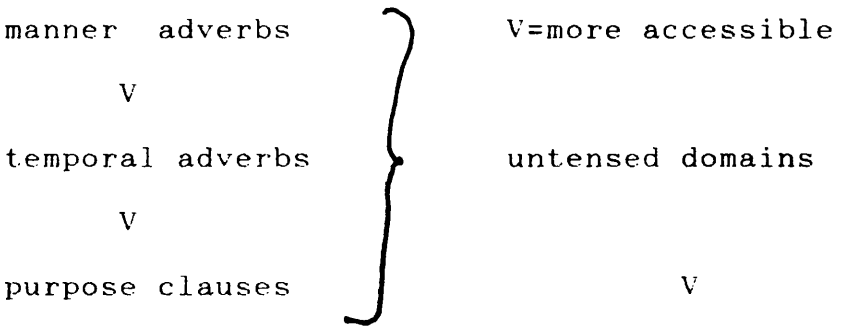
can be accounted for as a violation of Principle C of the Binding Theory (Chomsky 1981) which requires R-expressions, in this case, Mary's articles to be A-free. And if that is the case, then t C-commands e in (2).

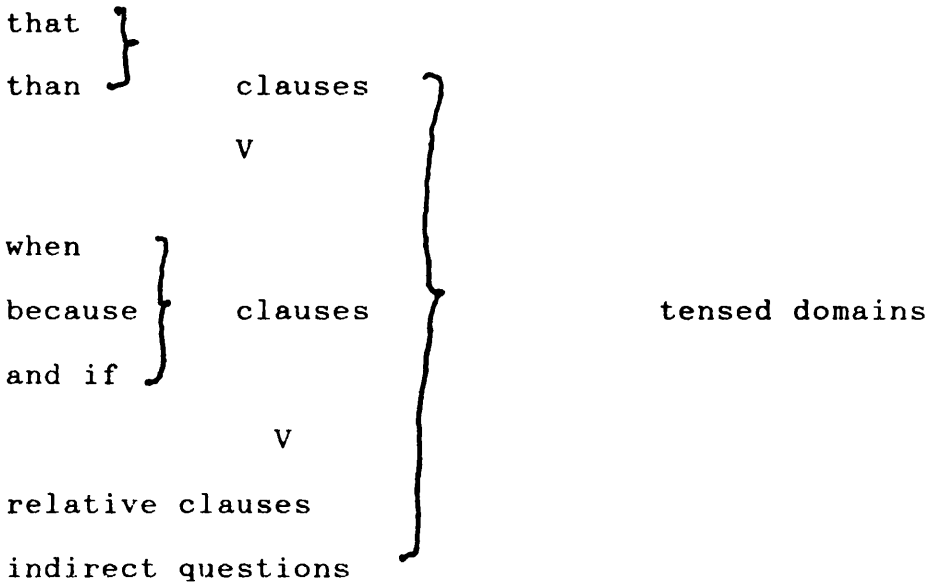
7. Chomsky (1986b: 63) as a reaction to Contreras's claim remarks:

"A large class of cases would be handled by adapting the assumption of earlier work that chain composition is possible only if the anti-C-command requirement is satisfied, that is, the real gap may not C-command the parasitic gap.

Safir (1987) for his part in a squib argues that the Anti-C-command Condition on Parasitic Gaps should be maintained as the correct empirical generalization.

(8) Her AH is modelled on the lines of that of Keenan (1975) and Keenan and Comrie (1977). She noted that hers differs from theirs in that she is primarily interested in different types of subordinate clauses, not in NP positions. The following is the AH for occurrences of parasitic gaps as given by Engdahl (1983).





She noted that this ordering is based on a relatively small sample of ranked examples and is in no way intended, to be exhaustive, only suggestive. What is worth noting is that Denya is hierarchically opposite of this.

CHAPTER 7

CONCLUSION

This study has considered a number of aspects of the nature and distribution of empty categories in Denya. The data examined might be unfamiliar and quite different from the well-known languages like English, French, Italian or Chinese. However, we have been able to show that most of these aspects can be explained by Government - Binding Theory. In this study our main interest has been in the licensing of the ECs, their identification and interpretation. We have also paid attention to the fact that most of the complex aspects can be explained by the interaction of the setting of a small number of parameters.

First, let us consider what our study has revealed about the licensing and interpretation of the various ECs. As regards PRO, we adopted the standard view of Chomsky, taking PRO to be a pronominal anaphor. We demonstrated that the PRO theorem was consistent with the facts of the language and that the distribution of PRO was accounted for by the notions of abstract case and government. Another important revelation was that $\bar{S}$-deletion was not necessary for case assignment. In fact, we concluded that it is not even necessary to talk of $\bar{S}$-deletion in Denya at all. The result of this is the complete lack of exceptional case marking (ECM) in the language. This fact led us to consider the parameterization of Denya as a non-ECM language as opposed to English, an ECM language.

On the subject of the reference of PRO, it was shown that two types of reference were possible in the language. Denya data was tested partially against the various theories of control and it was concluded that most of the predictions were correct but some doubt was cast on some of them. It was suggested that since the present theories of control do not yet solve all problems relating to the reference of PRO, this could be a fertile area for further research in the language.

Let us turn to pro. We argued that features of verbal inflection play a cardinal role in the licensing of pro. In this connection, two features stand out prominently. These are whether a verb is marked for aspect, perfective/imperfective and whether or not the verb shows agreement for number/person/class. Thus in Denya as in other pro-drop languages, AGR is specified for number, gender and person, without which the content of pro will not be determined. Our study of pro led us to make the categorical statement that Denya was a pro-drop language. This conclusion was based on the fact that Denya shared many of the properties associated with pro-drop languages. It was made evident that Denya though a pro-drop language differs from the Italian/Spanish type on the one hand and the Chinese/Japanese type on the other. It was further illustrated that pro, just like PRO, can have arbitrary reference, a fact, which tends to contradict earlier claims that pro must be specific in reference.

In the chapter dealing with NP-trace, it was shown that

this EC has more limited occurrence in Denya, being limited to ergative and middle constructions. It is absent in passive and raising constructions. Being an empty category which results from the transformational rule of move-alpha, its licensing is subject to the ECP and its movement is constrained by subjacency. Again, the predictions of GB are shown to be true of Denya. If we turn to the other non-base-generated empty category, the wh-trace, we noted that it results from wh-movement. This study examined in detail, two construction types that involve wh-movement, wh-questions and relative clauses. In both cases, it was shown that wh-movement is optional. In wh-questions not involving movement, we have the wh-in-situ. For relative clauses not allowing movement, we have the resumptive pronoun strategy.

The wh-trace, we have demonstrated, is licensed by the ECP. We have also shown that wh-movement obeys subjacency. Various island violations were considered and explained.

The chapter on parasitic gaps reveals that PGs exist in the language primarily in questions, relative clauses and tough-movement constructions. These contexts in which PGs occur, appear rather limited if compared to other languages like Spanish or the Scandinavian ones. A fact which appears contrary to what has been claimed for other languages is that PGs in Denya occur principally in tensed clauses, never in tenseless ones. The properties associated with this type of construction are shown to be true of Denya. Another peculiar characteristic of PGs in

Denya is that they never occur in nominative subject positions. Our study of PGs confirms the claim by Chomsky that properties of PGs should follow from general principles of Universal Grammar. We did not resort to devising new rules for Denya in order to explain the nature and distribution of PGs in the language.

In our explanation of the various phenomena associated with empty categories in the language, we suggested directly or indirectly the setting of a small number of parameters. Let us consider some of these.

First, let us consider the AGR parameter. Denya, as we demonstrated, has AGR, a positive setting. A negative setting for AGR will be triggered if the language has no AGR as in the case of Chinese. In this parameter the negative setting is probably the unmarked one while the positive setting is triggered by the awareness that the language being learnt has agreement marking. The consequences of having AGR in Denya are that the base-generated empty category in subject position is governed and therefore pro. In languages like Chinese where there is a negative setting for the AGR parameter [-AGR], the base-generated empty category in subject position is ungoverned and therefore PRO. Again, the positive setting of AGR in Denya means that the governing category for an NP in subject position is its own clause in which it has an accessible subject. This of course, is different if the parameter setting is negative. The lack of AGR means that the governing category for an NP in subject position is not

its own clause, where it does not have an accessible SUBJECT, but the root sentence. Another result of the positive setting of AGR in Denya is that like in English, an overt anaphor like "ji-mbOO", 'himself' must be bound in its own clause. It also follows that Denya like English but unlike Chinese (Aoun 1986) exhibits a subject-object asymmetry in relation to phenomena such as wh-movement.

One other parameter, in fact, the most crucial parameter, for Denya, is the pro-drop parameter. As shown in chapter 3, Denya is a pro-drop language. It has been shown that except for the property of free inversion, other major properties associated with the pro-drop are characteristic of Denya. As regards free inversion, Denya is shown to be one more counter example. On the basis of the properties, missing subjects and free inversion, languages regroup into four logical classes. We have claimed that this is a new insight and requires further investigation.

We do not intend to run through all the parameter settings that can possibly be identified. What we need to do now is to examine the possible merits and limitations of this work. First, not all chapters have been given the same depth of treatment. Chapters 1, 4 and 6, because of the nature of their subject matter appear relatively shorter than the rest. A closer look might reveal that this is not a limitation in the real sense because in a scientific work, we cannot bring in what is not relevant simply because we want to achieve depth of treatment. I do recognize that the study of parasitic gaps remains the most

superficial. This might be true but reveals the present state of our knowledge of the language and the subject. Some people might be unhappy with the fact that no general principles of a theoretical nature have been proposed in place of the existing ones. A criticism such as this must be judged against the goal we set ourselves in this study. The goal set for this study has been to present a systematic study of the properties of ECs in Denya, determine their type and number, and relate these features to principles associated with ECs, such as the Projection Principle, the Empty Category Principle, Subjacency and several others. In this light, we can claim that our objective has been achieved. We started off without any clear ideas of what the situation is. We have ended up with a much clearer view of what ECs exist in Denya and the conditions under which they are licensed and interpreted. This work has been exploratory in nature and as such, provides a basis for further theoretical research. If one were forced to say where the importance of this study is, one may view it from two perspectives:

(a) The significance of a study of ECs generally and

(b) Possible contributions of a study of Denya ECs to the theory of GB and the model of Universal Grammar.

Taking the first perspective, which is more general, it can be noted that the study of ECs has provided explanations for a wide range of linguistic data in a clear and systematic way. Such explanations had hitherto either been lacking or not given in a principled way. Further, a study of ECs has been used to provide evidence for Chomsky's

ideas of UG. Chomsky's UG, of which GB is the most recent theory, is concerned with possible solutions to what he calls "Plato's problem", which informally put, enquires how a child on the basis of relatively very small evidence/data comes to acquire a knowledge of something as complex as the knowledge of language. It is claimed that in UG, a child knows a set of principles that apply to all languages and parameterized settings of those principles that vary within very well defined limits from one language to another. Acquiring a language, therefore, means learning how these principles apply to a particular language and which value is appropriate for each parameter. If we consider ECs as an example, a child learning a language has no direct evidence of ECs since they have no phonetic realization. what appears certain is that the child's language faculty incorporates quite precise knowledge of their properties and as Chomsky (1988: 91) remarks: "Knowledge of the properties of empty categories is part of the framework which the human mind brings to the problem of language acquisition. The elements of this framework are not learned and could not be learned by the child in the time available and on the evidence available".

On this argument it is reasonable to assume that ECs reflect deeper principles of UG. If we turn to the second perspective, the possible contribution we expect this study to make to the theory of GB, and therefore to UG. We can say that the study of Denya, an unfamiliar language, can only strengthen the claims of GB. If there are principles which apply to all languages, we expect these to be true of

Denya. In fact, we have demonstrated that these do actually apply to Denya. We have also shown how the notion of parameterization applies to the language. In this work, we studied ECs in Denya in order to understand our knowledge of language. In this, some distinct contribution has been made, however meagre.

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