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Quiegolani Zapotec syntax

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SANTA CRUZ

QUIEGOLANI ZAPOTEC SYNTAX

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ABSTRACT

Quiegolani Zapotec Syntax

Cheryl A. Black

This dissertation describes and analyzes many facets of the syntax of Quiegolani Zapotec (QZ), a member of the sparsely documented Otomanguean language family. It should be of interest to descriptive and comparative linguists, as well as to theorists. Investigation of a broad range of syntactic constructions is purposely undertaken to examine how effective a small number of constraints can be in determining the full grammar of a language.

The analysis is presented under the Government and Binding Theory. The theoretical issues addressed include the determination of how many functional projections are necessary and their relative nesting in the clause structure. This is determined by looking at the three Ā-dependencies: focus, *wh*-questions, and negation. In each construction, the semantic operator must be fronted to its scope position by S-structure. This is shown to follow from the *Wh*-Criterion and the Negative Criterion (May 1985, Rizzi 1991, Haegeman & Zanuttini 1990, Zanuttini 1991) once these are parameterized to account for the motivation for and restrictions on *wh*-movement crosslinguistically. The attested interaction between the Ā-dependencies leads to the clause structure proposal of a single adjoined position for *wh*-phrases and focus phrases, above a NegP projection.

To derive the surface VSO word order, some movement is necessary in the hierarchical structure I assume. I contrast the two proposals of Verb Movement (McCloskey 1991, Koopman & Sportiche 1991, etc.) and Subject Adjunction (Choe 1986, Chung 1990). The Verb Movement account is adopted due to the V^0-to-I^0-to-Neg^0 movement seen in the negation constructions.

Within phrases, a structural division is seen between the [±V] phrases. The [+V] phrases all have left specifiers, but the [−V] phrases have right specifiers. Head movement is also tied to the [+V] cases.

Various other constructions are analyzed and integrated into this approach: coordination, anaphora, the internal structure of nominals, and the unique number marking construction within nominals. The proposed clause structure, the licensing requirements for $\bar{A}$-dependencies, the ECP, and QZ particular binding relations account for the various properties of these constructions, thus providing a coherent analysis for a large portion of the syntax.

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A graduate study program is difficult in itself, but for a wife and mother of four children it was especially challenging. My husband, Andy, and children, Kara, Lisa, Jeremy, and Matthew, deserve special recognition for their support and encouragement and for their help in keeping the house running. Andy's computer expertise has

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This work is dedicated to God, the creator of all things (including languages). My prayer is that the speakers of Quiegolani Zapotec may soon come to know Him.

Chapter 1

Introduction

The goal of this dissertation is to describe and provide a coherent, explanatory analysis for many facets of the syntax of Quiegolani Zapotec (referred to throughout as QZ). QZ, as well as the group of Zapotecan languages and the whole Otomanguean language family, has previously received little attention by syntacticians. I expect that the documentation of this language will therefore be of interest to those linguists interested mainly in description and typology as well as to theoretical linguists.

Rather than concentrating exclusively on one small part of the syntax, this dissertation seeks to cover a broad range of syntactic constructions in QZ. This wide scope investigation examines how effective a small number of principles or constraints can be in determining the full grammar of a language. At the same time, due to the number of constructions being considered, it is impossible to provide an exhaustive analysis of each one. It is my hope that this dissertation will provide the basis for future research into the areas which I am not able to fully account for here.

In the next section, I give an overview of the whole dissertation. Section 1.2 then outlines the basic theoretical assumptions which underlie the analysis. This includes a brief introduction to the main principles of Government and Binding Theory (GB) to aid the understanding of those lacking familiarity with it, as well as clarification of specific assumptions I am making within that theoretical framework. Many of the terms used in the overview are explained in section 1.2, so those unfamiliar with GB theory would benefit from reading that section first. A list of the few syntactic analyses that have been previously done in QZ and other Zapotecan languages is provided in section 1.3, along with the details regarding my sources of data.

1.1 Overview

The dissertation is presented in three parts. While each part is distinct in nature, the latter parts crucially depend on the earlier ones. The major break comes between Parts I and II, where I shift from mostly description to theoretical analysis.

1.1.1 Part I: Grammatical Sketch

Part I provides a grammatical sketch of QZ, which is intended for use by descriptive and comparative linguists and serves as a necessary backdrop for the theoretical analyses to follow. I deliberately present the data in this part with as little theoretical analysis as possible to make it more useful to those whose interest is mainly in descriptive linguistics.

This sketch begins in Chapter 2 with background information on QZ in particular and on Zapotecan languages in general. Also included in this chapter are information about the practical orthography and a guide to understanding the glossed text used throughout the dissertation.

Chapter 3 then describes the morphology by detailing the use and meaning of each affix, with specific information on the Aspect markers and on the pronominal system. The limited distribution of the empty categories available in QZ is also discussed.

Chapter 4 provides data to establish the unmarked VSO word order and to exemplify the various syntactic constructions. Existential, identificational, and stative sentences are presented first. I then turn to the constructions which are normally assumed to involve syntactic movement. Evidence from Yatzachi Zapotec, which distinguishes between nominative and non-nominative pronouns, leads to the conclusion that A-movement from object to subject position does take place in passive and unaccusative constructions, even though such movement is invisible in the VSO surface order. Raising movement is lacking, however, and the causative constructions are strictly morphological causatives. Also exemplified are the constructions involving Ā-movement or *wh*-movement, such as focus constructions, questions, and negative

constructions. These constructions are analyzed in Part II.

The topic of Chapter 5 is anaphoric or binding relations. I describe the anaphora facts in QZ and two other Zapotecan languages, Isthmus and Yatzachi, to show the variation in these constructions throughout the language family. While Isthmus Zapotec distinguishes reflexive and nonreflexive pronouns and uses each in accordance with Binding Theory, Yatzachi Zapotec expresses reflexive, reciprocal, and "reflexive of possession" constructions only by means of a special syntactic configuration in which the subject is unexpressed if it is coreferent with the possessor of the object. QZ makes even fewer morphological or syntactic distinctions than either of the others, with pronouns being used both reflexively and nonreflexively, resulting in ambiguity, as shown in (1a). Due to this ambiguity, in many situations speakers prefer to use descriptions more specific than pronouns. (1b) shows that proper names may be freely repeated to make the reference clear; pronominalization of coreferent elements is not required. In addition, QZ, like Yatzachi, makes use of the "reflexive of possession" construction, exemplified in (1c) (the underscore indicates the position of the missing subject).

(1) a. *R-wii men men.*
H-see 3RD 3RD
"She/he/they see(s) herself/himself/themselves/her/him/them."

b. *Per n-an-t Merse pa go r-zak Merse.* BRU 34
but S-know-NEG Mercedes what thing H-have Mercedes
"But Mercedes didn't know what she had."

c. *S-ya __ ru x-yuu mër gol.* MARTRIST 42
PR-go mouth POS-house pigeon male
"The male pigeon$_i$ went to his$_i$ house."

Chapter 5 also investigates the question of which elements can have a nonpronominal antecedent. Examples like (1b) clearly violate Principle C of Binding Theory. I claim that there is a hierarchy of nominal types in QZ, which places quantified nominal phrases at the top and pronouns at the bottom, with possessed or modified nouns, proper names, and unmodified common nouns falling in the middle. Beginning at the

bottom of the hierarchy, we can see how this ties in with binding relations (though the coindexing need not be local).[1] An antecedent that is itself a pronoun can antecede only an overt pronoun. Elements in the middle of the hierarchy may either be repeated[2], as in (1b), or they may be followed by a coindexed pronoun (c-command is not a requirement). Quantified nominal phrases are never repeated in their entirety; they may serve as the antecedent for either the common noun used alone or a coindexed pronoun. I also posit that there is a null third person pronoun that may only have a nonpronominal antecedent. These claims will be crucial to several points in the analyses given in Parts II and III.

1.1.2 Part II: Clause Structure and Ā-Dependencies

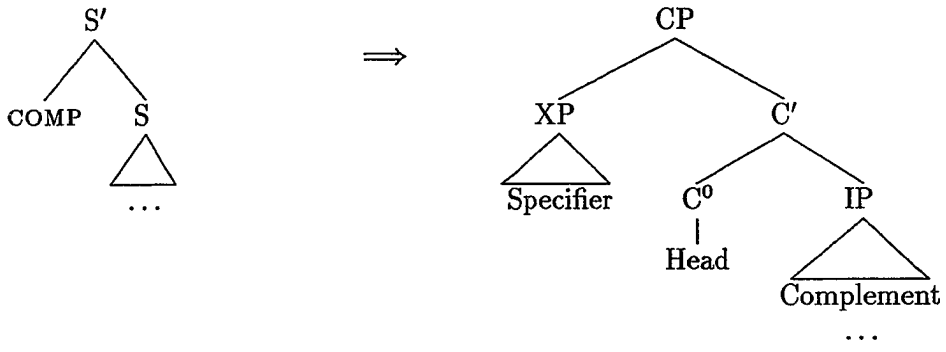
Given the basic understanding of QZ provided by the grammatical sketch, Part II begins the theoretical analysis proper of the syntax. This part undertakes the task of deciding on the overall clause structure of QZ and providing analyses for the various Ā-dependencies attested.

The shift from description to theory is underscored in Chapter 6, which highlights the theoretical issues to be addressed in the remainder of the dissertation. The first important issue in the decision about the overall clause structure is the determination of how many functional projections are necessary. The first functional projections were introduced in Chomsky (1986:3) when the change was made from the S′ over S configuration to the CP over IP configuration, as shown in (2).

[1]See Stenning (1987:167–168) for a related hierarchy of class inclusion. Stenning shows that antecedents must be subordinate to or coextensional with their anaphors. Superordinate antecedents, such as *the creature* or *it*, are not allowed to antecede a subordinate anaphor like *the cat* or *Patrick's pet*.

[2]While repetition of proper names or common nouns is quite common, it is less often used with possessed or modified nominals.

(2)



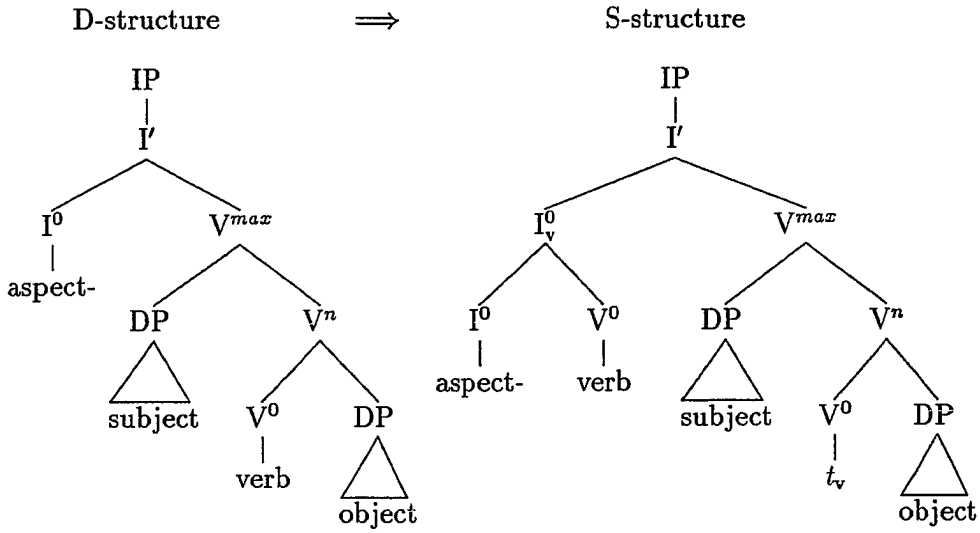
CP is headed by the functional category C^0, which is filled by complementizers, and IP is head by Infl ($=I^0$), which is short for inflection. Since then, Pollock (1989) and others have proposed that IP be further broken down into functional projections headed by Tense, Agreement, Negation, etc. QZ only inflects for Aspect, so a Tense Phrase and Agreement Phrases are not necessary, and Aspect can fill I^0. We will see the need for a phrase headed by Negation, however. Landing sites are also needed for the fronted phrases in the various $\bar{A}$-dependencies, and part of the task of Chapters 7–10 is to determine where these landing sites are located, how many are needed, and how they are licensed.

Another major theoretical issue is the determination of how VSO word order is obtained. Two proposals, Verb Movement and Subject Adjunction (illustrated in (3) and (4), respectively)[3], are presented and evaluated theoretically. The ultimate decision between these proposals is based on the evidence for Verb Movement in the negation constructions covered in Chapter 9.

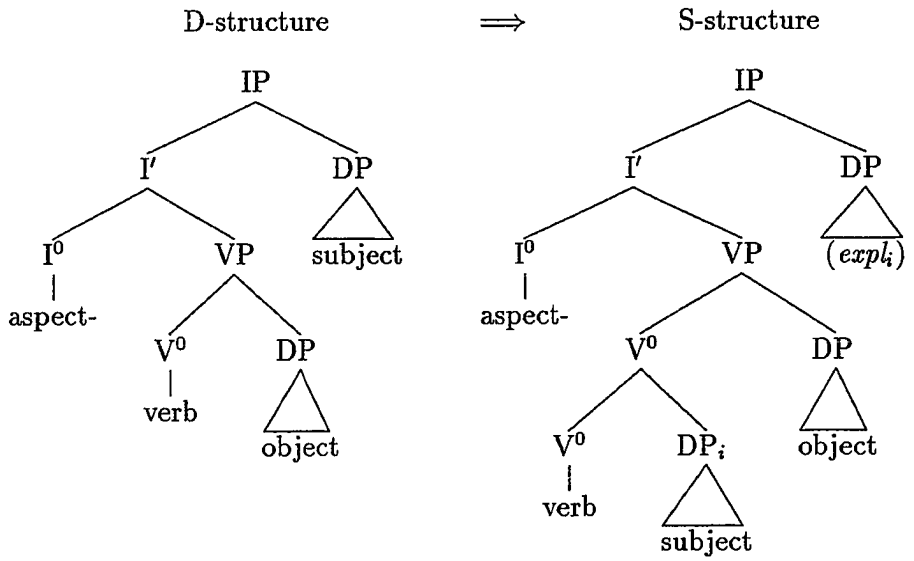
[3]References for the Verb Movement proposal include McCloskey (1991) and Koopman & Sportiche (1991), among others. The Subject Adjunction proposal was first suggested by Choe (1986) and further developed by Chung (1990).

For those readers unfamiliar with GB clause structure, you can consider IP to be equivalent to S (sentence) and DP equivalent to NP (noun phrase). As noted above, S and S′ were reanalyzed as IP and CP to make them pattern like the other phrases in X′-Theory (section 1.2.2.1). See section 6.2 and Chapter 12 for further clarification of the use of IP and DP.

(3) Verb Movement Proposal



(4) Subject Adjunction Proposal



Chapter 6 also lists other theoretical issues involved with the analyses of the individual constructions looked at. These issues will be mentioned in the overview of the chapter where they arise.

Chapter 7 begins our look at Ā-dependencies in QZ by presenting and contrasting focus and topic constructions. These two constructions are distinguishable syntactically in QZ by the fact that a topic phrase is simply adjoined to a matrix clause at D-structure, with all the arguments overtly expressed in their normal position in the clause. In contrast, focus constructions clearly involve Ā-movement of one element to a position before the verb. A so-called focus marker may be present on the fronted phrase. The available evidence in QZ leads to the conclusion that the focus marker is a type of determiner, rather than a complementizer. The focus marker is not required on a fronted phrase since its use is constrained by discourse considerations. On the other hand, a phrase marked with the focus marker must front, subject to ECP restrictions. Data involving focused phrases in embedded clauses with overt complementizers show that the focus position is below the complementizer position, rather than above it. Possible structures are suggested in this chapter, but the full analysis of the fronted position of these focus phrases is not determined until Chapter 10, based on the interaction with other Ā-dependency constructions.

Chapter 8 focuses on the formation of questions and relative clauses in QZ. There we see that content questions are formed by the fronting of a *wh*-phrase, as expected from the typology in Greenberg (1963). Multiple questions are not allowed, however; only a single *wh*-phrase may be fronted and none may remain in situ. This is shown to basically follow from the requirement that both clauses of the *Wh*-Criterion (May 1985, Rizzi 1991) hold at S-structure, with adjunction disallowed as a means of fulfilling the required configuration. I also show that QZ does not follow the widely attested pattern of fronting *wh*-phrases to the specifier of CP; instead, in the cases where the overt *wh*-complementizer *pe* cooccurs with a *wh*-phrase, the complementizer is first, as shown in (5). (This is reminiscent of the position of focus phrases

with respect to the complementizer.)

(5) a. *Pe-zee n-ak no.* BENIT 32
Q-how S-become there
"How is it there?"

b. **Zee n-ak no.*
how S-become there
(How is it there?)

c. **Zee pe n-ak no.*
how Q S-become there
(How is it there?)

Various options are considered to account for this fact (and similar facts in Samoan), including a Double CP or CP-recursion analysis. The CP-recursion analysis is ultimately rejected, since the embedded predicates in both QZ and Samoan are of the wrong semantic type. The best analysis is shown to be that *wh*-phrases occupy an adjoined position immediately below $C^0_{[+wh]}$, with a minimal government relationship as the required configuration rather than the more normal Specifier-head relationship. This necessitates a revision of the *Wh*-Criterion for QZ. In the Appendix at the end of Part II, I readdress the issue of the motivation for and restrictions on *wh*-movement. That investigation reveals that the QZ facts are part of a much larger picture. I propose there a replacement for the *Wh*-Criterion which, with the available parameters, should account for the full range of cross-linguistic variation.

Chapter 9 covers a third type of construction involving Ā-movement: negative constructions. I first show that QZ is a Negative Concord language, since a single negation reading results from multiple markings of negation. This is in contrast to a Multi-Negation language, like standard English, in which each marking of negation changes the polarity of the sentence. Zanuttini (1991) and Ladusaw (1992, 1993) note that it is a deep property of Negative Concord languages that negation must be expressed on or above the head of the clause. This means that a negative pronoun in a complement position alone is not grammatical, as shown in (6a–b) for Italian. In contrast, if the negative pronoun is in subject position, as shown in (6c), it can

express negation by itself, since Italian is an SVO language.

(6) a. *Mario non ha visto nessuno.*
Mario NEG has seen nobody
"Mario has seen no one."

b. **Mario ha visto nessuno.*
Mario has seen nobody
(Mario has seen no one.)

c. *Nessuno ha visto Mario.*
nobody has seen Mario
"Nobody has seen Mario."

QZ follows not only this general restriction that negation must be expressed on or above the head of the clause, but also requires fronting of all negative words. Thus, QZ requires the order shown in (7a), where the negative pronominal object has fronted before the verb which carries the negative marker, and the subject follows the verb in its usual position. The negative object pronoun may not remain in situ even though negation is expressed on the head of the clause (7b). Further, even when the negative pronoun is the subject, it must be fronted with negation still marked on the verb, yielding exactly the same surface form in (7c) as in (7a).[4]

(7) a. *Rut wii-t Maryo* __.
nobody C/see-NEG Mario
"Mario saw nobody."

b. **Wii-t Maryo rut.*
C/see-NEG Mario nobody
(Mario saw nobody.)

c. *Rut wii-t* __ *Maryo.*
nobody C/see-NEG Mario
"Nobody saw Mario."

This obligatory fronting of negative words or phrases is shown to follow from the Negative Criterion (Haegeman & Zanuttini 1990, Zanuttini 1991, Rizzi 1991), which is parallel to the the *Wh*-Criterion (May 1985, Rizzi 1991) and holds at S-structure.

[4]The ambiguity arises from the obligatory fronting coupled with the normal VSO order and the lack of case marking in the language. The meaning of a particular utterance would need to be sorted out from the context.

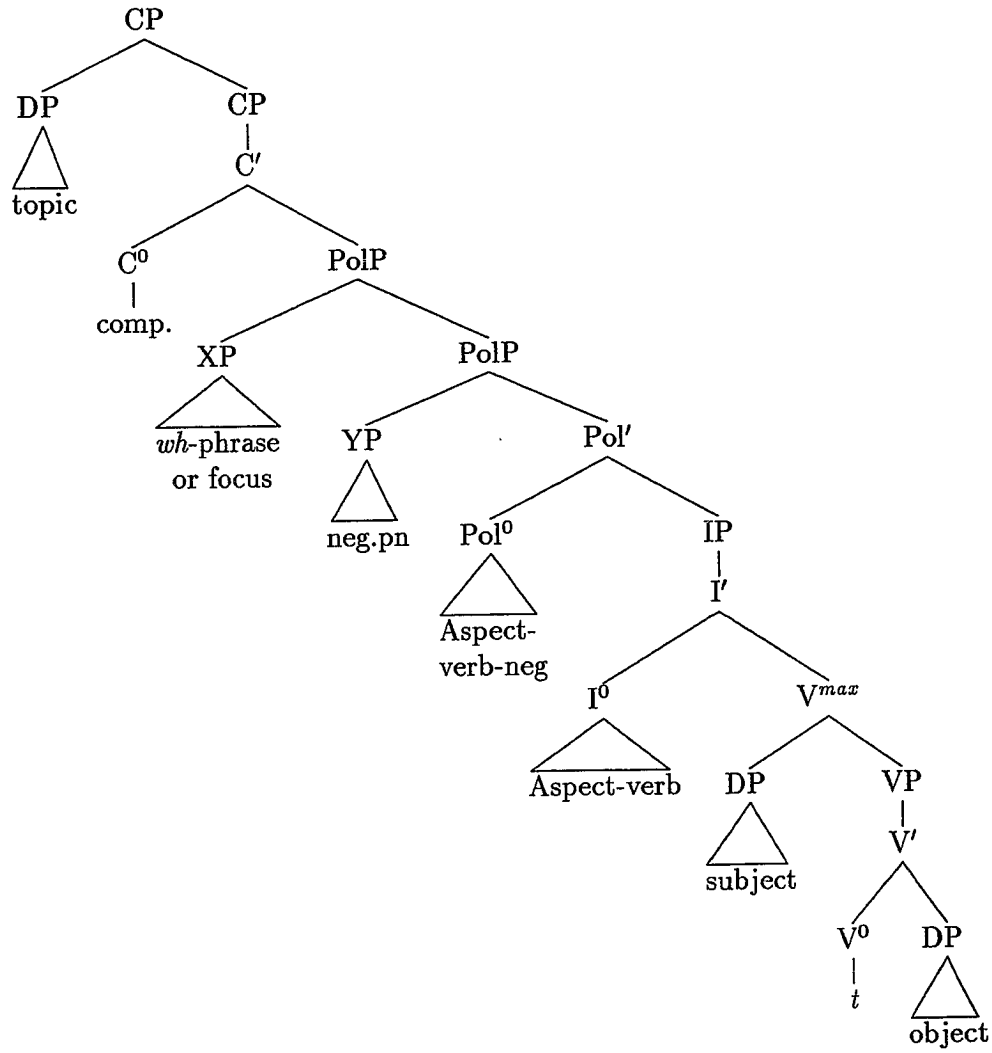
The fronting of negative phrases seems quite similar to the Ā-movement seen in questions and focus constructions. There are two crucial differences, however, which have direct consequences for QZ clause structure. First, the fronted negative phrase is always found **before** the negative head. This leads me to posit a NegP projection in which the normal Specifier-head relationship holds between the fronted negative phrase and the head Neg^0. Second, since the negative head is realized on the verb in most cases, these constructions provide important evidence for V^0-to-I^0-to-Neg^0 movement. The Verb Movement proposal for obtaining VSO word order is thus adopted.

Chapter 10 examines the possibilities for interaction between the fronting involved in questions, focusing, and negative constructions. The relative positions of the fronted phrases and the cooccurrence restrictions among them confirm that *wh*-phrases and focus phrases occupy the same position. This position is directly below C^0 and above the projection headed by negation. I posit that it is simply an adjoined position since there is no evidence for a full projection. The interaction between negation and clause-level coordination leads to the proposal that a Polarity Phrase (PolP)[5] is present in every clause, rather than NegP only being present in negative clauses. The overall clause structure arrived at is illustrated in (8).[6]

[5]The proposal of a Polarity Phrase seems similar to the proposal in Laka (1990) of a ΣP, though I show that the two proposals are analytically distinct.

[6]The verbal complex moves to Pol^0 from I^0 only if negation is present. The subject is shown in the specifier of V^{max} to allow special cases of object fronting to occupy the specifier of VP and also to account for the possibility of extraction of the predicate phrase without the subject (Koopman & Sportiche 1991:239–244, McCloskey 1991:286).

(8) S-structure



1.1.3 Part III: Phrase Structure and Constituent Constructions

Having decided on the overall clause structure, this part of the dissertation turns to the analysis of smaller constituents. The Verb Movement and Subject Adjunction proposals are further evaluated in terms of their ability to account for the properties of these constituents.

Chapter 11 begins by looking closely at the internal structure of verb phrases. Evidence from auxiliary constructions supports the SVO internal structure of the VP proposed under the Verb Movement hypothesis. The data involving apparent VP coordination is problematic for the Verb Movement analysis, however, while falling out nicely under the Subject Adjunction proposal. This merits a closer look at the data. I conclude that true, productive VP coordination with unlike verbs is not allowed, just as the Verb Movement proposal predicts.

The structure of clauses with non-verbal predicates is then examined. The Verb Movement analysis extends nicely to the predicates with a [+V] head, but not to clauses with [-V] predicates. I posit that these [-V] predicates have their subjects in a right-specifier position, and that head movement does not apply.

Chapter 12 examines the structure of nominal phrases. Due to the widely held assumption that clause structure and nominal structure are parallel, both the Verb Movement and the Subject Adjunction proposals have corresponding proposals for the structure of nominals (following the DP Hypothesis of Abney 1987 and Stowell 1989). I show that neither of these proposals will account for the required word order within QZ nominals. Instead, I posit that both NP and DP have their specifiers on the right (with all modifiers except quantifiers also on the right) and that head movement from N^0-to-D^0 does not apply. While this DP structure accounts well for the QZ data, it is somewhat disappointing that it is not parallel to the structure assumed for clauses with verbal predicates. It is completely parallel to the structure of clauses with [-V] predicates, however, maintaining the [±V] division in structure noted in Chapter 11.

Finally, Chapter 13 serves to tie together many of the previous chapters by analyzing the special construction used to mark number, probably the most unique aspect of QZ syntax. The same basic principles and structures at work within the rest of the grammar also apply here. These exotic constructions come in two completely synonymous versions: one where all the parts of the construction are contiguous,

underlined in (9a), and a separated version in which the first element appears in a normal DP position but the remaining parts of the construction are clause-final, as shown in (9b).

(9) a. *R-oo men y-rup men Biki nisgaal.* AGOSTO 8A
H-drink 3RD P-two 3RD Virginia soda
"She and Virginia drink soda pop."

b. *R-oo men nisgaal y-rup men Biki.* AGOSTO 8B
Hdrink 3RD soda P-two 3RD Virginia
"She and Virginia drink soda pop."

I use the syntactic properties of this special construction and its full distribution to demonstrate that it is a single complex DP constituent composed of a head and a clausal adjunct which is headed by the Quantifier.

Semantically, I show that the QZ construction can be thought of as a complex version of the Plural Pronoun Construction (PPC), analyzed by Schwartz (1988), since many of the same properties noted for the PPC are also required in the QZ construction. Of particular importance is the Person Hierarchy Effect, which requires that the person feature of the head be greater or equal to the person feature of the referent(s) of the adjunct on a hierarchy of $1 > 2 > 3$, exemplified in (10).

(10) a. *Ts-a de y-rup de Susan.* TRIPTOQ 80
P-go 2 P-two 2 Susan
"You can go with Susan."

b. **Ts-a Susan y-rup Susan de.*
P-go Susan P-two Susan 2
(Susan can go with you.)

Ladusaw (1989) provides a semantic interpretation for the PPC which entails the Person Hierarchy Effect, by requiring that the reference of the adjunct be included in the reference of the plural pronoun head. I show that this semantic interpretation can be extended to the QZ construction as well, by positing that it denotes a group which has the person feature of the head and the number feature of the Quantifier, where the referents of the DPs following the Quantifier must be included in the defined

group. This correctly entails the Person Hierarchy Effect for the more complex QZ construction.

Returning to syntactic issues, I argue for a derivational account for the separated structure (9b) via Extraposition from DP and optional focusing. The derivational account naturally explains where the parts of the separated structure may move to as well as where separation may not occur. Though a base generated account would also be possible, it would have to stipulate these positions, amounting to a recreation of the Empty Category Principle (ECP). The separation allowed in these special number marking constructions can be accounted for under either the Verb Movement or Subject Adjunction proposal for clause structure. I present the account here under the Verb Movement proposal, but a parallel account is developed under the Subject Adjunction proposal in Black (1992).

1.2 Theoretical Assumptions

The theoretical analysis in this dissertation is presented in the derivational syntactic framework of Government and Binding Theory (GB), which was mainly developed by Chomsky (1981, 1982, 1986). A brief sketch of GB theory is included here with the intention of introducing the key concepts and terminology and clarifying the starting points for the analysis, without delving too much into the minute details. I emphasize only those parts of the theory which bear on the analysis of QZ syntax. The presentation given here gleans significant portions from the more thorough introductions to GB theory done by Sells (1985:19–76) and Baker (1988:24–75).

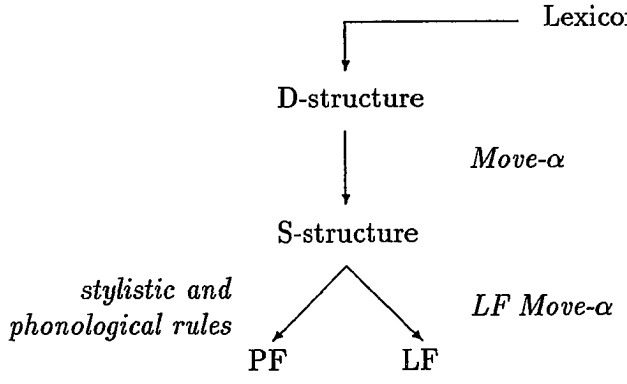
GB assumes that a large portion of the grammar of any particular language is common to all languages, and is therefore part of Universal Grammar. Cross-linguistic differences in a particular construction are accounted for via parametric variation, as in the account of question formation I give in the Appendix to Part II. The Universal Grammar posited by GB can be broken down into two main components: a system of levels of representation and rules, and a system of constraints. Each of these

components is further sub-divided, as explained in the appropriate subsection.

1.2.1 The GB System of Levels and Rules

GB assumes a derivational model consisting of four levels of representation, as diagrammed in (11). The lexicon lists the idiosyncratic properties of lexical items which constitute the atomic units of the syntax. These properties include what arguments the item subcategorizes for, etc. Lexical items are combined together at D-structure (underlying structure), which is the formal syntactic level of representation where thematic roles are analyzed one-to-one into syntactic arguments. D-structure is mapped into S-structure, which is the syntactic representation that most closely reflects the surface order of the sentence. S-structure is not directly interpreted itself, but is factored into Phonological Form (PF) and Logical Form (LF). PF is the interface with the Phonology where shapes, sounds, and groupings of items are directly represented. LF is the interface with the Semantics. Predication relationships and the scope of quantifiers and operators of various kinds are explicitly represented in the phrase structure at LF.

(11)



These levels are related to one another by rules (noted in italics in (11)). A single movement rule, Move-α, maps between D-structure and S-structure and a similar rule maps S-structure into LF. Move-α is stated as a simple rule basically allowing anything to move anywhere, since the system of constraints is responsible for correctly

restricting this movement. Stylistic and other phonological rules are assumed take place at PF.

The discussion and analyses in this dissertation will be concerned almost exclusively with the D-structure and S-structure levels of representation.

1.2.2 The GB System of Constraints

The constraints are designed to restrict the system of levels and rules. These constraints or filters are divided into a number of subsystems that are being developed theoretically in their own right, as shown in the subsections to follow. Like the rule of Move-α, the constraints are stated in the most general form possible. The interaction between the various constraints and the movement rule provides the restrictiveness needed in specific constructions.

1.2.2.1 The X′-Theory of Phrase Structure

The X′-Theory constrains the type of representations allowed at each syntactic level. Instead of the numerous construction-specific phrase structure rules used in transformational grammar, X′-Theory allows only two phrase structure rules, given in (12), that show how lexical items project into phrases to generate the basic syntactic representations.[7] In (12), X, Y, and Z are variables ranging over category types, and * indicates that zero or more instances of that element may occur. XP is a maximal projection, X′ is an intermediate projection, and X^0 is a head. Also, the order of elements on the right side of each rule is subject to parametric variation.

(12) Basic Rules of X′-Theory

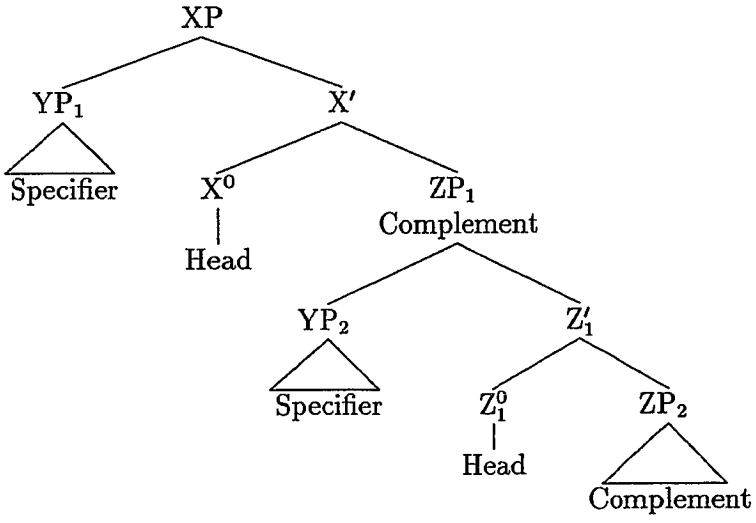
a. $XP \Longrightarrow YP^* X'$
b. $X' \Longrightarrow X^0 ZP^*$

These rules produce the tree structure shown in (13). As illustrated, the maximal projection YP_1 which is the sister to X′ is known as the Specifier, X^0 is the Head, and

[7]Rules allowing for adjunction and coordination are also necessary.

the maximal projection ZP_1 which is the sister of the Head is the Complement. Both of these other maximal projections themselves have the same structure as in (13), so the tree expands recursively, as shown for Complement ZP_1.

(13) Basic X′ Structure



Several basic relationships crucial to other constraints are determined from the tree structure. The Specifier and the Head of a particular phrase normally share certain features. This Specifier-head relationship is therefore important to both agreement and Case assignment. A second important relationship is that of c-command (Reinhart 1976), which formally expresses the notion of "higher in the tree than". A definition is given in (14), where α and β stand for particular categories. Applying this definition to (13), it is clear that the Specifier YP_1 c-commands everything else in the tree except XP and the Head X^0 c-commands its Complement ZP_1 but not its Specifier YP_1. The c-command relationship is especially important in Binding Theory (section 1.2.2.4).

(14) α C-COMMANDS β iff

a. α does not dominate β, and
b. the first branching node that dominates α also dominates β.

A related command relation[8] is m-command, as defined in (15). The only difference between m-command and c-command is that m-command allows a category α to command upward to the maximal projection as well as downward. Therefore, in (13) the Head X^0 m-commands both its Specifier YP_1 and its Complement ZP_1, as well as everything within ZP_1. Note crucially for both c-command and m-command, however, that clause (a) prohibits a category α from commanding a category β which it dominates. Thus, ZP_1 does not c-command or m-command YP_2, Z'_1, Z^0_1, or ZP_2.

(15) α M-COMMANDS β iff

a. α does not dominate β, and
b. every maximal projection that dominates α also dominates β.

The government relation is a localized version of m-command. While m-command may hold between α and some β that is arbitrarily far down in a tree, government is much more local. As defined in (16), only heads may be governors and no maximal projection which is not subcategorized for by a lexical head (=N^0, V^0, A^0, or P^0) may intervene between the governor and its governee, since, in general, maximal projections are barriers to government.[9]

(16) α GOVERNS β iff

a. α m-commands β, and
b. α is a head (=X^0), and
c. every maximal projection which is not a complement of a lexical head that dominates β also dominates α.

By this definition, the Head X^0 in (13) governs both its Specifier and its Complement. If X^0 is a lexical head, it can also govern the Specifier YP_2 of its Complement, since the maximal projection ZP_1 would not be a barrier to government.

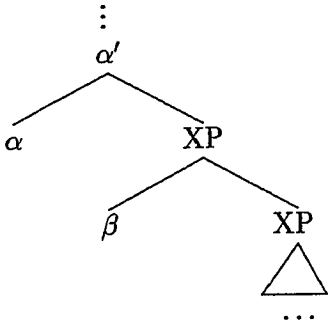
A similar type of government across a maximal projection is crucial for my analysis of *wh*-questions and focus constructions. This involves government by a functional

[8]See Barker & Pullum (1990) for theoretical discussion of the whole family of command relations.

[9]A more technical definition of barriers, based on blocking categories, θ-government and L-marking is given in Chomsky (1986). A precise understanding of those details is not necessary for the analyses given here.

head (=non-lexical, such as C^0, D^0, etc.) of a phrase which is adjoined to the maximal projection directly below it, as shown in (17), where I indicate the positions of α and β being considered.

(17)



Since α is a functional head in this case, the maximal projection XP is not a complement of a lexical head, so direct application of the definition of government in (16) would rule out the possibility of α governing β in the configuration in (17). I appeal, therefore, to a general assumption about adjunction structures proposed by May (1985) (rephrased in (18)), which claims that β is not really dominated by XP because the XP consists of two segments and β is not dominated by both of them. Therefore, the XP does not constitute a barrier for government and α governs β.

(18) β is DOMINATED by a maximal projection XP (or other category) iff it is contained in every segment of XP.

The application of the X'-Theory of phrase structure to every syntactic category of the grammar led to the assumption that sentences and clauses are projected from functional heads, I^0 and C^0, respectively. This approach was extended to nominal phrases under the DP-hypothesis (Abney 1987, Stowell 1989), which claims that nominals are projected from the functional head D^0 which takes NP as its complement. Further breakdown of the functional categories (first investigated by Pollock 1989) is being explored, and I argue that a projection for negation is needed in QZ. Once such a breakdown is undertaken, the question arises of whether every morpheme should be a syntactic head. Baker (1988) explores such a proposal where the words are

then put together via head movement. I also explore this possibility for the limited morphology of QZ. While such an account seems to provide an explanatory analysis for the Aspect and the negation marking being realized on the verb, treating the adverbial suffixes as separate heads is problematic (see section 10.5). Therefore, not all morphemes should be treated as syntactic heads.

1.2.2.2 Theta Theory and Case Theory

Theta Theory determines the particular relationships between lexical items that allow them to be placed into the appropriate positions in the D-structure generated by the phrase structure rules under X′-Theory. Some of the principles within this subarea also relate the levels of representation to one another. Case Theory is responsible for much of the attested distribution of nominal phrases at S-structure.

GB assumes that a particular lexical item (head) selects not only the syntactic category of its arguments, but also their θ-roles, or thematic relations, such as Agent, Patient, etc. Each predicate may select θ-roles not only for its complements, known as "internal arguments", but also for its subject, the "external argument". The Theta-Criterion, stated in its simplest form in (19) (taken from Chomsky 1981), assures that there is a one-to-one mapping between the θ-roles selected by a head and the meaningful syntactic category to which they are linked.[10]

(19) Theta-Criterion

Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument.

A basic tenet of GB is that the syntax is a "projection" of lexical properties. The Theta-Criterion and the Projection Principle (given in simplified form in (20) (Chomsky 1981)) assure that the structure at each level of representation will reflect the subcategorization requirements of the heads, including both the relevant syntactic

[10]Adjoined elements are not included under the Theta-Criterion. Further note that although θ-roles are related to the traditional notion of thematic or semantic roles, you should not assume that the relationship is completely one-to-one.

category and position in the tree and the proper thematic relationships.

(20) Projection Principle

Representations at each syntactic level are projected from the lexicon, in that they observe the subcategorization properties of the lexical items (both in the syntactic categories and the θ-roles assigned).

Taken together, these two principles constitute a strong restriction on the mapping between levels. A number of transformations posited under transformational grammar are ruled out. For example, movement to an object position is impossible, since that position would be subcategorized for and assigned a θ-role by the verb. At the same time, the Projection Principle forces the existence of empty categories, for otherwise any kind of movement of an argument would violate the principle.

In addition to the Theta-Criterion and the Projection Principle, I will also assume the Uniformity of Theta Assignment Hypothesis, proposed by Baker (1988:46), which further restricts the assignment of θ-roles. Under this hypothesis, an argument which is assigned the Theme θ-role is always a D-structure object in accord with its position in transitive clauses. Passive and unaccusative sentences must therefore be derived via movement.

(21) Uniformity of Theta Assignment Hypothesis

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

Burzio's Generalization (Burzio 1986:185) states that verbs which do not have external arguments cannot assign Case. This applies to passive and unaccusative verbs. The lack of Case assignment to the D-structure object position provides motivation for the movement of the object to the subject position, as made necessary by the Uniformity of Theta Assignment Hypothesis.

More generally, Case Theory is responsible for determining much of the distribution of nominal phrases. The Case Filter, given in (22), rules out a particular structure if some nominal phrase fails to be in a position to which Case is assigned.

The Case Filter is normally assumed to apply at S-structure, though more generally the Filter must apply to chains[11], where exactly one Case-marked position is included in the chain (usually the tail, as in normal *wh*-movement).

(22) Case Filter

*NP (or DP under the DP Hypothesis), if it has phonetic content and no Case.

Case in GB is based on the traditional notion of case, which is manifested in many languages. English is rather impoverished in this regard, since only the pronominal system distinguishes case, and QZ does not have any morphological marking for case at all. Technically though, based on assumptions about Universal Grammar, every nominal phrase must receive Case. It is assumed for English that verbs assign Case to their objects under the government relationship, while subjects receive Case via their Specifier-head relationship with Infl (=I^0). Possessors are also assumed to receive Case from either the head noun or from D^0 (depending upon the position assumed for possessors) via the Specifier-head relationship. Case assignment is thus accomplished under one of the two relationships which are local forms of m-command. It is important to note that in many languages, Case assignment requires the Case assigner to be adjacent to the element that receives Case (Stowell 1989), ruling out the intervention of adverbials, etc. This strict adjacency requirement has a part in several of the QZ constructions.

1.2.2.3 The Theory of Movement

Two basic types of movement of maximal projections are distinguished in GB: A-movement and Ā-movement. A-movement, sometimes also called NP-movement, is movement to an (empty) argument position. Such A-movement is motivated by Case Theory, normally involving either the object of a passive or unaccusative verb moving

[11]In general, a chain consists of coindexed elements in a c-command relationship (Reinhart & Reuland 1993). As shown in the next section, a chain is formed between the moved element and the position it moved from. The topmost element is called the head of the chain and the lowest element is the tail.

to subject position or else the subject of a nonfinite embedded clause raising to the subject position in the matrix clause (since nonfinite Infl cannot assign Case to the embedded subject). Only very limited A-movement is attested in QZ, as shown in Chapter 4.

Ā-movement is also referred to as *wh*-movement (this term arises from the movement to the front of the clause that takes place in question formation). Ā-movement comprises all movement to a non-argument position. It therefore includes movement to the specifier of a functional projection which is not normally filled by the subject (such as the specifier of CP) as well as movement to an adjoined position. Ā-movement is not motivated by Case Theory, since the moved nominal phrase receives Case in its D-structure argument position (which is the tail of the chain created by the movement). Instead, Ā-movement takes place to assure the proper scope of semantic operators. The *Wh*-Criterion (May 1985, Rizzi 1991), given in (23), is one formalization of the motivation for Ā-movement. QZ exhibits extensive Ā-movement and Chapters 7–10 and the Appendix are concerned with its proper analysis.

(23) The *Wh*-Criterion

a. A *wh*-operator must be in a Specifier-head configuration with an $X^0_{[+wh]}$.

b. An $X^0_{[+wh]}$ must be in a Specifier-head configuration with a *wh*-operator.

In GB all movement is accomplished via the general rule of Move-α: "move anything anywhere". We have seen that the Theta-Criterion and the Projection Principle, coupled with X′-Theory, rule out many possible types of movement. Case Theory can be seen as motivating A-movement, while at the same time ruling out other movement (unaccusative objects moving directly to the specifier of CP, for instance). Further constraints on the action of Move-α, restricting what can move, how far it can move, and where it can move, will be presented here.

Given the Projection Principle, once some syntactic position exists, it must always have existed and must continue to exist, within the context of the derivation. This entails the existence of empty categories, or traces, which occupy the empty position

vacated by Move-α. The trace is coindexed with the moved category, forming a chain. One of the major constraints on movement is a constraint on traces, called the Empty Category Principle (ECP), stated in (24).

(24) Empty Category Principle
A trace must be properly governed.

The definition of proper government is still being debated: some say traces should be both lexically governed and governed by an m-commanding antecedent, while others claim only one of the two is sufficient (Lasnik & Saito 1984, Rizzi 1990, Cinque 1990, etc.). Most of the discussion arises with respect to subject-object asymmetries which are not normally relevant in VSO languages. Further, there are differences across languages with respect to which categories are proper head governors. For the analysis presented here, I assume that government by a lexical head is required, but that P^0 and N^0 are not proper governors in QZ (to account for the lack of extractability of the possessor and the object of prepositions). Therefore, only the lexical [+V] heads are proper head governors in QZ.

It is also necessary to restrict long-distance movement. This is accounted for by Subjacency, which is a locality constraint that restricts the application of Move-α. If more than one bounding node (or barrier) is crossed in a single movement, the result is marginal. The particular choice of bounding nodes varies with the language, but in general, movement is disallowed out of more than one nominal phrase or clause at a time. I will only be briefly touching on long-distance movement in QZ, so Subjacency will not be at issue.

The last set of restrictions in this subarea deal with the landing sites of movement. We have seen that the Theta-Criterion and the Projection Principle rule out movement to an argument position that is assigned a θ-role. A-movement is thus always to an empty specifier position that is reserved for arguments. Landing sites for $\bar{A}$-movement include specifier positions not used as argument positions and adjoined positions.

The theory of adjunction is still in its infancy, with many issues yet to be resolved. General principles have been proposed to restrict heads (X^0) to adjoin only to heads, while only maximal projections may adjoin to the higher-level projections, X′, XP, and X^{max} (Rizzi & Roberts 1989). In addition, the Empty Category Principle (ECP) prohibits downward movement (if the conjunctive version requiring both head government and antecedent government is assumed), since the trace would not be m-commanded by its antecedent. A further stipulation, put forth by Chomsky (1986:6), prohibits adjunction to an argument. This prohibition will guide decisions about the clause structure and the structure of specific constituents in QZ.

This subsection has dealt exclusively with movement of maximal projections up to this point. Movement of intermediate projections is not allowed, but head movement deserves some consideration. Travis (1984:131) posited the Head Movement Constraint given in (25) which forces a moving head to observe a particularly strict version of locality. Baker (1988) argues that the Head Movement Constraint is not a separate principle, but instead falls out from the ECP requirement that a trace be governed by an m-commanding antecedent (if it does not meet the requirement of being governed by a head[12]).

(25) Head Movement Constraint
An X^0 may only move to the Y^0 which properly governs it.

Head movement of V^0 to I^0, and sometimes on to Neg^0 (or Pol^0) is crucial to the Verb Movement proposal for obtaining VSO word order adopted for QZ.

1.2.2.4 Binding Theory

Binding Theory characterizes the anaphoric relations between nominal phrases, covers the distribution of pronouns and reflexives, and is also used to determine the distribution of empty categories. Binding is formally defined as shown in (26).

[12]A head cannot directly govern another head; instead the head governs the maximal projection containing the other head. This is why antecedent government is required for head movement.

(26) α BINDS β iff

a. α c-commands β, and
b. α and β are coindexed.

We can further distinguish between A-binding and Ā-binding by requiring the binder α to be in an argument position for A-binding.

Three principles have been set forth to account for the distinct distributions of anaphors, pronouns, and other nominal phrases. These are given in (27), where the governing category is a local domain which, roughly speaking, denotes the minimal category which contains both a subject and an element that governs the element in question.[13]

(27) Principles of Binding Theory

A. Anaphors (e.g. reflexives and reciprocals) must be A-bound in their governing category.
B. Pronouns must not be A-bound in their governing category.
C. "Denoting expressions" (or R(eferential)-expressions) must not be A-bound.

These Principles of Binding Theory thus recognize that the class of nominal phrases is partitioned into three different types. These partitions are characterized by the two features [±anaphoric] and [±pronominal]. In this system, personal pronouns are labeled [-a,+p], while reflexive and reciprocal pronouns are classified [+a,-p], and full nominal phrases are assigned the features [-a,-p].

It is an insight of GB (and earlier versions of Extended Standard Theory) that the chain coindexing established by Move-α is equivalent to the coindexing in binding relationships between overt nominals. Therefore, the Principles of Binding Theory are also applied to empty categories. Four types of empty categories are recognized, corresponding to the four possible feature specifications [±anaphoric] and [±pronominal]. The trace of Ā-movement (also known as *wh*-trace) corresponds to the full nominal

[13]Again, more technical definitions have been proposed for the governing category, but these will not be crucial to the analysis of QZ. We will see the need to parameterize some of the Principles of Binding Theory, however, in Chapter 5.

phrases, having the feature specification [-a,-p] and being subject to Principle C.[14] The trace of A-movement (also known as NP-trace) corresponds to an anaphor in its need to be locally bound, therefore being classified as [+a,-p] and being subject to Principle A. The empty counterpart of pronouns is filled by *pro*, which is the "missing" subject allowed in many languages where the verb shows person and number inflection. As such, *pro* is classified [-a,+p] and falls under Principle B of Binding Theory. The final empty category does not have an overt counterpart, since it would have to be subject to both Principles A and B simultaneously. The empty subject in control constructions, *PRO*, is assumed to be [+a,+p]. This feature specification and subsequent applicability of Principles A and B leads to the conclusion that *PRO* must be ungoverned and does not receive Case.

These binding relations are summarized and exemplified in the chart in (28) (a reordered and slightly modified version of Sells 1985:74).

[14]Such traces are $\bar{A}$-bound but not A-bound.

(28)

Nominal Type	Binding Features	Binding Principle	Examples
OVERT			
himself	+a,−p	A	1. John$_i$ likes himself$_i$. 2. *John$_i$ thinks that [I like himself$_i$]. 3. John$_i$ believes himself$_i$ to be sick. 4. *John$_i$'s mother likes himself$_i$.
him	−a,+p	B	1. *John$_i$ likes him$_i$. 2. John$_i$ thinks that [I like him$_i$]. 3. *John$_i$ believes him$_i$ to be sick. 4. John$_i$'s mother likes him$_i$. 5. His$_i$ mother likes John$_i$.
John	−a,−p	C	1. *He$_i$ likes John$_i$. 2. *John$_i$ likes John$_i$. 3. *He$_i$ thinks that [I like John$_i$].
EMPTY			
trace of A-movement	+a,−p	A	1. John$_i$ was seen e_i. 2. *John$_i$ thinks that [I was seen e_i]. 3. John$_i$ seems [e_i to be here].
pro	−a,+p	B	1. *pro* habla inglés. 2. *pro$_i$* llegó Juan$_i$ ayer.
trace of Ā-movement	−a,−p	C	1. *Who$_i$ does he$_i$ like e_i? 2. *Who$_i$ does he$_i$ think that [I like e_i]?
PRO	+a,+p	A/B	1. John$_i$ tried *PRO$_i$* to sleep. 2. John thinks that it is inadvisable *PRO* to sleep.

This concludes the sketch of GB Theory. The specific theoretical assumptions needed for a particular analysis are further explained in the relevant section.

1.3 Previous Analyses and Sources of Data

The available research on Zapotec syntax is not very extensive. There are some morphological sketches which describe word and phrase level phenomena, such as verb conjugations with the different Aspect markers and the personal pronoun systems,

including possessive and reflexive constructions (De Angulo 1926a, 1926b; Radin 1930; Pickett 1953a, 1953b, 1955, 1976; Leal & Leal 1954; Lyman 1964; Marks 1976; Speck & Pickett 1976; Butler 1976a, 1976b; Benton 1981; Marlett & Pickett 1985, 1987; López & Newberg 1990; Marlett 1993). In addition, a number of descriptive analyses of the phonology and of discourse elements are available, as well as texts and word lists in various Zapotecan languages. The literature dealing specifically with syntactic phenomena, especially at the clause level, is much more limited. An anonymous manuscript, dated 1823, is the first known study of the grammar of a Zapotecan language. Since then, several studies have been done within the Tagmemic framework (Pickett 1959, 1960, 1967; Briggs 1961; Earl 1968) and descriptive grammars of several other Zapotecan languages have recently been completed (Butler 1988, Nellis & Nellis 1983, Stubblefield & Stubblefield 1991). Many of these works were useful in my research. Rosenbaum (1974) is the only theoretical analysis done in the precursor to GB theory, transformational grammar. My two working papers, Black (1992, 1993) (which are incorporated into this dissertation), and a paper on the relevance of Binding Theory by Piper (1993) are the only other attempts that I am aware of to analyze Zapotecan syntax within GB.

I am indebted to Randy and Susan Regnier for making available to me the language data they collected while studying Quiegolani Zapotec beginning in 1985. This data consists primarily of over forty glossed texts which have proved to be invaluable for this research.[15] The majority of the examples used come from these texts, which were authored by at least three different QZ speakers. Studying texts is advantageous because they show the range of constructions used in a language within normal speech or writing. Some of the more unique aspects of QZ syntax, such as the special number marking constructions, were discovered from the texts. The alternative method

[15]The texts (Regnier 1989a) are not yet in published form. I am using the online working version, which has made searches for particular constructions much easier. In addition to the text material, an online lexicon and an unfinished draft of a grammar writeup under the Tagmemic framework Regnier (1989b) were also made available to me. The only published work on QZ (besides my two working papers) is the analysis of the orthography and phonology of QZ given in S.Regnier (1993).

of obtaining data by elicitation often results in an incomplete view of the grammar, since one only finds what one is searching for.

Texts do have their limitations, however, since they do not show the fringes of acceptability of a particular construction, nor do they necessarily show the full range of completely acceptable constructions. I was able to work personally on two separate occasions with QZ native speaker Martín Hernández Antonio to determine grammaticality judgments and to clarify the meaning of particular constructions. I found him to be very helpful and extremely capable in our sessions during August, 1991 and November, 1993, as well in as several interchanges via correspondence. Spanish was used as the elicitation language (apart from QZ). Even during these elicitation sessions, whenever possible, the text examples and their slightly altered counterparts provided the basis for determining the range of acceptability of a particular construction. Translations from Spanish were only requested in a few cases where I needed to find out how something might be expressed in QZ and I had found nothing like it in the texts. I feel that working within the language from the text examples yields more natural results, since it eliminates the possibility of obtaining only a word-for-word translation rather than a normal QZ construction.

Part I
Grammatical Sketch

This first part of the dissertation presents a basic grammatical sketch of QZ. Chapter 2 provides background information on Quiegolani Zapotec itself, such as where it is spoken, etc. Also included in that chapter is a guide to understanding the data used throughout the dissertation.

The remaining three chapters included in the grammatical sketch descriptively present the basic facts about how the language works. Chapter 3 deals with the morphology, presenting each affix and its usage. Chapter 4 moves to the syntax and covers topics such as the required word order and the different types of sentences that can be formed, including passive, unaccusative, and causative constructions, and constructions involving Ā-movement. Chapter 5 then describes the restrictions on anaphoric or binding relations in QZ.

This grammatical sketch is designed to set the stage for the analyses given in Parts II and III.

Chapter 2

Background on QZ and Key to the Data

This chapter gives background information on QZ as a language and details about those who speak it. In addition, section 2.2 provides crucial information for understanding the data used in this dissertation. This includes a discussion of what is included in the lines of glossed text, a list of the abbreviations used in the morpheme glosses, and a phonological explanation of the symbols used in the practical orthography.

2.1 Background Information

Quiegolani Zapotec is one of over fifty distinct and mutually unintelligible dialects or related languages in the Zapotecan language family. Zapotec as a whole is part of the larger Otomanguean family. Zapotec speakers are found almost exclusively in the state of Oaxaca in Mexico. Total speakers of Zapotec number almost 500,000, though the number of speakers of any particular language varies from only about 1,000 to over 100,000.

QZ is one of the smaller groups, with between two and three thousand speakers. According to Grimes (1992), the official name of the language is Western Yautepec Zapoteco, though it is also known as Santa María Quiegolani Zapoteco and simply as Quiegolani Zapotec. QZ speakers live in south central Oaxaca. Western Yautepec can be located on the map of the State of Oaxaca in Grimes (1992:82).

In some sections of this dissertation, I will be drawing data from other Zapotecan languages, such as Isthmus Zapotec, Juarez Zapotec, Mitla Zapotec, Santo Domingo Albarradas Zapotec, Quioquitani Zapotec, and Yatzachi Zapotec. All of these are also spoken in the state of Oaxaca in Mexico. In general, the Zapotecan family divides

into five groups geographically: Northern, Central, Western, Eastern, and Southern. There are also strong linguistic similarities within these groups. QZ is part of the Southern group.

2.2 Guide to Understanding the Data

All the Zapotecan data given will be in the form of glossed text, consisting of three lines each, as exemplified in (29).

(29) *S-ya men ru x-yuu men.* CWENT 14
PR-go 3RD mouth POS-house 3RD
"He was going to his house."

The first line presents the vernacular text in italics. Morpheme breaks are indicated by a dash (-). Each word in the first line is vertically aligned with its gloss on the second line. A gloss is given for each morpheme. All glosses consisting of numbers and/or abbreviations in small caps are explained in the list of abbreviations in section 2.2.1. Glosses in lower case letters are for roots, and should be self-explanatory. When a gloss requires more than one English word the two parts are separated by a period (.), as shown below in (30) where *ex* is glossed as "lying.down". The third line gives a free translation of the text into English.

If the example was taken from the collection of glossed texts in Regnier (1989a) the reference to a particular text is given to the far right on the first line, in small caps.[1] The name is the text name and the number is the line number within that text. Therefore, example (29) was taken from line 14 of the CWENT text. If there is a letter following the line number, it indicates that the data given is a slight modification of the text example that I obtained in consultation with a native speaker. Examples without text references are taken either from my own fieldwork or from Regnier (1989b), with the latter case normally being noted elsewhere.

[1] In a few cases I have also used this field to indicate the reference number for a text taken from another author. In these instances, the author's name is given with the first letter in full caps, followed by the example number from their article.

There are a few cases where clear morpheme breaks cannot be made. In QZ this stems from one of two phonological processes. First is a process of antigemination, where like (or similar enough) consonants coming together results in the manifestation of only one. For example, the Completive Aspect marker *w-* added to the verb *wii* "see" surfaces simply as *wii*. This will be glossed as shown in the first word in (30). The word *wii* on the first line is not split into morphemes, but the gloss shows that both the Completive Aspect marker and the root are present in the word by separating the two morphemes with a slash (/).

(30) *Wii mee laad men gol gin n-ex.* OLDMAN 26
C/see boy FM 3RD old this S-lying.down
"The boy saw that old man lying down."

The same slash notation is also used in the case of metathesis occurring between *w* and *b* when the Completive Aspect marker is added to a verb root beginning with *b*. In this case */w+beree/* "C-return" surfaces as *bweree*, as shown in (31).

(31) *Bweree zhuzhey men.* CWENT 3
C/return uncle 3RD
"His uncle returned."

Ungrammatical examples are marked with an asterisk (*) before the first word and questionable or disfavored readings are noted with question marks (??). In each case, the free translation is given in parentheses rather than the normal quotation marks, as shown in the ungrammatical example in (32) (taken from Regnier 1989b).

(32) **S-oo-t noo nis.*
F-drink-NEG 1EX water
(I will not drink water.)

2.2.1 Abbreviations

The following abbreviations are used in glossing the morphemes in the QZ data.

(33)

Aspect or Mood Markers		
C	=	completive
F	=	future
H	=	habitual
IMP	=	imperative
P	=	potential
PR	=	progressive
S	=	stative
U	=	unreal

Pronouns		
1EX	=	first person exclusive
1I	=	first person inclusive
2	=	second person
3A	=	third person animate
3D	=	third person deity/baby
3I	=	third person inanimate
3M	=	third person masculine
3R	=	third person respectful
3RD	=	third person

Miscellaneous		
ASSOC	=	verbal suffix used to relate two events
CAUS	=	causative marker
FM	=	focus marker
LM	=	loan marker
MORE	=	intensifying verbal suffix
NEG	=	negative marker
POS	=	possessive prefix used on alienably possessed nouns
PRT	=	participle marker
Q	=	question marker
WH	=	demonstrative particle used in some *wh*-questions

2.2.2 Orthography

The segmental inventory for the consonants is shown in (34).[2] The practical orthography, which is used in the examples throughout the dissertation, is cited according to its place and type of articulation. For clarification, the phonetic symbol is given in parenthesis when different from the orthographic symbol.

(34)

	Bilabial	Alveolar	Palato-Alveolar	Retro-flexed	Velar	Palatalized Velar	Labialized Velar
Stops	p	t			k	ky (k^y)	kw (k^w)
		d			g	gy (g^y)	gw (g^w)
Affricates		ts (c)	ch (č)	tx (ç̌)			
			dx (j)				
Fricatives		s		x (š)			
		z		zh (ž̧)			
Nasals	m	n					
Laterals		l					
Approx-imants	b (β)		y	r		w	

In addition to the consonants listed in the chart, *f* and *j (h)* are used in Spanish loan words.

QZ has six vowels as shown in (35). Each vowel can also occur in a laryngealized (or glottalized) form, written as /VV/ in the orthography since QZ does not have any vowel clusters.

(35)

	Front	Back Unrounded	Back Rounded
High	i		u
Mid	e		o
Low	ë (æ)	a	

[2]The chart is based on S.Regnier 1993, which also includes information on the phonetic quality and distribution of each symbol and the contrasts and cooccurrence restrictions between symbols.

Chapter 3

Morphology

QZ does not have a highly developed morphology. Nominal morphology consists solely of a possessive prefix that is used on alienably possessed nouns when a possessor is present. There is no morphological case marking nor any marking for number. Section 3.1 covers the possessive prefix and the general ordering of constituents in nominal phrases.

The verbal morphology is somewhat more complex, as seen in section 3.2. The verbal prefixes, including the required Aspect marking, the Imperative marker, and the Causative marker, are described in section 3.2.1. The following section presents the possible verbal suffixes, which are the negative marker and two adverbial suffixes.

Section 3.3 describes the types and distribution of pronouns used in QZ, including a discussion of what empty categories are available. Though a few of the pronouns occur attached to the verb, these arguably are not affixes, but rather phonological clitics which simply attach to whatever precedes them in the sentence. It is significant to note that these pronouns are not agreement markers. QZ completely lacks marking for agreement and does not license *pro*-drop. Likewise, just as with full nominal phrases, there is no morphological case marking or number marking.

3.1 Nominal Morphology

As mentioned above, nominal morphology in QZ is limited to the possessive prefix, *x-*, which occurs on alienably possessed nouns when they are possessed. Inalienably possessed nouns do not carry the prefix. Some simple examples are given in (36).[1]

[1]The addition of the possessive prefix to a root beginning with a voiced obstruent results in the devoicing of that consonant. This devoicing is reflected in the orthography.

As the free translations indicate, number is not marked on the noun or the possessor, nor is there any morphological case marking.

(36) a. *x-yuu men*
POS-house 3RD
"his/her/their house(s)"

b. *x-pëëk noo*
POS-dog 1EX
"my/our dog(s)"

c. *x-kayet Biki*
POS-cracker Virginia
"Virginia's cracker(s)"

In each example in (36) the possessor follows the head noun. This is a fixed order. Other elements that may be present in a nominal phrase and the restrictions on their ordering will also be presented here.

As noted, nominal phrases do not carry any overt case marking, nor is there any way to indicate number except through the use of quantifiers. (Also, see Chapter 13 for a description and analysis of the special construction used for marking number.) There are no clear definite nor indefinite determiners in QZ, so many nominal phrases consist solely of a noun. In addition, a nominal phrase may contain a quantifier, one or more adjectives, a possessor, a demonstrative, and/or one or more relative clauses. Of these, the possessor and the relative clauses may themselves be embedded inside others of their same type. Normally, though, only one post-modifier is used. Only the quantifier (and any of its modifiers) precedes the noun.

Consider the following examples of nominal phrases. A quantifier can be modified by a following adverb, with both preceding the noun.

(37) *ndal yaa soldad* SOLDADOS 2
S/lots very soldier
"very many soldiers"

The noun being quantified may also be modified by a demonstrative. In this case the quantifier is first, followed by the noun or pronoun, with the demonstrative last.

(38) *y-ra maa gin* BENIT 19
P-all 3A this
"all those animals"

Possessors may be embedded, as shown by the bracketing in (39a). The possessor phrase follows the noun, though adjectives may intervene between the noun and the possessor, as shown in (39b).

(39) a. *x-yuu [x-mig [men]]* MTLEMON 8
POS-house POS-friend 3RD
"their friend's house"

b. *x-pëëk ngas noo*
POS-dog black 1EX
"my black dog"

A quantifier may cooccur with a possessor. The quantifier occurs before the noun, while the possessor always follows the noun.

(40) *y-ra x-kayet Biki* GRING 32
P-all POS-cracker Virginia
"all Virginia's crackers"

The possessor itself may include a demonstrative, which follows the noun expressing the possessor as expected.

(41) *xuz [nzaap gin]* CWENT 6
papa girl this
"this girl's father"

Finally, a nominal phrase may also be modified by a relative clause. (42a) gives an example where the relative clause modifies a quantified nominal phrase which includes an adjective, and (42b) shows a quantified possessive nominal phrase. Again we find the quantifier first, followed by the noun, then the optional adjective and optional possessor. The modifying relative clause, bracketed in each example, is last.

(42) a. *ndal ngyed gol [w-u mëëz]* RANCHO 12
lots chicken old C-eat fox
"lots of old chickens that the fox ate"

b. *te x-mig noo [ne r-laan te men* HORTENS 4
one POS-friend 1EX that H-want one 3RD
"a friend of mine that wants a person
[ne r-nii disa]]
that H-speak language
that speaks the language"

Chapter 12 gives an analysis of the structure of QZ nominal phrases, where I implement a version of the DP Hypothesis (Abney 1987 and Stowell 1989) in order to account for all the ordering restrictions and cooccurrence possibilities in QZ. Nominal phrases are therefore referred to as 'DPs'.

3.2 Verbal Morphology

QZ verbal morphology consists of three prefixes and three suffixes. Of these, only the Aspect marker is obligatory.[2] The next section describes the use of each Aspect marker, and covers the Imperative marker and Causative marker as well. Section 3.2.2 presents the three optional verbal suffixes and their usage.

3.2.1 Aspect Marking and Other Prefixes

The three possible prefixes which may occur on a verb are an optional Imperative marker, an obligatory Aspect marker, and an optional Causative marker. When present, they must occur in that order.

Except for the Causative, these prefixes are generally considered aspectual in nature throughout the Zapotec language family, but tense and mood also enter into the meaning at times.[3] The prefixes are traditionally divided between Realis and Irrealis moods, where the Stative, Completive, Habitual, and Progressive Aspects are part of the Realis mood and the Unreal, Potential, Future, and the Imperative marker

[2]In certain auxiliary or participle constructions the verb does not carry an Aspect marker. Also, there are two existential and identificational verbs which do not take Aspect, discussed in section 4.2.

[3]Most of the information in this section is taken from Regnier (1989b), including all examples without text references.

are under the Irrealis mood. It seems better, however, to make the distinction between Aspect and Mood instead, as shown in (43). Those prefixes normally considered part of the Realis mood are the true Aspect markers which describe the internal structure of the action or event. In contrast, the Mood markers, normally considered Irrealis, do not describe the internal structure of the action, but instead locate the event in some world that has a relation to the current real world (Chung & Timberlake 1985).

(43)

Aspect	Mood
Stative	Unreal
Completive	Potential
Habitual	Future
Progressive	Imperative

The use of each of these prefixes will be described in turn, beginning with the true Aspect markers. All of the markers listed in (43) will be informally referred to as Aspect markers throughout the dissertation and will be assumed to be the head of IP (=I^0).

3.2.1.1 Stative Aspect

The Stative Aspect marker *n-* is used most frequently on the two copular verbs, *uu* "be" and *ak* "become", and on most adjectives and some quantifiers. Examples of each usage are given in (44).

(44) a. *N-uu gyët.* GRANDMA3 24
S-be tortilla
"There were tortillas."

b. *N-uu naal yaa nis.* MTLEMON 44
S-be much very water
"There was a lot of water."

c. *Ndal play n-ak ru nis.* BENIT 41
lots beach S-become mouth water
"There are many beaches at the shore of the water."

d. *N-gaal-o.* MEXICO 20
S-fresh-3I
"It's fresh."

e. *N-dux xnaa noo lo noo.* SNAKHAIR 4
S-angry mother 1EX face 1EX
"My mother was angry with me."

f. *Ndal yaa soldad.* SOLDADOS 2
S/lots very soldier
"There are lots of soldiers." or "The soldiers are many."

In addition, the Stative Aspect is frequently used with the verb *an* "know", as shown in (45).

(45) a. *N-an-t noo-w.* GRING 37
S-know-NEG 1EX-3I
"I don't know."

b. *N-an-t men dex-til.* GRANDMA2 8
S-know-NEG 3RD word-Castilian
"They didn't speak any Spanish."

c. *Dxe n-an de chene y-zhiin be* MARTRIST 26
already S-know 2 when P-arrive 1I
"You already know that when we arrive
ru x-yuu x-mig noo, y-xob noo te disk.
mouth POS-house POS-friend 1EX P-put 1EX one record
at my friend's house, I'm going to play a record."

Due to semantic incongruity, the Stative marker may not occur on all verbs. However, it may occur on some active verbs. Where the Stative marker occurs on active verbs, it forms a depictive adjunct, as shown in (46).

(46) *Z-ëëd men n-bib men gway.*
PR-come 3RD S-mount 3RD horse
"He comes riding on a horse."

3.2.1.2 Completive Aspect

W- is the QZ prefix for the Completive Aspect. When this Aspect marker is used, the action in question was completed prior to utterance time, or prior to some other point of time mentioned in the utterance. Example (47) shows two uses of the Completive Aspect. The first usage indicates that the speaker finished returning prior to utterance

time, while the second usage sets the completion of the hair changing to snakes as prior to the speaker's return.

(47) *Chene w-a noo s-te w-ak-o mëël.* SNAKHAIR 9
when C-go 1EX F-one C-become-3I snake
"When I went again, it (the hair) had become snakes."

3.2.1.3 Habitual and Progressive Aspects

Use of the Habitual Aspect prefix *r-* expresses that the action is not closed with respect to some point in time. The Habitual Aspect is thus the opposite of the Completive Aspect. For most QZ verbs, the prefix *r-* is ambiguous between habitual action and present progressive action.

(48) a. *R-a noo skwel.*
H-go 1EX school
"I go to school (every day)."
or "I am going to school."

b. *R-oo noo nis.*
H-drink 1EX water
"I drink water (regularly)"
or "I am drinking water."

When the Completive and the Habitual Aspects are used in combination in a sentence, the Completive Aspect marks an event that takes place completely within the span of time of the event or action marked by the Habitual Aspect. An example is given in (49), where John finished arriving during the time Mary was reading the book.

(49) *Or ne w-lenza Zwa, r-ool Mblid liber.*
hour that C-arrive John H-read Mary book
"When John arrived, Mary was reading a book."

A restricted set of QZ verbs, consisting solely of five verbs of motion, has two separate prefixes to distinguish between Habitual and Progressive action. For these verbs, the meaning of the prefix *r-* is narrowed to cover only Habitual action. A

different prefix, *z-*, is used to express the Progressive Aspect. (50) gives examples of the two separate forms used with the verb *zob* "sit".[4]

(50) a. *R-zob men lgyeey yzhe yzhe.*
H-sit 3RD market tomorrow tomorrow
"He sits in the market every day."

b. *Zob noo.*
PR/sit 1EX
"I am sitting."

3.2.1.4 Unreal Mood

There are two phonologically conditioned allomorphs for the Unreal Mood: *n-* occurs on consonant-initial verbs, and *ny-* occurs on vowel-initial verbs. The Unreal Mood marker is used in two major contexts in QZ. First, it is used in contrafactual conditions, as shown in (51).

(51) a. *Che-bel ny-oon-t Min, ny-oon-t Lawer.*
when-if U-cry-NEG Yazmin U-cry-NEG Laura
"If Yazmin would not have cried, Laura would not have cried."

b. *Che-bel ny-oon-t Min, ny-u Lawer.*
when-if U-cry-NEG Yazmin U-eat Laura
"If Yazmin would not have cried, Laura would have eaten."

The Unreal marker is also used on complements of the verb *laan* "want" in two situations. The first case is where the wanted action never occurred, as indicated by the Habitual Aspect marking on *laan* "want" and by the negative marker on the verb in the second conjunct in (52a). Surprisingly, the complement of *laan* "want" may also carry the Unreal marker when the thing wanted did happen, as in (52b).[5]

(52) a. *R-laan noo ny-u noo-w, per w-u-t noo-w.*
H-want 1EX U-eat 1EX-3I but C-eat-NEG 1EX-3I
"I wanted to eat it, but I did not eat it."

[4]In (50b) the Progressive prefix *z-* and the initial consonant of the verb root have merged, due to a general anti-gemination process. See section 2.2.

[5]The complement of *laan* "want" may instead carry the Potential marker in this case.

b. *W-laan noo ny-a noo no w-a noo.*
C-want 1EX U-go 1EX and C-go 1EX
"I wanted to go, and I went."

3.2.1.5 Potential Mood

The Potential prefix is used as a miscellaneous marker in any situation that is not covered by one of the other Mood prefixes, but it never refers to the past.

The Potential prefix has three allomorphs: *y-* used with regular consonant-initial verbs, *g-* used with regular vowel-initial verbs, and *ts-* which is used for some irregular vowel-initial and *z*-initial verbs.

The Potential marker is used in habitual future events, as shown in (53a), and in one-time future events (53b).

(53) a. *S-te iz ne z-ëët ts-a men skwel.*
F-one year that PR-come P-go 3RD school
"Next year, which is coming, he will go to school."

b. *Yzhe g-ool noo liber.*
tomorrow P-read 1EX book
"Tomorrow I will read a book."

The Potential marker is also used to express purpose, as in (54).

(54) *R-a me r-ka me gyus na g-eey x-nisyaa me.* SANJOSE 2
H-go 3f H-buy 3f pot which P-cook POS-food 3f
"She went to buy a pot to cook her food in."

In addition, the Potential prefix is used in various subordinate clauses. (55a) gives an example of its use in a time clause and (55b) shows the Potential prefix in a conditional clause.

(55) a. *Chene y-dxiin may, y-beree noo.*
when P-arrive May P-return 1EX
"When May comes, I will return."

b. *Che-bel y-beree de, ts-a-b Laa.*
when-if P-return 2 P-go-1I Oaxaca
"If you return, we will go to Oaxaca."

QZ also uses the Potential marker for polite commands and for negative commands. These uses will be discussed in section 3.2.1.7 on Imperatives. The next section also gives additional information about the Potential marker as it relates to the Future prefix.

3.2.1.6 Future Mood

The Future prefix is *s-*. There does not seem to be any clear distinction in meaning between the Potential and Future Moods. Sometimes the meaning seems exactly the same, as in the first occurrence of the word meaning "eat" (underlined) in the examples in (56), which are taken from the same text.

(56) a. *Laa de y-na bel ne g-u noo men* MANSNAKE 34
FM 2 P-say if that P-eat 1EX 3RD
"You say whether I should eat him
o g-u-t noo men.
or P-eat-NEG 1EX 3RD
or I should not eat him."

b. *Porke w-dxiid loo men noo,* MANSNAKE 51
because C-come extract 3RD 1EX
"Because the man came to get me,
laa de y-na bel ne s-u noo men o g-u-t noo men.
FM 2 P-say if that F-eat 1EX 3RD or P-eat-NEG 1EX 3RD
you say whether I should eat him or I should not eat him."

There are, however, several clear distributional differences between the two Mood markers. For example, the Future marker is used in Yes/No Questions, while the Potential prefix never is.

(57) a. *Pe s-oo de nis.*
Q F-drink 2 water
"Will you drink water?"

b. **Pe g-oo de nis.*
Q P-drink 2 water
(Will you drink water?)

A positive response to a Yes/No Question is also always in the Future Mood, as shown in (58).[6]

(58) a. *S-oo noo nis.*
F-drink 1EX water
"I will drink water."

b. **G-oo noo nis.*
P-drink 1EX water
(I will drink water.)

A negative answer to a Yes/No Question, however, will always be in the Potential Mood. The Future prefix is never used in negative contexts.

(59) a. *G-oo-t noo nis.*
P-drink-NEG 1EX water
"I will not drink water."

b. **S-oo-t noo nis.*
F-drink-NEG 1EX water
(I will not drink water.)

This Positive/Negative distributional scheme is followed in other situations as well. One example is given in (60) and additional examples will be seen in the Imperative constructions.

(60) a. *Zim s-yab gyo.*
perhaps F-fall rain
"Perhaps rain will fall."

b. *Zim g-yab-t gyo.*
perhaps P-fall-NEG rain
"Perhaps rain will not fall."

3.2.1.7 Imperative Constructions

QZ has two kinds of commands: negative and positive. The positive commands are further sub-classified into strong and mild types, where the mild command is more polite than the strong command. The form and properties of each type will be

[6]The marking of (58b) as ungrammatical is intended to relate to the context of a response to a Yes/No question only. In isolation or in other contexts (58b) is grammatical.

presented in turn.

Negative commands are formed by prefixing the Potential marker and suffixing the negative marker to the verb. The subject is always overt in negative commands.

(61) *Y-laa-t de ze-gwa.*
P-do-NEG 2 how-that
"Don't do that!"

Mild positive commands also use the Potential marker. The subject is optional in this case, as shown in (62). In (62a) the second person subject is overt, but in (62b) it is not expressed.

(62) a. *G-e de men naap wzëë y-beree noo.*
P-tell 2 3RD soon afternoon P-return 1EX
"You tell him I will return soon this afternoon."

b. *Ts-uu zëd-o.*
P-be salt-3I
"Add salt to it."

For strong commands, the Imperative marker *gu-* is used. Vowel-initial verbs and irregular consonant-initial verbs prefix both the Imperative marker and the Potential marker, as shown in (63). For regular consonant-initial verbs, the Imperative marker is used in place of an Aspect marker, as shown in (64). As verified by (64b), strong commands never have overt subjects.

(63) *R-e ngyed: gu-g-u men.*
H-say chicken IMP-P-eat 3RD
"The chicken said, 'Eat him!'"

(64) a. *Gu-nii disa.*
IMP-speak language
"Speak Zapotec!"

b. **Gu-nii de disa.*
IMP-speak 2 language
(You speak Zapotec!)

3.2.1.8 The Causative Prefix

The one remaining prefix is the Causative marker *gu-* (*gw-* before a vowel-initial root). This prefix must follow the Aspect marker. In QZ the Causative morpheme is almost exclusively used with an unaccusative verb to add an Agent θ-role. Some examples are given in (65).

(65) a. *W-gw-et men mëël.* AGOSTO 56
C-CAUS-die 3RD snake
"They killed the snake."

b. *Per w-gw-et-et men maa.* MENMAAC 12
but C-CAUS-die-NEG 3RD 3A
"But he didn't kill the dog."

c. *R-gw-eey men kafe.* DEATH 10
H-CAUS-cook 3RD coffee
"They make coffee."

Chapter 4 gives more details about the distribution of the Causative morpheme and shows that the QZ causative constructions are formed lexically rather than syntactically.

3.2.2 Verbal Suffixes

There are only three morphemes which can be attached following the verb root. These consist of the negative marker *-t*, which we have already seen in several examples, and two adverbials.[7] (66) gives an example containing all three morphemes. The suffix glossed "MORE" expresses the meaning of the gloss applied to the action expressed by the verb. The suffix glossed "ASSOC" has the meaning of associating the event being expressed by this clause with the action of someone else. Regnier (1989b) explains this by saying that if someone is (or is not) going to do something, *ke* "ASSOC" is used if someone else is (or is not) going to do the same thing. All three suffixes are optional and are independent of one another.

[7]See Chapter 9 for a more complete description and analysis of the constructions involving negation.

(66) *G-oo-t-re-ke* *noo nis.*
P-drink-NEG-MORE-ASSOC 1EX water
"I will not drink more water either."

3.3 Pronouns

In section 3.2 all the possible verbal suffixes were presented. There are no additional affixes, and none of those previously presented cross reference or indicate agreement with either the subject or the object.[8]

There may be some confusion about this, since we have seen a pronoun attached to the verb in a few of the examples. (Additional examples are given in (68).) This is because some of the QZ pronouns are phonological clitics which attach to the previous word. They remain separate syntactic entities, however, filling an argument position and receiving a semantic role. It is ungrammatical to have both an attached pronoun and an additional nominal filling the same grammatical function in the sentence.

The following chart shows the distribution and features of the pronouns in QZ.

(67) QZ Pronouns

person	features	form	phonological status
1st	exclusive	*noo*	free
	inclusive	*be*	attaches / V _
2nd		*de*	free
3rd	general	*men*	free
	masculine	*zaa*	free
	respectful	*me*	attaches / V _
	animal	*maa*	free
	inanimate	*w(e) / o*	attaches *-w* / V _
			-o / C _
	deity/baby	*ne*	attaches / V _

[8]There is a third person plural subject agreement marker that is prefixed to the verb in some of the Zapotecan languages. For example, Yatzachi Zapotec (Butler 1976a, 1988) has the subject plural marker, əsəʔə, which is used to pluralize a third person subject. (Only first and second person pronouns distinguish number in Yatzachi.) This is the only type of agreement marker used in Zapotec, other than the resumptive pronouns which follow the verb when the subject is focused in some languages. QZ does not make use of either of these mechanisms.

The pronouns consisting of only a consonant and a regular vowel may attach to the preceding word (usually a verb) if it ends in a vowel. If they do attach, the final *e* is dropped, presumably indicating the QZ preference for closed syllables.[9] The third inanimate pronoun is the only one which has an alternate form so that it may also attach to words ending in a consonant. The second person pronoun *de* is an exception; even though it has the same phonological shape as the others that attach, *de* "2" is always a free standing word. The form of the other free pronouns is either a closed syllable or a syllable ending in a laryngealized vowel. These are syllables that normally bear stress, which explains why these pronouns do not cliticize.

Some examples of verbs with pronouns attached are given in (68).[10]

(68) a. *r-na-w*
H-say-3I
"it says"

b. *ts-a-b*
P-go-1I
"let's go"

c. *g-u-b*
P-chat-1I
"let's chat"

d. *gu-zëët-o*
IMP-relate-3I
"tell it!"

e. *g-e-m-o*
P-say-3R-3I
"one says it"

Note that in (68a–c) the subject pronoun has attached to the verb root. In (68d) it is the object pronoun that has attached, but the subject cannot be overtly expressed since the use of the Imperative indicates it is a strong command. In (68e) both the subject and object pronouns have attached, but the VSO order must be maintained.

[9] An alternative analysis involving an epenthetic *e* is also possible.

[10] The third person respectful pronoun, *me* "3R", is also used in cases where the indefinite pronoun *one* is used in English as shown in (68e).

Across the Zapotecan language family, there are variations as to which pronouns may attach to the verb, but two things are constant: (i) each language has some forms which are always free and some forms which must attach, and (ii) those forms that do attach to the verb must attach in the order V-S-O. This means that if a free form or a full nominal phrase is used for the subject, the object may not attach to the verb. In order to observe these constraints, most Zapotecan languages have a base root that can be inserted to "carry" a dependent object pronoun, since there is not a complete duplication between free and dependent forms in any of the languages. QZ does not have a base root; instead the dependent pronouns may attach to any immediately preceding word. Thus, the dependent pronouns may attach not only to a verb, but also to a pronoun or a noun, as exemplified in (69), or to any other word which is allowed to precede it syntactically. This behavior verifies the status of the dependent pronouns as phonological clitics.[11]

(69) a. *N-an-t noo-w.* GRING 37
S-know-NEG 1EX-3I
"I don't know."

b. *Ts-uu zëd-o.*
P-be salt-3I
"Add salt to it."

In addition to this distinction between free and dependent pronouns, QZ pronouns differ in crucial ways from pronouns in English. As indicated in the chart in (67), QZ pronouns lack any marking for morphological case.[12] Further, they are not marked for number either, though they can be quantified, as the next section demonstrates.

[11]See Marlett (1993) for a description of the pronoun systems in seven other Zapotecan languages. Of those languages, the QZ system is most like that of Santa Catarina Xanaguía Zapotec, which is also from the Southern group.

[12]Some of the other Zapotecan languages have limited case marking on their pronouns. For example, Juarez Zapotec distinguishes between genitive and nominative case in some forms and Yatzachi Zapotec distinguishes between nominative and accusative case in third person pronouns.

3.3.1 The Category of Pronouns in QZ

Postal (1969) argues that pronouns in English are a form of definite article, and therefore should be determiners, or the head of DP. Pronouns in QZ appear to be somewhat different than English pronouns. There is no overt case marking, nor is there a reflexive distinction or any number marking on the pronoun itself. All the QZ pronouns can be quantified without having a partitive meaning, as in (70). The reading is one of cardinal description of a group, rather than expressing that this is one part of a larger group, as would be the case in the comparable English phrase "Five thousand of them".

(70) a. *Z-a gaay mil men.*
PR-go five thousand 3RD
"Five thousand people are going."
Literally: "Five thousand they(s) are going."

b. *Z-a gaay mil zaa.*
PR-go five thousand 3M
"Five thousand males are going."
Literally: "Five thousand he(s) are going."

The third person pronouns often seem to have a generic noun interpretation rather than a definite article interpretation. In contrast to first and second person pronouns, third person pronouns can be modified by a demonstrative as well as a quantifier, as seen in (71a). First and second person pronouns can only be quantified. Third person pronouns can also be modified by an adjective (71b) or a possessor (71c).

(71) a. *y-ra maa gin* BENIT 19
P-all 3A this
"all these animals"

b. *n-ak noo men win* GRANDMA1 6
S-become 1EX 3RD small
"I was a child."

c. *men La Merse* GRANDMA1 12
3RD La Merced
"men/people of La Merced"

There is evidence that at least some of the third person pronouns are shortened forms of the nouns they are related to, similar to the formation of pronouns from the noun classifiers in Jacaltec and Kanjobalan discussed by Craig (1991).

An alternative to analyzing QZ pronouns as definite articles is to posit that they function as group referents, where the person feature of the pronoun determines who may be included in the group. The additional characteristics of the third person pronouns, such as animal, human, familiar, male, baby, deity, and inanimate, serve to further define the group. I will assume, then, that third person QZ pronouns are basically generic nouns with the category N, while first and second person pronouns have the category NP.[13]

3.3.2 The Distribution of Empty Categories

In order to present a GB analysis of QZ syntax, we need to know which empty categories are available. QZ seems to be somewhat restricted in this regard. As far as traces go, syntactic A-movement is limited to unaccusative constructions and a single case of a passive verb (see section 4.3); there is no evidence for raising. $\bar{A}$-movement is quite productive in questions, focusing, and negation constructions, however, so *wh*-traces are clearly operative (see section 4.4 and Chapters 7–9). In contrast, the availability of null pronominals is very limited, as detailed below.

I claim that QZ is not a *pro*-drop language, since there is no agreement marking on the verb to license *pro*-drop (see Jaeggli & Safir 1989) and in the vast majority of the cases all arguments are required to be overt. This is definitely the unmarked situation. Therefore, referential *pro* is not normally licensed in QZ. The only places where *pro* (or its anaphoric counterpart) may be licensed are in some special anaphoric

[13]The NP analysis for pronouns is consistent with Aissen's analysis of Tzotzil pronouns (1992 class lectures). In Tzotzil, pronouns are preceded by a determiner just like any other NP. This would not be possible if Tzotzil pronouns are themselves determiners, as in Postal's (1969) analysis of English pronouns.

The pronominal systems in Zapotecan languages outside the Southern group are more like English pronouns in function and distribution, so in those languages the analysis of pronouns as determiners may be correct.

constructions (see sections 5.1 and 13.2.1.1).

The situation is unclear with respect to nonfinite *PRO*. All Zapotecan languages have only minimally attested nonfinite verb forms. In Yatzachi, Choapan, and Atepec Zapotec a special verb form that has been called the infinitive occurs in purpose clauses after a motion verb. An example from Yatzachi Zapotec, taken from Butler (1988:112), is given in (72) with the infinitive form underlined. In these constructions, the infinitive may not have an expressed subject.

(72) *Gw-yeǰ-eʔ gü-ib lachəʔ.*
C-go-3R INF-wash clothes
"S/he went to wash the clothes."

The other Zapotecan languages, including QZ, use the Potential marker on the embedded verb in that situation. Thus, only verbs with the Potential marker can possibly be analyzed as nonfinite.[14] But the use of the Potential does not necessarily mean that the clause is nonfinite, since there are many examples where the Potential is used in the main clause, as in (73).

(73) a. *G-aa noo gyaan.* LIFEINQ 12
P-wash 1EX plate.
"I'll wash the plates."

b. *Ts-a-no noo de gyoow Santyoo.* TRIPTOQ 58
P-go-take 1EX 2 river Santiago
"I'll take you to the Santiago River."

Further, many embedded clauses in which the verb is inflected for the Potential Mood and the English translation is a nonfinite construction still have overt subjects in QZ (see the examples in (74)). Only clauses with a missing subject which are inflected for the Potential Mood are therefore analyzed as possibly nonfinite here. Even in these cases, there may be an alternative analysis, as discussed below.

Some possible candidates for nonfinite clauses are given in (74)–(76), with bracketing and coindexing added to aid the reader. (74a–b) illustrate the very common

[14]Embedded verbs carrying the Unreal Mood marker would normally be considered nonfinite also. In QZ these verbs always have an expressed subject, so *PRO* is not involved.

usage of *g-an* "P-know" in an embedded question. This form of the verb "know" never has an expressed subject; it basically means "*PRO* find out", where *PRO* is coreferent with the subject of the immediately higher clause. This verb form is also sometimes used in the main clause where the null subject has an arbitrary reference (either PRO_{arb} or pro_{arb}), giving a reading of "it will be found out" or "we'll see", as in (74c).

(74) a. [*N-a men*$_i$ [*g-an* *PRO*$_i$ [*pe* [*r-laan-t noo* [*ts-a noo* HORTENS 3
S-say 3RD P-know Q H-want-NEG 1EX P-go 1EX
"She asked if I wouldn't want to go
[*y-laa noo dxiin Estados Unidos.*]]]]]]
P-do 1EX work States United
and work in the United States."

b. [*R-laan noo* [*ts-a noo*$_i$ [*g-an* *PRO*$_i$ [*pe-zee n-ak-o.*]]]] LIFEINUS 3
H-want 1EX P-go 1EX P-know Q-how S-become-3I
"I want to go to find out how it is."

c. [*G-an* *PRO/pro*$_{arb}$ [*pe* [*s-na de* TRIPTOQ 8
P-know Q F-want 2
"We'll see if you will want
[*g-aa de lyu o g-aa de lo daa.*]]]]
P-lie.down 2 land or P-lie.down 2 face petate
to lie down on the ground or on a petate."

What is interesting about the examples in (74) is that it is the verb *g-an* "P-know" itself that requires the null subject; it is not selected by the higher verb. Thus, whether these clauses count as nonfinite or not, it is clear that they are not due to control by a higher predicate. Saxon (1989) makes a distinction between two distinct phenomena that have been been labeled 'control'. One phenomenon is the presence of obligatory control predicates, like *try* in English, which entail the presence of an obligatorily controlled DP. QZ does not appear to have such predicates.[15] A separate source of 'control effects', Saxon says, is the existence of empty subject DPs which

[15]There is no word meaning "try" in QZ. The closest one can come in expressing a sentence such as "I am trying to learn Zapotec" is given in (i), where the verb *laan* "want" is used. The subject of the embedded verb is overtly expressed. Further, its reference is not obligatorily controlled, as shown in (ii).

always receive interpretations of coreference with a higher DP. This seems to be the case with the QZ examples in (74). *G-an* "P-know" selects an external argument which must be null and must find its reference from a higher DP, if available.[16]

(75) gives another example of a 'control effect', but again there is no evidence of an obligatory control predicate. In (75) there is an empty subject embedded under the verb meaning "want". We have already seen in (74) that the subject of a verb embedded under "want" may be overt. Further, as in English, there is no coreference requirement between the subject of *laan* "want" and the subject of the selected verb. (75) could read "One time an American woman wanted her brother (i.e. someone else) to take a Mexican woman to the United States". Indeed, examples such as (75) are quite rare. In almost every sentence containing the verb *laan* "want", the subject of the embedded verb is expressed overtly. An explanation for the null subject in (75) follows the discussion of example (76).

(75) *Teb tir* [[*te wnaa gring*]$_i$ *r-laan* GRING 1
one time one woman gringa H-want
"One time a gringa (American woman) wanted
[*ts-a-no* *PRO*$_i$ *te wnaa mejikan Estados Unidos.*]]
P-go-take one woman Mexican States United
to take a Mexican woman to the United States."

(i) *R-laan noo y-seed noo disa.*
H-want 1EX P-learn 1EX language.
"I want to learn the language."

(ii) *R-laan noo y-seed Jose disa.*
H-want 1EX P-learn Jose language.
"I want Jose to learn the language."

See (76)–(77), though, for discussion of the verb *xaal* "send" as an obligatory object control predicate.

[16]Further evidence of the unique character of *g-an* "P-know" is that it cannot be inflected for negation or for any of the adverbial suffixes. The Stative form of the verb is inserted to carry these markers, as shown in (iii).

(iii) *N-an-t-er* *noo*$_i$ *g-an* *PRO*$_i$ *pa go sar.* BRU 83
S-know-NEG-MORE 1EX P-know what thing follow
"I don't know anything more about what happened."

Also, *an* is the only verb that can select an embedded question. See section 8.2.1.

(76) provides the best example of what might truly be an obligatory control predicate, in this case involving 'object control'. Example (76) is a bit difficult to understand because it contains some of the more complex constructions allowed in QZ. The phrase in the lowest clause of this example *y-rup de men* "P-two 2 3RD" is an example of the special number marking construction. Its analysis can be found in Chapter 13, but it is not crucial to our understanding here. The clause *y-xaal x-pee noo* "I'll send my boy" is an example of a construction still awaiting full analysis, in which the subject of any transitive clause may be covert if it is coreferent with the possessor of the object of the clause (see sections 5.1 and 13.2.1.1). Thus, the subject is the first person exclusive pronoun *noo* just like the possessor of the object is. Note that the subject of *y-xaal* "P-send" is not coreferent with the subject of the clause above it. We are especially interested here in the clause which is selected by *xaal* "send". *Karëz* "call" is a transitive verb and is followed only by its object, the second person pronoun. The Potential marker is used, so this can plausibly be analyzed as a nonfinite clause. The understood subject is *x-pee noo* "my boy", so the *PRO* subject of *y-karëz de* "to call you" is controlled by the object of the clause above it.

(76) *Per yzhe dxe n-an de* HORTENS 10
but tomorrow already S-know 2
"But tomorrow you already know
[*y-xaal* $\underline{pro_i}$ [*x-pee* [*noo*]$_i$]$_j$ [*y-karëz* $\underline{PRO_j}$ *de*,
P-send POS-boy 1EX P-call 2
that I'll send my boy to call you
[*chiid de*, [*g-u de diiz y-rup de men*$_k$.]]]]
P-come 2 P-chat 2 word P-two 2 3RD
to come and chat with him."

In constructions like these where *xaal* "send" takes a human object and a clausal complement, the subject of the embedded predicate must be coreferent with the object of "send". Normally, though, the coreferent subject is overtly expressed, as shown in the rewording of (76) in (77).

(77) *Per yzhe dxe n-an de* HORTENS 10A
but tomorrow already S-know 2
"But tomorrow you already know
[*y-xaal noo Jose*$_i$ [*y-karëz Jose*$_i$ *de,*
P-send 1EX Jose P-call Jose 2
that I'll send Jose to call you
[*chiid de,* [*g-u de diiz y-rup de Rodolfo.*]]]]
P-come 2 P-chat 2 word P-two 2 Rodolfo
to come and chat with Rodolfo."

Saxon (1989) would call this usage of *xaal* "send" an obligatory object control predicate, due to the required coreference between the direct object of *xaal* "send" and the subject of its clausal complement. However, unlike in English, the controlled DP need not be (and in QZ usually is not) empty. Saxon notes that this behavior is also seen in other languages, such as Mandarin and Persian. This leads her to propose that some predicates may select a clause containing a [+anaphor,+pronominal] subject, even though the clause is finite. We could thus assume that *PRO* is active in QZ in the very limited sense seen (though using $pro_{[+anaphor]}$ would probably be more accurate).

The question still arises as to why the null subject occurs in examples like (75) and (76), when the normal situation is for all DPs to be overt. I conjecture that the distinction is dependent upon the antecedent. QZ seems to have a hierarchy of nominal phrases which distinguishes between pronouns on the one hand and full nominal phrases on the other. Proper names and nominal phrases consisting solely of a bare noun fit in the middle. In every case we have seen where there is a null subject (other than as subject of *g-an* "P-know"), the antecedent is a full nominal phrase. For example, in (75) the antecedent is *te wnaa gring* "one gringa (American) woman" and in (76) it is *x-pee noo* "my boy". This type of antecedent is able to license a null pronominal. In fact, repeating the full nominal phrase is highly disfavored, especially when the full nominal phrase contains a quantifier; either an overt or null third person pronominal is fine. Just the opposite is true when the antecedent is a pronoun. In that case, repetition must occur. If the antecedent is a proper name or a bare noun,

all three options are available: the proper name or bare noun may be repeated, or it may be replaced by either an overt or a null third person pronoun. This phenomenon will be analyzed further in Chapter 5.

QZ also seems to have an expletive *pro* which is very similar to the expletive *it* in English, though the QZ version is not overt.[17] The examples in (78) show the types of constructions that allow the expletive *pro*, with bracketing added for clarification. Again, the use of this null pro-form is quite rare.

(78) a. [*S-ak* *pro-exp* [[*ts-a de lo lbanyil*] BENIT 57
F-become P-go 2 face builder
"It could be that you can go to the builders
o [*ts-a de* [*y-chux de mëlbyuu.*]]]]
or P-go 2 P-peel 2 fish
or go to peel shrimp."

b. [*W-yen* *pro-exp diiz* AGOSTO 71
C-look.for word
"It was heard (or somebody heard) that
[*laa Dolf n-uu Pwert y-rup x-unaa Dolf.*]]
FM Rodolfo S-be Salina.Cruz P-two POS-woman Rodolfo
Rodolfo and his wife were in Salina Cruz."

Meteorological constructions in English also use the word *it* in a non-referential way. Note that in QZ the constructions used to describe the weather are regular unaccusative constructions, as shown in (79), and thus do not involve an expletive element.

(79) a. *R-yab gyeey, noze ngich x-too gyeey.* LIFEINUS 63
H-fall ice only S/white POS-head mountain
"It snows such that it's all white on the mountain."

b. *Per r-yab gyo.* OLDMAN 11
but H-fall rain
"But it rained."

[17]Jaeggli & Safir (1989) report that this same distribution of allowing *PRO* and the expletive *pro* but not licensing referential *pro* via agreement features is also found in German, Icelandic, and Faroese.

c. *Xiid zeeb noo axta-ge gyët gin nga* MTLEMON2 38
PR/come lower 1EX until-that down this there
"We arrived below
dxe w-yeep gyo.
already C-raise rain
when it quit raining."

d. *Bwëz noo axta w-yeep gyo.* MTLEMON2 42
C/wait 1EX until C-raise rain
"I waited until the rain quit."

Overall, we have seen that the null elements in QZ are quite restricted, with only *wh*-trace occurring freely. The lack of agreement features and morphological case marking contributes to the need to have every argument overt, so that the identification and the syntactic function of each DP is clear.

Chapter 4

Syntax

This chapter describes and exemplifies the basic syntactic constructions. I am deliberately presenting the data here with as little theoretical analysis as possible. This chapter could be read on its own by people whose interest in QZ focuses more on description and less on the theoretical analysis. Such people might want to skip Parts II and III of the dissertation entirely. On the other hand, those who are more interested in theory will find the data presented here useful as background for the analyses to come. Section 4.4 could be skipped in favor of the more thorough treatment given to the Ā-dependencies in Chapters 7–9, but the constructions covered in the earlier sections will not be directly analyzed in Part II or III.

This look at QZ syntax begins by establishing that the VSO word order (where the verb is first, followed by the subject, followed by the object) is quite strict, as shown in section 4.1. That section also discusses the positions that adverbial elements may be found in.

Section 4.2 begins the exemplification of the various types of constructions by looking at how existential, identificational, and stative sentences are formed. Section 4.3 then moves to passive and unaccusative constructions, where some evidence for movement to subject position is given, even though the actual change of position is invisible. Such movement is shown to be lacking in raising constructions, however. Causative constructions are also discussed in section 4.3.4. I claim that QZ causatives must be accounted for lexically rather than syntactically, due to the restriction that the Causative morpheme may only be added to a verb which does not already assign an Agent θ-role.

The clear cases involving overt movement are covered in section 4.4. These are constructions such as focus constructions, questions, and negative constructions, which all involve *wh-* or Ā-movement to a non-argument position. All of the constructions described in section 4.4 will be analyzed in Part II.

4.1 Basic VSO Word Order

The basic clausal word order is VSO, as seen in the transitive clauses in (80). The verb is first, followed immediately by the subject, which is followed by the direct object.

(80) a. *W-eey Benit mël.* BENIT 4
C-take Benito fish
"Benito took a fish."

b. *R-laa noo dxiin yzhe yzhe.* BENIT 11
H-do 1EX work tomorrow tomorrow
"I do work every day."

c. *R-u mëëz ngyed.* AGOSTO 18
H-eat fox chicken
"The fox is eating the chicken."

This VSO order is quite strict and is used to determine the grammatical functions of the nominal phrases, since there is no morphological case marking. None of the sentences in (80) above can be interpreted with VOS order.

In intransitive sentences (both unergative and unaccusative), the verb is initial and is followed immediately by the subject, as shown in (81). The examples in (81)–(83) also illustrate the form of QZ prepositional phrases, which have the same type of head-initial structure seen with verbs. These prepositions are usually body part terms (e.g. *ru* "mouth" in (81b), *chu* "belly" in (81c), and *lo* "face" in (82b–c) and (83)).

(81) a. *S-ya men.* SAMUEL 13
PR-go 3RD
"He is going."

b. *S-ya men ru x-yuu men.* CWENT 14
PR-go 3RD mouth POS-house 3RD
"He is going to his house."

c. *Chu tank zob giblew ne r-len nis za.* BATHROOM 5
belly tub PR/sit faucet that H-bear water warm
"In the middle of the tub sits a faucet that bears warm water."

The examples in (82) show that the indirect object follows the direct object in ditransitive clauses, thus normally appearing at the end of the clause. The preposition *lo* "face" is required with indirect objects.

(82) a. *W-dee men bal lo ngol.* CWENT 45
C-give 3RD bullet face vulture
"He shot a vulture (Lit. He gave a bullet to the vulture)."

c. *W-nii men disa lo noo.* HORTENS 38
C-speak 3RD language face 1EX
"She spoke Zapotec to me."

In normal ditransitives, the order of V-S-O-IO is fixed. The indirect object directly follows the subject, however, when the object has the form of a direct quotation, as shown in (83). Presumably, this shift in order is due to Extraposition of the direct quote object. Direct quotations may also be fronted.

(83) *R-e Samwel lo Javyer: Ay.* SAMUEL 19
H-say Samuel face Javier ah
"Samuel said to Javier, 'Ah!'"

We saw in Chapter 3 that there are three possible verbal suffixes, *-t* the marker of negation, and the adverbial suffixes *-re* "MORE" and *-ke* "ASSOC". Besides these three suffixes, nothing may occur between the verb and the subject, nor between the subject and the object or other complements of the verb. Free adverbials occur either sentence-initially or clause-finally only, as shown in (84a–d). The locative can be fronted instead, as (84e) verifies, but it cannot occur between the verb and the subject (84f).

(84) a. *Yzhe ts-a noo Mejiko.*
tomorrow P-go 1EX Mexico
"Tomorrow I will go to Mexico City."

b. **Ts-a yzhe noo Mejiko.*
P-go tomorrow 1EX Mexico
(I will go tomorrow to Mexico City.)

c. **Ts-a noo yzhe Mejiko.*
P-go 1EX tomorrow Mexico
(I will go tomorrow to Mexico City.)

d. *Ts-a noo Mejiko yzhe.*
P-go 1EX Mexico tomorrow
"I will go to Mexico City tomorrow."

e. *Mejiko ts-a noo yzhe.*
Mexico P-go 1EX tomorrow
"To Mexico City I will go tomorrow."

f. **Ts-a Mejiko noo yzhe.*
P-go Mexico 1EX tomorrow
(I will go to Mexico City tomorrow.)

There is thus a strict adjacency requirement between the verb and its arguments, including the subject as well as the complements of the verb.[1]

[1]There is one text example, given in (i), where this adjacency requirement does not appear to hold. According to my QZ language consultant, however, this example contains a special Verb-Adverb compound. His judgement is verified by the position of the negation in (ii)–(iii).

(i) *W-yëkwen gyëël men.* OLDMAN 32
C-heal well 3RD
"He healed nicely."

(ii) *W-yëkwen gyëël-t men.*
C-heal well-NEG 3RD
"He didn't heal well."

(iii) **W-yëkwen-t gyëël men.*
C-heal-NEG well 3RD
(He didn't heal well.)

As a compound, *yëkwen gyëël* is all part of V^0 and the adjacency requirement between the verb and its subject is met.

4.2 Sentences Expressing States or Existence

QZ allows various constructions for expressing existence, identification, and states of being. These constructions will be discussed in turn in the following sections.

4.2.1 Existential Sentences

Existential sentences usually contain the copular verb *uu* inflected with Stative Aspect, *n-uu* "S-be", but sometimes the other copular verb, *ak* "become", is used (85d). (See section 4.2.3 for discussion of the difference in usage between these two copular verbs). These sentences can have the normal verb-initial order, as shown in (85a-c), or the subject may be fronted, as in (85d-f).

(85) a. *N-uu gyët.* GRANDMA3 24
S-be tortilla
"There were tortillas."

b. *N-uu naal yaa nis.* MTLEMON 44
S-be much very water
"There was a lot of water."

c. *N-uu ndal yag bduu ru lgyëëz Santyoo* TRIPTOQ 63
S-be lots tree banana mouth town Santiago
"There are lots of banana trees at the town of Santiago."

d. *Ndal play n-ak ru nis.* BENIT 41
lots beach S-become mouth water
"There are many beaches at the shore of the water."

e. *Ndal yaa yag gyer n-uu.* MTLEMON2 18
lots very tree pine S-be
"There were lots of pine trees."

f. *Le mdxin n-uu len yuu.* RYENEGU 31
FM deer S-be inside house
"The deer is in the house."

In addition, existentials may be expressed without a verb being present at all. For example, in (86) the quantifier *ndal* "lots" acts as the predicate.

(86) *Ndal yaa soldad.* SOLDADOS 2
S/lots very soldiers
"There are lots of soldiers." or "The soldiers are many."

QZ also has a negative existential verb, *yët*. This verb is one of two that does not take any Aspect marking. Examples of its use are given in (87) (see section 9.2.1 for more examples and possible analyses of the negative existential verb.).

(87) a. *Per yët dxiin.* GRANDMA3 7
but not.be work
"But there wasn't any work."

b. *Per yët loon.* TRIPTOQ 7
but not.be bed
"But there aren't any beds."

4.2.2 Identificational Sentences

The other verb which does not take Aspect marking is *la* "call" used in identificational sentences. This verb is used to specify the name of a particular individual or to give a definition of a term. It is not fully identificational in the sense that *la* would not be used to say "That man is a doctor." The copular verbs or a construction with a nominal phrase acting as the predicate (see (92)) would be used in that case.

(88) verifies that *la* is used to say "my name is...".

(88) *N-a men: Noo la Susan.* HORTENS 39
S-say 3RD 1EX call Susan
"She said, 'My name is Susan.'"

These identificational sentences can have the expected order with the verb first, followed by the two arguments being equated (89a). In the majority of the text examples, though, the surface word order is nominal phrase-*la*-proper name, as shown in (89b–e), where I assume that the nominal phrase has fronted via Ā-movement. (89f) verifies that the proper name may be fronted instead.

(89) a. *La men Lawer.* AGOSTO 3
call 3RD Laura
"She was called Laura."

b. *Mëëd la Karmita.* GRING 5
baby call Carmita
"The baby's name was Carmita."

c. *Te men la Samwel.* SAMUEL 11
one 3RD call Samuel
"One man was called Samuel."

d. *X-mig men la Danyel.* MTLEMON 12
POS-friend 3RD call Daniel
"His friend's name is Daniel."

e. *Le wnaa ne mejikan la Gecha.* GRING 3
FM woman that Mexican call Lucrecia
"The Mexican woman was called Lucrecia."

f. *Tomas la te mgyeey* AGOSTO 11
Thomas call one man
"Thomas is the name of the man
ne w-tsa-nya xsaap Manwel.
that C-give-hand daughter Manuel
who married the daughter of Manuel."

The verb *la* "call" is also used in giving definitions. Such definitions can follow an existential statement, as shown in (90)–(91), where the (a) example in each case is an existential and the (b) example gives the definition.[2]

(90) a. *N-uu refineri.* BENIT 35
S-be refinery
"There is a refinery."

b. *Refineri la led-ne r-boo men petrolye.* BENIT 36
refinery call body-that H-extract 3RD kerosene
"A refinery is where they extract kerosene."

(91) a. *N-uu ndik.* BENIT 38
S-be dry.dock
"There is a dry dock."

[2]This text is a conversation between two friends. One of the men has returned from working in the city and he is describing it to his friend, who has never been there.

b. *Ndik la led-ne r-la-wen men bark.* BENIT 39
dry.dock call body-that H-do-good 3RD ship
"A dry dock is where they fix ships."

Identificational sentences not involving a name can be expressed without a verb, as shown in (92). In this case the nominal phrase *x-bur noo* "my burro" acts as the predicate and the pronoun used to refer to animals, *maa*, is the subject.

(92) *Per x-bur noo maa.* BRU 27
but POS-burro 1EX 3A
"But it's my burro."

4.2.3 Stative Sentences

We have already seen quite a few examples of sentences using the copular verbs and Stative Aspect. In addition to giving an existential reading, a state of being may be expressed using the copular verbs *n-uu* "S-be" or *n-ak* "S-become". Text examples of this type all have the adjective first, followed by the Stative verb and then the item being described, as shown in (93).[3]

(93) a. *Barat n-uu zhob.* GRANDMA3 25
cheap S-be elote
"Elote was cheap."

b. *Kontent n-uu lextoo mër gol.* MARTRIST 40
contented S-be liver pigeon male
"The male pigeon was content."

c. *Zhaandxe n-ak Estados Unidos.* LIFEINUS 4
pretty S-become States United
"The United States is pretty."

d. *Zhaandxe n-ak x-too gyeey gin.* LIFEINUS 61
pretty S-become POS-head mountain this
"It's pretty at the top of this mountain."

The difference in usage between the two copular verbs is not completely clear, though in general *uu* only appears with the Stative Aspect and is used to express ex-

[3]The sentence in (93b) literally means that his liver was content. For most Zapotecos, the liver is recognized as the center of emotions.

istence or a (fairly) permanent state. In contrast, *ak* generally is used with adjectives which are more temporary, such as "pretty" in (93c-d) above.[4] Also, *ak* may carry other Aspect markings besides the Stative Aspect, as shown in (94), where its gloss of "become" is clearer.

(94) a. *G-ak men x-unaa de.* MARTRIST 29
P-become 3RD POS-woman 2
"She will become your wife."

b. *Noze byu w-ak gyus.* SANJOSE 9
only piece C-become pot
"The pot was only pieces."

c. *Pur mëël w-ak gits x-too noo.* SNAKHAIR 10
pure snake C-become hair POS-head 1EX
"My hair had become pure snakes."

The adjective itself can also serve as the predicate in a stative sentence. Neither copular verb is present in the examples in (95).[5]

(95) a. *N-gaal-o.* MEXICO 20
S-fresh-3I
"It's fresh."

b. *N-gaa den.* MEXICO 21
S-green ranch
"The ranch is green."

c. *N-dux xnaa noo lo noo.* SNAKHAIR 4
S-angry mother 1EX face 1EX
"My mother was angry with me."

d. *Kesentyent n-yag x-too gyeey gin.* LIFEINUS 68
much S-cold POS-head mountain this
"It was very cold on the mountain top."

In summary, existential, identificational, and stative sentences are limited to the use of the two copular verbs (*uu* "be" and *ak* "become"), and the two verbs which do

[4]The distinction between the two copular verbs thus corresponds somewhat to the stage-level versus individual-level distinction (Kratzer 1989). There is no discernible difference in the position of the subject, however.

[5]The Stative Aspect marker is usually found on the adjective in these constructions, though a subset of the adjectives do not carry the Stative marker.

not take Aspect marking (the negative existential verb *yët*, and the verb *la* "call"). In addition, these types of sentences can be expressed with non-verbal predicates.

4.3 Constructions Involving Changes in Argument Structure

These next two sections deal with the constructions which are analyzed to involve movement within GB theory. The possibilities for movement to an argument position (A-movement) are considered in this section, and then Ā-movement is covered in section 4.4.

We begin this section by looking at the very limited passive constructions and the unaccusative constructions in QZ. Based on the Uniformity of Theta Assignment Hypothesis (Baker 1988:46, given in section 1.2.2.2), passive and unaccusative verbs are assumed to assign a Theme θ-role to their complements and not select an external argument. Motivation for movement of these complements to subject position is provided by Burzio's Generalization (Burzio 1986:185), which states that verbs which do not assign external arguments cannot assign Case to their complements. Therefore, the complement must raise to the subject position in order to receive Case. In English and other subject initial languages, this movement to subject position is clearly visible in the word order. Testing whether such movement really occurs is much more difficult for verb initial languages such as QZ, however. Since both the subject and the object surface after the verb, it is not possible to tell by word order whether the complement has actually moved to the subject position. Further, Case is totally unmarked in QZ. We will see, however, that some of the other Zapotecan languages are more explicit with respect to morphological case marking and subject plural marking. All the tests which can be applied lead to the conclusion that the DP following the verb is the subject at S-structure, in both the passive and unaccusative constructions. Thus, based on the assumption of the Uniformity of Theta Assignment Hypothesis, A-movement must have taken place.

Raising constructions comprise the other type of construction which is normally assumed to involve A-movement, again due to Case theory considerations. The QZ version of raising constructions is presented in section 4.3.3, showing that no overt raising takes place. Since the complement of the verb meaning "seem" is not necessarily nonfinite in QZ, the subject of the embedded verb can receive Case in its original position, and raising is not needed.

Finally, section 4.3.4 examines the causative constructions. The Causative morpheme may only be added to a verb which does not already assign an Agent θ-role, indicating that causative verb formation is a lexical rather than a syntactic operation.

4.3.1 Passive Constructions

Passive constructions are only minimally attested throughout the Zapotecan language family. Marlett & Pickett (1987:413–414) claim that Isthmus Zapotec does not have any passives. In contrast, Yatzachi, Texmelucan, and Choapan Zapotec have a passive morpheme that attaches to a normally transitive verb. In this case the underlying direct object bearing the Theme θ-role surfaces in the subject position and no Agent θ-role is expressed. An example from Yatzachi Zapotec (Butler 1988:120) is given in (96), where the transitive verb is shown in (96a) and its passive counterpart is given in (96b).[6]

(96) a. *Ch-aʔo-boʔ-on.*
H-buy-3F-3I
"He buys it."

b. *Ch-d-aʔo-n.*
H-PASS-buy-3I
"It is bought."

QZ does not have such an affix to indicate that a normally transitive verb has become passive. In certain situations where it is clear from the semantics which role the participants are playing, focusing the object gives it more prominence, which is

[6]The passive morpheme *d-* is glossed PASS. 3F indicates the third person familiar pronoun.

similar to the effect in a passive construction. The subject argument is still present and has not changed form in this case, though, so this is simply an object focus construction and not a true passive construction.

There is one QZ verb which is underlyingly passive, however. This is the verb *zël* "be.found". *Zël* only takes one argument and that argument may not be the Agent. Some examples are given in (97).

(97) a. *Dxe w-ak xe r-ye noo men,* MARTRIST 5
already C-become F/day H-search 1EX 3RD
"Already another day has passed that I've been looking for her (a wife),
per r-zël-t men.
but H-be.found-NEG 3RD
but she hasn't been found."

b. *Dxe w-zël x-nobye mër gol.* MARTRIST 41
already C-be.found POS-fiancee pigeon male
"Already the male pigeon's fiancee was found!"

c. *R-zël-t led-ne g-u-gwe noo.* MTLEMON2 36
H-be.found-NEG body-that P-eat-lunch 1EX
"A place we could eat lunch was not found."

d. *Dxe w-zaa zek chup tson gbiz w-zël Mblid.* AGOSTO 64
already C-walk as two three day C-be.found Mary
"After two or three days Mary was found."

When the finder or the Agent is expressed, the preposition *lo* "face" must be used, as shown in (98a). This is equivalent to adding the *by*-phrase in English to express the Agent. (98b–c) verify that the Agent may not be added as a second DP following the verb, either before or after the Theme, *Karmita*. These sentences are simply nonsense.

(98) a. *R-zël-t Karmita lo men.* GRING 40
H-be.found-NEG Carmita face 3RD
"They didn't find Carmita."
Literally, "Carmita was not found by them."
*(Carmita didn't find them.)

b. **R-zël-t Karmita men.*
H-be.found-NEG Carmita 3RD
(They didn't find Carmita)
(Carmita didn't find them.)

c. **R-zël-t men Karmita.*
H-be.found-NEG 3RD Carmita
(They didn't find Carmita)
(Carmita didn't find them.)

(99) gives additional examples of this passive verb where the Agent is expressed via the prepositional phrase.

(99) a. *Chene w-zël Karmita lo Biki,* GRING 41
when C-be.found Carmita face Virginia
"When Virginia found Carmita,
Literally, "When Carmita was found by Virginia ..."
la Karmita n-uu axta-ge leen ofisin.
FM Carmita S-be until-that inside office
Carmita was inside the office."

b. *W-zël-t x-mgyeey men lo men.* RANCHO 46
C-be.found-NEG POS-man 3RD face 3RD
"She didn't find her husband."
Literally, "Her husband wasn't found by her."

I assume that since this verb is always passive, its lexical entry specifies that it subcategorizes for a complement bearing the Theme θ-role and for an optional Oblique Agent, but that it does not assign an external argument.

Interestingly, there is another verb in QZ which has a similar meaning to *zël* "be.found" discussed above. This verb *tsalo* which is glossed "find" is a normal transitive verb taking two arguments which correspond to the Agent and Theme θ-roles. Some examples are given in (100).

(100) a. *W-tsalo mëëk te mëël.* MENMAAC 37
C-find dog one snake
"The dog found a snake."

b. *Chu den Gyak w-tsalo men te mëël.* RANCHO 23
belly ranch Gyak C-find 3RD one snake
"In the middle of the Gyak ranch they found a snake."

c. *W-tsalo maa te meedx axta-ge x-too gyeey.* RYENEGU 4
C-find 3A one lion until-that POS-head mountain
"He (a deer) found a lion on the mountain top."

d. *Per nëz w-tsalo men tson mgyeey* CWENT 34
but road C-find 3RD three man
"But on the way he encountered three men
ne n-ak ngbaan.
that S-become thief
that were thieves."

e. *W-tsalo men te ngyed.* MANSNAKE 29
C-find 3RD one chicken
"They met a chicken."

From these examples it is clear that the meaning of *tsalo* is more that of "encounter by chance" or "meet", whereas *zël* was the result of being searched for purposely. The verb *tsalo*, though a fixed form now, most likely derived from the verb *ts-a* "P-go" and the preposition *lo* "face". The addition of the preposition (with its argument) to the intransitive verb produces a transitive verb taking the normal two arguments.

Another case where this type of lexical preposition incorporation has occurred, with a concomitant change in argument structure, is the verb *a-nal* "go-with", as shown in (101).

(101) a. *Gu-ts-a-nal men.* HORTENS 23
IMP-P-go-with 3RD
"Go with him!"

b. *W-a-nal noo men.* MTLEMON 3
C-go-with 1EX 3RD
"I went with them."

c. *Y-ra zhiin men ẅ-a no noo w-a-nal men.* TEXAS 17-18
P-all child 3RD C-go and 1EX C-go-with 3RD
"All their children went and I went with them."

I assume that this incorporation is lexical rather than syntactic, since *nal* "with" is never used as a separate preposition and since these Verb-Preposition compounds have a very limited distribution. The preferred way of expressing the comitative relationship in QZ is via the special number marking constructions (analyzed in Chapter

13) like those shown in (102).

(102) a. *Ts-a de y-rup de Susan.* TRIPTOQ 80
P-go 2 P-two 2 Susan
"You can go with Susan."

b. *Le koyot s-ya y-rup men.* MANSNAKE 64
FM coyote PR-go P-two 3rd
"The coyote went with the man."

As mentioned above, it is practically impossible to tell whether there has been actual movement of the Theme argument to the subject position, or whether the Theme simply remains in place in QZ. To remain in place would contradict Case Theory, which is assumed to be universal.[7] The natural assumption, then, short of direct evidence to the contrary, is that QZ behaves like other languages studied and movement to subject position does occur. We can, however, find some empirical evidence that the Theme argument does occupy the surface subject position in other Zapotecan languages with more overt marking of morphological case and plural agreement. This evidence will be presented after the discussion of the unaccusative constructions.

4.3.2 Unaccusative Constructions

There are a number of verbs in QZ which are unaccusatives in the sense that they are intransitives which select only a Theme argument. No Agent is present. Some examples are given in (103).

(103) a. *Laa men$_j$ w-a-no men$_i$ lo doktor* OLDMAN 31
FM 3RD C-go-take 3RD face doctor
"They took him to the doctor
axta-ge w-yëkwen men$_i$.
until-that C-heal 3RD
until he was well."

[7]Likewise, base generating the single argument of passives or unaccusatives in subject position would violate the Uniformity of Theta Assignment Hypothesis.

b. *W-yëkwen gyëël men.* OLDMAN 32
C-heal well 3RD
"He healed nicely."

c. *Ndxeeb r-yab gyo chene r-dxiin tyemp goon.* BENIT 25
much H-fall rain when H-arrive time weeding
"It rains a lot during the weeding time."

d. *Lex w-yab gits x-too noo leen gyoow.* SNAKHAIR 3
later C-fall hair POS-head 1EX inside river
"Later, my hair fell into the river."

e. *W-ats te bla tabel lo pwent.* OLDMAN 15
C-break one piece plank face bridge
"A piece of the planking on the bridge broke."

f. *Dxe w-eey bëël wen wen ndxee nagon* MOLE 2
already C-cook meat good good very however
"After the meat is cooked very well,
chene g-yu ngob.
when P-mix dough
you mix the dough."

g. *W-et mëël.* SAMUEL 27
C-die snake
"The snake died."

These unaccusative verbs are almost exclusively the verbs which are used in the QZ causative constructions, discussed in section 4.3.4.

What evidence can we find to indicate that the argument bearing the Theme θ-role in the unaccusative and passive constructions occupies the subject position, rather than remaining in the object position, at S-structure? Such evidence seems to be non-existent in QZ, though there is also no counter-evidence to the normally assumed A-movement for these cases. Other Zapotecan languages may be able to provide the evidence we are seeking. Yatzachi Zapotec makes some very slight distinctions between third person subject pronouns and third person object pronouns. It is the third person subject pronouns that must be used in unaccusative constructions, as shown in (104)[8], which is consistent with Burzio's Generalization that verbs which

[8]The Yatzachi examples are taken from Butler (1976a, 1988) or obtained from her personally.

do not assign external arguments cannot assign Case to their complements. (105a) then shows the two forms of pronouns in a ditransitive construction, and (105b–c) verify that the object form of the pronoun can be used without a preceding subject pronoun in an imperative or infinitive construction. This difference in morphological case marking indicates that movement to the subject position from the D-structure position which is assigned the Theme θ-role must occur in unaccusative constructions.

(104) a. *Bg^{w}ix:-eʔ.*
C/fall-3RS
"He fell."

b. **Bg^{w}ix:-neʔ.*
C/fall-3RO
(He fell.)

(105) a. *B-nežR^{w}-eʔ-(e)neʔ-(e)b.*
C-give-3RS-3RO-3AO
"He gave it to him."

b. *G^{w}-dao-n.*
C-eat-3IO
"Eat it!"

c. *Š-aʔa go-ye-b.*
F-go/1S INF-care-3AO
"I am going to care for it (an animal)."

Also, there is a verbal prefix indicating plural agreement, **əsəʔə**,[9] which is used with third person plural subjects only. (106) illustrates the use of this subject plural marker for transitive subjects and for intransitive subjects which bear the Agent role. This marker is used with the Theme argument of unaccusative verbs as well, as shown in (107), indicating that A-movement has taken place.[10]

In (104a) metathesis takes place between the initial root consonant *b* and the Completive Aspect marker.

[9]There is variation in the realization of the vowels in this morpheme when the root begins with a consonant, ranging from the given form through **esəʔə**, **osəʔə**, and **osoʔo**. Further variations occur with vowel-initial roots.

[10]Unfortunately, this test is not as conclusive as one would like. Though unaccusatives can take the subject plural marker, as shown in (107), (i) shows that some speakers optionally use the object plural marker *gaʔak*, a verbal suffix, for the subject of an intransitive verb.

(106) a. *B-osoʔo-nežR^{w}-eʔ-(e)neʔ-(e)b.*
C-SPL-give-3RS-3RO-3AO
"They gave it to him."

b. *B-esəʔə-sed-eʔ.*
C-SPL-study-3RS
"They studied."

(107) a. *G-osəʔə-bix:-eʔ.*
C-SPL-fall-3RS
"They fell."

b. *G-osəʔə-tas-eʔ.*
C-SPL-sleep-3RS
"They slept."

I therefore claim that the QZ passive and unaccusative constructions are best analyzed as involving A-movement of the underlying direct object bearing the Theme θ-role to the S-structure subject position, in accord with the normal assumptions of GB theory.

4.3.3 Raising Constructions

Constructions containing 'raising' verbs are not frequently used in QZ. The word *zem* means "seem". The sentences given in (108a), (109a) and (110a) were solicited from my language consultant and are interpreted as given in the free translation. As is evident from the (b) and (c) examples in each case, the lower subject may not be raised up to follow the verb *zem* "seem".

(108) a. *Kesentyent zem ngan disa.*
much seem difficult language.
"Zapotec seems very difficult."
"It seems that Zapotec is very difficult."

(i) *G^{w}-zaʔ-gaʔak-eʔ.* (realized as *g^{w}zaʔakeʔ.*)
C-walk-OPL-3RS
"They walked."

Still, the fact that subject plural marking is possible for unaccusatives and passives is indicative that they occupy the subject position at S-structure.

b. **Kesentyent zem disa ngan.*
much seem language difficult
(Zapotec seems very difficult.)

c. **Kesentyent zem disa gan disa.*
much seem language difficult language.
(Zapotec seems very difficult.)

(109) a. *Zem r-un-t men gan s-aa men.*
seem H-LM-NEG 3RD able PR-walk 3RD
"He seems unable to walk."
"It seems that he is unable to walk."

b. **Zem men r-un-t gan s-aa men.*
seem 3RD H-LM-NEG able PR-walk 3RD
(He seems unable to walk.)

c. **Zem men r-un-t men gan s-aa men.*
seem 3RD H-LM-NEG 3RD able PR-walk 3RD
(He seems unable to walk.)

(110) a. *Zem r-laan Jose ts-a men Laa.*
seem H-want Jose P-go 3RD Oaxaca
"Jose seems to want to go to Oaxaca."
"It seems that Jose wants to go to Oaxaca."

b. **Zem Jose r-laan ts-a men Laa.*
seem Jose H-want P-go 3RD Oaxaca
(Jose seems to want to go to Oaxaca.)

c. **Zem Jose r-laan men ts-a men Laa.*
seem Jose H-want 3RD P-go 3RD Oaxaca
(Jose seems to want to go to Oaxaca.)

Apparently, *zem* "seem" subcategorizes for a clausal complement and does not assign an external argument. Its subject position may not be filled by raising,[11] but only by the expletive *pro*, similar to the example in (111).[12]

[11]The Aspect of the lower clause does not appear to make any difference, though the Habitual Aspect is the most natural to use in this construction.

[12]Besides the construction with *zem* in (110a), which literally means "It seems that...", there are two alternative ways to express almost the same thought:

(i) *R-yenen noo r-laan Jose ts-a men Laa.*
H-realize 1EX H-want Jose P-go 3RD Oaxaca
"I realize that Jose wants to go to Oaxaca."

(111) *S-ak* *pro-exp* *ts-a* *de lo* *lbanyil* BENIT 57
F-become P-go 2 face builder
"It could be that you can go to the builders
o *ts-a* *de y-chux de mëlbyuu.*
or P-go 2 P-peel 2 fish
or go to peel shrimp."

As long as we assume that embedded clauses with Potential Mood marking may be (and usually are) finite, the subject of the embedded clause can receive Case in its D-structure position, making raising unnecessary.

4.3.4 Causative Constructions

The addition of the Causative morpheme *gu-* (*gw-* before a vowel) to an unaccusative verb adds an external argument with the Agent θ-role.[13] Examples of this type of causative construction are given in (112).

(112) a. *W-gw-et* *men mëël.* AGOSTO 56
C-CAUS-die 3RD snake
"They killed the snake."

b. *Per w-gw-et-et* *men maa.* MENMAAC 12
but C-CAUS-die-NEG 3RD 3A
"But he didn't kill the dog."

c. *R-gw-eey* *men kafe.* DEATH 10
H-CAUS-cook 3RD coffee
"They make coffee."

d. *Swer r-gw-eey* *me.* QUESO 20
suero H-CAUS-cook 3R
"She cooks the suero."

e. *Chene r-beree* *noo, lët me dxe* *w-gw-eey* *kafe.* LIFEINQ 4
when H-return 1EX, FM 3R already C-CAUS-cook coffee
"When I returned, my mother had made the coffee."

(ii) *N-uu beey r-laan* *Jose ts-a men Laa.*
S-be sign H-want Jose P-go 3RD Oaxaca
"There are signs that Jose wants to go to Oaxaca."

Raising is not possible in these constructions either.

[13]The causative morpheme cannot be added to the underlyingly passive verb *zël* "be.found" since the Agent θ-role is already present in the optional oblique argument.

The only other type of example in the QZ texts where the Causative morpheme is used is given in (113), with the crucial parts underlined.

(113) *Laz noo chene r-et te men$_i$, r-kaa men$_j$ kwib* DEATH 1
homeland 1EX when H-die one 3RD H-touch 3RD bell
"In my homeland, when someone dies, they ring the bell,
chin ga-gu-nan yra men$_k$ ne w-et men$_i$.
so.that P-CAUS-know P-all 3RD that C-die 3RD
so that everyone will know that the person died."

As we saw in section 3.3.2, when the Potential marker is used with the verb meaning "know", *g-an*, no overt subject is expressed. The addition of the Causative morpheme in this example causes the 'knowers' to be expressed overtly and to be different from the reference they would have in a control situation. As in the case of adding the Causative morpheme to unaccusative verbs, the Causative is added here to a verb which does not assign an Agent θ-role itself, allowing the Agent to be expressed.

No other types of causative constructions are attested in the QZ texts. Specifically, there are no examples where the Causative morpheme is used with an underlyingly transitive verb nor any examples where it is used with an underlyingly intransitive verb which assigns an Agent θ-role. This distribution argues for a lexical account of the causative construction, rather than a syntactic account, since we would expect syntactically to simply be able to add an additional argument to any type of verb. Comrie (1985) would classify the causative constructions in QZ as morphological causatives.

4.4 Changes in Word Order due to Movement

A number of QZ clauses do not surface with VSO word order. This is due to movement to a non-argument position, usually called Ā-movement in GB. These constructions, involving focus and topic constructions, question formation, and the fronting of negative indefinite pronouns, will be described briefly here. Chapters 7–9 give the analyses of these constructions.

4.4.1 Focus and Topic Constructions

(114) shows that SVO order is an alternative to the usual VSO order. I analyze this as the result of focusing the subject. A focus marker optionally occurs directly before the focused constituent, as in (114b),[14] and has the effect of highlighting a single participant out of several in a text.

(114) a. *Y-ra maa gin r-dil __ noo.* BENIT 19
P-all 3A this H-fight 1EX
"All those animals are bothering me."

b. *Le Manwel w-ruu __ dxe ne w-et x-maa men.* AGOSTO 68
FM Manuel C-leave day that C-die POS-3A 3RD
"Manuel left the day that his animal died."

Alternatively, the object may be optionally focused, yielding OVS order. This is less common and may only be done when it is clear either from the context or from the argument structure which nominal phrase is the subject, as in example (115).

(115) *Noze laa-w r-ap-kwent men __.* SEMBRAR 7
only FM-3I H-have-watch 3RD
"Only it they watch."

The examples in (116) verify that long-distance focusing is possible. In (116a) the indirect object has been focused out of an embedded clause, and in (116b–c) either the subject or the direct object of an embedded clause has been focused.[15]

(116) a. *Lo Jose, r-e Mblid y-dee men/Mblid liber __.*
face Jose H-say Mary P-give 3RD/Mary book
"To Jose, Mary said she will give the book."

b. *Susan, r-e Mblid y-xaal __ Jose ts-a-ye bzaan men.*
Susan, H-say Mary P-send Jose P-go-search brother 3RD
"Susan, Mary said sent Jose to look for her brother."

[14]The focus marker usually has the form *laa*, as in (115). Though quite a bit of phonetic variation is possible, including the forms *laad*, *lat*, *lët*, *le*, and *la*, there is no meaning difference associated with this variation. Instead, the difference is apparently phonologically based.

[15]These examples were elicited from my language consultant, since they are not naturally used in texts or conversation. Since the prepositional phrase is focused in (116a), there is no ambiguity involved, and it would be more likely to be used than (116b–c).

c. *Susan, r-e Mblid y-xaal Jose __ ts-a-ye bzaan men.*
Susan, H-say Mary P-send Jose P-go-search brother 3RD
"Susan, Mary said Jose sent to look for her brother."

In contrast to the focus constructions in (114)–(116) in which a constituent has moved to the front from a position after the verb, there is no gap in the clause in example (117).

(117) *Per laa Gecha w-on-t Gecha* GRING 25
but FM Lucrecia C-hear-NEG Lucrecia
"But as for Lucrecia, Lucrecia didn't hear
porke ndal yaa men n-dxin.
because S/lots very 3RD S-there
because there were lots of people."

In this case the first constituent *per laa Gecha* "but as for Lucrecia" is marking a change in topic to Lucrecia (the Mexican woman), since up to this point the text had been explaining what Virginia (the American woman) was doing. No movement is needed here; we may simply assume that topics are base generated adjoined to a regular clause, similar to the proposal in Aissen (1992a) for Tzotzil and Jacaltec. A full analysis of QZ focus and topic constructions is given in Chapter 7.

4.4.2 Question Formation

In English, a Yes/No question is formed from a declarative sentence by inverting the order of the first auxiliary verb and the subject. QZ does not have any auxiliary verbs (at least not any of the type English has), nor is there any word order change in the formation of Yes/No questions. Instead, a question marker *pe* is inserted at the beginning of the question, as shown in (118).

(118) *R-e Javyer: Pe w-u maa nii de.* SAMUEL 28
H-say Javier Q C-eat 3A foot 2
"Javier asked, 'Did the snake eat your foot?'"

Content questions in QZ are formed by moving a *wh*-phrase to the beginning of the clause, just as they are in English. (119) gives examples of interrogative constructions

in both main and embedded clauses, showing that the *wh*-words always move to the beginning of their clause. In these examples, *pa* seems to be a *wh*-determiner, meaning "what".

(119) a. *Pa go r-laa de.* GRING 34
what thing H-do 2
"What are you doing?"

b. *N-an-t men pa nëz z-a Biki.* AGOSTO 59
S-know-NEG 3RD what road PR-go Virginia
"They don't know which way Virginia is going."

Additional examples are given in (120), using the QZ words meaning "how" (120a), "why" (120b), "where" (120c–d), and "who" and "how much" (120e), where in each case the *wh*-phrase is fronted to the beginning of its clause.[16]

(120) a. *Pe-zee n-ak no.* BENIT 32
Q-how S-become there
"How is it there?"

b. *Pe n-ak g-u de noo.* MANSNAKE 20
Q S-become P-eat 2 1EX
"Why are you going to eat me?"

c. *Pa g-u-gwe noo.* MTLEMON2 33
where P-eat-lunch 1EX
"Where were we to eat lunch?"

d. *Go Karmita.* GRING 35
where Carmita
"Where is Carmita?"

e. *Txu n-an palal zek n-on yag.* GRANDMA3 21
who S-know how.much as S-cost tree
"Who knows how much the tree is worth?"

[16]Questions asking 'when' are formed by using *pa or* "what hour", *pa gbiz* "what day", etc. *Chene* "when" is normally only used in adverbial phrases in QZ.

The examples in (121) show that long distance *wh*-movement is possible.[17]

(121) a. *Txu n-a Jose wii noo* __.
who S-say Jose C/see 1EX
"Who does Jose say that I saw?"

b. *Txu n-a Jose wii* __ *noo.*
who S-say Jose C/see 1EX
"Who does Jose say saw me?"

c. *Pa nëz zhe n-a xe-mgyeey noo*
what road WH N-say POS-man 1EX
"What road did my husband say
y-nëëz noo __ *ne ts-a noo den.*
P-take 1EX that P-go 1EX ranch
I should take to go to the ranch?"

See Chapter 8 for a full analysis of question formation in QZ.

4.4.3 Fronting of Negative Indefinite Pronouns

In addition to focus constructions and *wh*-questions, a third type of construction also involves fronting in QZ. This construction is a negative clause which contains a negative indefinite pronoun. The negative indefinite pronoun must be fronted, as shown in (122)–(123), and it must cooccur with the negative suffix on the verb.

(122) a. *Pa go r-laa de.* GRING 34
what thing H-do 2
"What thing are you doing?"

b. *Bet r-laa-t noo.*
nothing H-do-NEG 1EX
"I am not doing anything."

c. **Bet r-laa noo.*
nothing H-do 1EX
(I am doing nothing.)

d. **R-laa-t noo bet.*
H-do-NEG 1EX nothing
(I am not doing anything.)

[17]The surface forms for (121a & b) are identical due to the VSO word order and lack of morphological case marking. This yields an ambiguous reading.

(123) a. *Pa ts-a de.*
where P-go 2
"Where are you going?"

b. *Bat ts-a-t noo.*
nowhere P-go-NEG 1EX
"I am not going anywhere."

c. **Bat ts-a noo.*
nowhere P-go 1EX
(I am going nowhere.)

b. **Ts-a-t noo bat.*
P-go-NEG 1EX nowhere
(I am not going anywhere.)

In Chapter 9, I show that these facts fall out from the analysis of QZ as a Negative Concord language which requires fronting of a negative indefinite pronoun to the specifier of the NegP projection by S-structure.

Chapter 5

Anaphoric or Binding Relations

Chomsky (1981) proposes three Principles of Binding Theory, which are claimed to be universals, to account for the familiar facts shown in (124).

(124) a. He_i likes $\text{him}_{j/*i}$.

b. He_i likes $\text{himself}_{i/*j}$.

c. John_i likes $\text{him}_{j/*i}$.

d. John_i likes $\text{himself}_{i/*j}$.

e. John_i likes $\text{John}_{j/*i}$.

These principles, which are given in (125), serve to partition the class of nominal phrases into pronouns, anaphors, and proper names or full nominal phrases (called R-expressions).

(125) Principles of Binding Theory

A. Anaphors (e.g. reflexives and reciprocals) must be A-bound in their governing category.
B. Pronouns must not be A-bound in their governing category.
C. R-expressions must not be A-bound.

In order to understand the principles, A-binding and governing category need to be defined. A-binding is formally defined in (126).

(126) α A-BINDS β iff

a. α is in an argument position, and
b. α c-commands β, and
c. α and β are coindexed.

The governing category is a local domain which, roughly speaking, denotes the minimal category which contains both a subject and a governor for the element in question. This minimal category is usually finite IP or a DP containing a possessor (which

qualifies as the subject). Thus, the Principles of Binding Theory claim that anaphors must have a local A-binder whereas pronouns may not have a local A-binder. R-expressions must not be coindexed with any c-commanding antecedent in an argument position.

We will see that the binding facts for QZ and most of the Southern group of Zapotecan languages are quite different from the English facts. There is no morphological marking to distinguish between anaphors and pronouns. Further, coindexed R-expressions regularly occur within a sentence, in apparent violation of Principle C.

In contrast, the remaining (majority of) Zapotecan languages do distinguish anaphoric constructions from pronominal ones and do not allow repetition of R-expressions within a sentence. Interestingly, however, the anaphoric constructions used further divide the Zapotecan language family. This will be shown in section 5.1 by presenting representative data from Isthmus Zapotec and Yatzachi Zapotec along with the QZ anaphora facts.

QZ data relevant to Principle C will then be discussed in section 5.2 in light of the proposal in Lasnik (1986) that Principle C is really two separate principles that need to be parameterized for each language. Discourse considerations that affect the choice of whether an R-expression is allowed to be bound or a pronoun is used instead are presented in section 5.2.1. Finally, section 5.2.2 gives more data and a proposal that QZ has a null third person pronoun that is restricted to having an R-expression as its antecedent. This accounts for the distribution of null arguments in QZ.[1]

5.1 Principles A & B: Distinguishing Anaphors from Pronouns

The examples in (124) demonstrate that the 'normal' situation is for anaphors to be used to signal coindexation and for pronouns to signal disjoint indexing, within

[1]With the exception of the null subject allowed in the reflexive of possession constructions discussed in the next section.

a local domain. Isthmus Zapotec makes this distinction just as expected, as shown in section 5.1.1. Yatzachi Zapotec also clearly signals when coreference is intended, but not by means of reflexive pronouns or other morphological marking. The special syntactic construction used in Yatzachi is presented in section 5.1.2. The QZ facts are then presented, where it is shown that anaphors and pronouns are not distinguished at all, either morphologically or syntactically, except where QZ also uses the Yatzachi syntactic construction.

5.1.1 Isthmus Zapotec Anaphora

Isthmus Zapotec is a member of the Eastern group of Zapotecan languages. In Isthmus Zapotec and most of the Central, Eastern, and Western languages, as well as the Mixtepec dialect in the Southern group, the reflexive construction is formed by a base word, *laka* (which may mean "same" but is glossed here simply as REFL for reflexive), followed by a pronoun which is coindexed with the antecedent. This pronoun acts as the possessor of *laka*. The antecedent is always overtly expressed. (127a–b) show the reflexive construction in Isthmus Zapotec, while (127c) demonstrates that a disjoint reference reading is obtained when the simple third person pronoun is used.[2]

(127) a. *Gu-diñe-e laka na.*
C-hit-1SG REFL 1SG
"I hit myself."

b. *Gu-diñe bašdu laka laa.*
C-hit child REFL PN-3
"The child hit himself/herself."

c. *Gu-diñe bašdu laa.*
C-hit child PN-3
"The child$_i$ hit him/her$_j$."

[2]Note that *laa* is really the pronoun base, which carries dependent pronouns, followed by a null third person pronoun. Compare (127b–c) with (128). *Laa* is shortened to *la* in (128) since laryngealized (or glottalized) vowels are only realized in stressed syllables (the foot is Iambic).

The reflexive marker *laka* is also used in emphatic expressions, as shown in (128).

(128) *Laka la-be b-išni-be ni*
REFL PN-3H C-do-3H 3I
"He himself did it."

I do not have data available to determine the range of relationships that may exist between the antecedent and the reflexive in Isthmus Zapotec, but I expect that the full range of possibilities available in English is also present in Isthmus Zapotec.

In contrast to the reflexive, the reciprocal is expressed by verbal morphology.[3] When the suffix *sa* is added to a transitive verb, it changes the verb's valence to allow only one argument. The subject is required to be plural. A reciprocal construction is exemplified in (129).

(129) *Ka-giñe-sa ka-be.*
PR-hit-RECIP PL-3H
"They are hitting each other."

This use of a derivational suffix to express reciprocity forces the anaphora relationship to be subject oriented and local, though this relationship is only expressed via a verbal affix rather than being realized by structural coindexing.

5.1.2 Yatzachi Zapotec Anaphora

Yatzachi Zapotec is a member of the Northern group of Zapotecan languages. All the data presented in this section are taken from Butler (1976a). The Yatzachi Zapotec reflexive and reciprocal constructions shown here have a unique structure which will be discussed further in section 13.2.1.1. There are three anaphoric constructions in Yatzachi Zapotec, each having the same structural shape. Butler calls these constructions the true reflexive, the reciprocal, and the reflexive of possession.

The true reflexive construction is based on an intrinsically possessed noun $k^{w}iN$ "self of".[4] This construction involves what Butler describes as a portmanteau real-

[3]Only Texmelucan Zapotec, part of the Western group, uses a reciprocal pronoun similar to the reflexive construction rather than using verbal morphology for the reciprocal.

[4]This form is also used in six other Northern group languages.

ization of the subject and the possessor of $k^w iN$, where the subject position is empty. The possessor of the noun $k^w iN$ may be a clitic pronoun, as in (130a–c), or a full noun phrase following the noun, as shown in (130d).

(130) a. *B-čog k^wiN-aʔ.*
C-cut self.of-1SG
"I cut myself."

b. *B-čeč k^wiN-boʔ.*
C-hit self.of-3F
"He hit himself."

c. *J̌-leʔi k^wiN-toʔ.*
H-see self.of-1EXPL
"We see ourselves."

d. *B-e-xot k^wiN beʔe-naʔ.*
C-REP-kill self.of person-that
"That person reportedly killed himself (suicide)."

The reciprocal construction in Yatzachi Zapotec also contains a portmanteau realization of the subject and the possessor of an item, in this case the possessed noun $lR^w ežR$ "fellow of".[5] (131) gives examples of this reciprocal construction.

(131) a. *J̌-e-xaləʔ g-akəlen lR^wežR-ǰo.*
H-REP-owe P-help fellow.of-1IPL
"We must help one another."

b. *J̌-geʔi-neʔ nadaʔ naʔ bito ǰ-ne lR^wežR-toʔ.*
H-hate-3RS 1SG and not H-speak fellow.of-1EXPL
"She hates me and we do not speak to one another."

c. *Biẓčenʔ ǰ-bažəʔ lR^wežR-le.*
why H-hit fellow.of-2PL
"Why do you hit one another?"

d. *Ba-ǰ-əsəʔə-leʔi lR^wežR bžinʔ kaʔ.*
already-H-SPL-see fellow.of mule those
"Those mules have already seen one another."

[5]The symbols R^w and R indicate uvular fricatives. N is an unspecified nasal. The following abbreviations are used, in addition to the abbreviations used for QZ: 1IPL=first person plural inclusive pronoun; 1EXPL=first person plural exclusive pronoun; 1SG=first person singular pronoun; 3F=third person familiar pronoun; 3RS=third person respectful subject pronoun; REP=repetitive; SPL=subject plural marker.

The third anaphoric construction is the reflexive of possession. Here any possessed noun may occur with the portmanteau realization of the subject and the possessor. The examples in (132) show the normal construction, where the subject and possessor of the object are expressed separately.[6] This contrasts with the examples in (133) (compare especially (132a) with (133a) and (132b) with (133b)) showing this reflexive of possession construction.[7]

(132) a. *Čin-aʔ xičR-boʔ.*
P/comb-1SG head-3F
"I will comb his hair."

b. *J̌-laboʔ libř če-boʔ.*
H-read/3F book of-3F
"He$_i$ is reading his$_j$ book."

(133) a. *Čin xičR-aʔ.*
P/comb head-1SG
"I will comb my hair."

b. *J̌-lab libř če-boʔ.*
H-read book of-3F
"He$_i$ is reading his$_i$ book."

c. *Ba-ǰ-g^{w}ia liš Bed-ənʔ.*
already-H-look.at paper Peter-the
"Peter$_i$ is already looking at his$_i$ paper."

d. *Ž-Rə-nab kařt či-aʔ kořeo-nʔ.*
P-go-ask letter of-1SG post.office-the
"I will go ask for my letters at the post office."

e. *Bito b-nežR^w bg^{w}ex če noʔol-ənʔ.*
not C-give broom of woman-the
"The woman$_i$ did not lend her$_i$ broom."

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[6](132b) could be used in a case where the subject and the possessor of the object are coindexed, since the null subject is not absolutely required for coindexation. What is true is that when there is a null subject, there is forced coreference between the subject and the possessor of the object. Therefore, to avoid ambiguity and in conformity with Gricean principles, (132b) would normally be used only for cases of disjoint reference, since (133b) clearly expresses forced coreference.

[7]Nouns which are not of the class that is normally possessed in Yatzachi Zapotec require *če* or *či* "of" before the possessor, as seen in (133b,d–e).

These anaphoric constructions fit the usual characteristics of anaphors in that the portmanteau realization of the subject and the possessor structurally enforces subject-orientation. The locality constraint on antecedents of anaphors is also enforced, if we assume that the null subject is the antecedent and the possessor or possessed object is the anaphor. The subject and the possessor of the direct object or of an oblique object are always within the same IP. No other possibilities for antecedent-anaphor relations are available in Yatzachi Zapotec. No morphological marking is used to distinguish pronouns from anaphors; this special syntactic configuration is employed instead. The major concern with these syntactic anaphoric constructions is how the null subject is licensed. The construction seems backwards, since it is normally the antecedent that carries the identifying information. Section 13.2.1.1 details the theoretical problems posed by this construction and points in the direction of a possible analysis.

5.1.3 Quiegolani Zapotec Anaphora

In contrast to both Isthmus Zapotec and Yatzachi Zapotec, which differentiate between anaphors and pronominals via either morphological or syntactic structure, QZ and at least four other Southern group languages do not make such a distinction (Piper 1993). The regular pronouns are used in both subject and object position. In the case of first or second person pronouns, the coindexing is clear and an anaphoric reading is given (134a) (though singular versus plural is still a problem in QZ). In (134b) we see, however, that there is no way to distinguish coreference from noncoreference with third person pronouns.[8]

[8]According to Regnier (1989b), QZ speakers have developed some idiomatic expressions to indicate an anaphoric usage. "He sees himself" can be idiomatically expressed as in (i). Another idiomatic expression that can be used in a reflexive situation is shown in (ii). This expression can also be used in a non-reflexive situation, as shown in the text examples in (iii)–(iv).

(i) *R-wii men lo gyewan.*
H-see 3RD face mirror
"He/she sees himself/herself."
Literally, "He/she looks in the mirror."

(134) a. *R-wii noo noo.*
H-see 1EX 1EX
"I see myself." or "We see ourselves."

b. *R-wii men men.*
H-see 3RD 3RD
"She/he/they see(s) herself/himself/themselves/her/him/them."

Because of the ambiguity caused by this lack of distinction between anaphors and pronominals, speakers of these languages prefer to use proper names or common nouns rather than third person pronouns. This practice will be discussed in section 5.2 regarding Principle C.

Interestingly, QZ also allows a construction just like the reflexive of possession construction in Yatzachi Zapotec, where the subject may be null if it is coindexed with the possessor of the object. Some examples are given in (135), where an underscore indicates the position of the missing subject. (135d) verifies that the possessor may be a full nominal phrase, not just a pronoun, and that the possessor of the object of a preposition counts as well for this construction.

(ii) *W-niiz men x-kwent men.*
C-give 3RD POS-account 3RD
"He/she hit himself/herself."
Literally, "He/she gave his/her own account."

(iii) *R-niiz men x-kwent noo.* ESCUELA 29
H-give 3RD POS-account 1EX
"He (the teacher) beats me."
Literally, "He gives my account."

(iv) *W-niiz xnaa noo x-kwent noo.* SANJOSE 10
C-give mother 1EX POS-account 1EX
"My mother hit me."
Literally, "My mother gave my account."

Another strategy for a clear reflexive interpretation is to use the morpheme *-ke* (usually a verbal suffix), meaning "association" or "also", attached to the focus marker with the subject focused, as in (v).

(v) *Laa-ke noo r-wii.*
FM-ASSOC 1EX H-see
"I see myself."

This construction apparently alters the argument structure of the verb to take only one argument, as in "I self-see".

(135) a. *R-dxiin-t* __ *x-ten men.* RANCHO 9A
H-arrive-NEG POS-ranch 3RD
"They$_i$ didn't arrive at their$_i$ ranch."

b. *R-e noo: R-laan noo ts-a noo, per che-bel* HORTENS 17
H-say 1EX H-want 1EX P-go 1EX but when-if
"I said, 'I want to go, but only if
y-na de g-weey __ *x-pëëd noo.*
P-say 2 P-take POS-child 1EX
you say that I can take my daughter.'"

c. *Dxe w-dxiin* __ *x-ten men* MENMAAC 3
already C-arrive POS-ranch 3RD
"When he$_i$ arrived at his$_i$ ranch,
w-kaa __ *x-kix men chu yag.*
C-put POS-bag 3RD belly tree
he$_i$ put his$_i$ bag on a tree."

d. *S-ya* __ *ru x-yuu mër gol.* MARTRIST 42
PR-go mouth POS-house pigeon male
"The male pigeon$_i$ went to his$_i$ house."

This construction in QZ is further analyzed in section 13.2.1.1.

We have seen that both Isthmus Zapotec and Yatzachi Zapotec have ways to express reflexive and reciprocal constructions which obey locality constraints and are distinct from regular pronominal constructions. This is consistent with at least the spirit of Principles A and B. For QZ and other Southern Zapotecan languages, however, there is no overt distinction between anaphors and pronominals morphologically and QZ only makes a structural distinction in the reflexive of possession construction. I leave the question of whether Principles A and B apply for further research (see Piper 1993 for a proposal on how the Binding Theory could be reformulated to account for these Southern group languages).

5.2 Principle C: Binding Restrictions on R-expressions

Perhaps a more striking departure from the Principles of Binding Theory is that bound proper names and common nouns occur in a sentence as common practice. The QZ texts are full of examples like those in (136).

(136) a. *W-eey Benit mëlbyuu ne y-ged Benit* BENIT 5
C-take Benito fish that P-give Benito
"Benito took a fish, which he gave
lo x-mig Benit, Jasint.
face POS-friend Benito Jacinto
to his friend, Jacinto."

b. *R-e Mblid lo xsaap Mblid:* BRU 14
H-say Mary face daughter Mary
"Mary said to her daughter:"

c. *Per n-an-t Merse pa go r-zak Merse.* BRU 34
but S-know-NEG Mercedes what thing H-have Mercedes
"But Mercedes didn't know what she had."

d. *Per chene w-dee Biki, r-e Biki:* GRING 33
but when C-pass Virginia H-say Virginia
"But when Virginia entered she said:"

e. *W-chug mëëk duu, porke w-laan mëëk nis.* MENMAAC 35
C-cut dog rope because C-want dog water
"The dog cut the rope, because he was thirsty."

f. *Z-a ye mëëk nis, g-oo mëëk.* MENMAAC 36
PR-go search dog water P-drink dog
"The dog went to look for water to drink."

These examples are very similar to those given in (137) for Vietnamese and (138) for Thai (taken from Lasnik 1986). Lasnik argues for parameterization of Principle C, stating that while an R-expression must always be free in English, in Vietnamese an R-expression must be free in its governing category, and in Thai there is no restriction. QZ is like Thai, since (136b) verifies that an R-expression may be bound even within the same minimal IP.

(137) a. *John tin John sẽ thắńg.*
John believes John will win

b. **John thủóng John.*
John likes John

(138) a. *cɔɔn khít wâa cɔɔn chálaát.*
John thinks that John is.smart

b. *cɔɔn chɔɔp cɔɔn.*
John likes John

Lasnik further notes that both Thai and Vietnamese cannot allow an R-expression to be bound by a pronoun, since the same sentences which are grammatical with repeated R-expressions are very ungrammatical when the antecedent is replaced by a pronoun, as verified in (139) for Vietnamese and in (140) for Thai.

(139) a. **No' tin John sẽ thắńg.*
he$_i$ believes John$_i$ will win

b. **No' thủóng John.*
he$_i$ likes John$_i$

(140) a. **khắw khít wâa cɔɔn chálaát.*
he$_i$ thinks that John$_i$ is.smart

b. **khắw chɔɔp cɔɔn.*
he$_i$ likes John$_i$

This is also true in QZ, as shown in (141).

(141) a. **R-e men lo xsaap Mblid:*
H-say 3RD face daughter Mary
(She$_i$ said to Mary$_i$'s daughter:)

b. **Per n-an-t men pa go r-zak Merse.*
but S-know-NEG 3RD what thing H-have Mercedes
(But she$_i$ didn't know what Mercedes$_i$ had.)

c. **Z-a ye maa nis, g-oo mëëk.*
PR-go search 3A water P-drink dog
(It$_i$ went to look for water for the dog$_i$ to drink.)

QZ therefore concurs with Lasnik's proposal that Principle C is really two conditions, one which needs to be parameterized across languages and one which appears to be

universal. The correct condition for QZ seems to be only the universal condition given in (142) (reworded from Lasnik 1986).[9]

(142) An R-expression may not be A-bound by a pronoun.

Note, too, that even in English the degree of ungrammaticality associated with a violation of the condition in (142) is much more robust than that associated with repetition of R-expressions.

5.2.1 Discourse Considerations Regarding the Use of Pronouns and R-expressions

As mentioned earlier, QZ speakers prefer to use bound R-expressions over switching to pronouns due to the ambiguity caused by the lack of morphological distinction between anaphors and pronominals. This is especially true in isolated situations. In a discourse, pronouns may be used to refer back to a previously introduced individual as long as there are not two individuals being referred to by pronouns at the same time. Consider the opening sentences of two texts for examples of this. Excerpts from the first text are given in (143).

(143) a. *Te mgyeey ne la Benit n-uu Pwert.* BENIT 1
one man that call Benito S-be Salina.Cruz
"One man whose name is Benito lived in Salina Cruz."

b. *Z-a men g-un men inbitar x-mig men* BENIT 2
PR-go 3RD P-LM 3RD invite POS-friend 3RD
"He$_i$ went to invite his$_i$ friend
ne la Jasint n-uu San Jose.
that call Jacinto S-be San Jose
whose name is Jacinto and who lived in San Jose."

c. *Chene w-dxiin Benit ru x-yuu Jasint,* BENIT 6
when C-arrive Benito mouth POS-house Jacinto
"When Benito arrived at Jacinto's house,
r-e Benit: Payus, Jasint.
H-say Benito hi Jacinto
Benito said, 'Hi, Jacinto.'"

[9]Though see section 5.2.2 for an additional condition on quantified nominal phrases.

In sentence (143a) we are introduced to Benito. The general third person pronoun *men* is then used three times in (143b) to refer to Benito, and Jacinto is introduced as distinct from the pronoun referent. In sentence (143c), since there are two distinct referents which could be coindexed with the pronoun, the names are repeated instead.

Excerpts from the beginning of the second text are given in (144).

(144) a. *Teb tir te men ts-a men g-oob giix.* MANSNAKE 1
one time one 3RD P-go 3RD P-clean weed.patch
"One time a man went to clean the weeds."

b. *R-loob men lyu let-ne g-uu men bni,* MANSNAKE 2
H-clean 3RD land side-that P-sow 3RD seed
"He was cleaning the land where he plants seed,
chene w-on men w-zob-tsaa te maa.
when C-hear 3RD C-sit-shout one 3A
when he heard an animal sitting shouting."

c. *Te mëël n-uu te leen yag.* MANSNAKE 6
one snake S-be one in tree
"A snake was in a tree."

d. *R-ob-tsaa mëël.* MANSNAKE 7
H-sit-shout snake
"The snake was sitting shouting."

In this text, a folktale, no names are given. Instead, the human character is introduced by referring to him specifically with a pronoun in (144a) and assigning him that reference for the remainder of the story. In (144b) we hear about *te maa* "one animal (3A)". This animal is shown to be a snake in (144c–d). In this case, three other animals will be a part of the story, so for clarity *mëël* "snake" is now used in each reference to the snake, and the other animals are also referred to by common nouns, as shown in (145).

(145) *R-e mëël lo ngyed: Men-ree z-ëd-no noo men.* MANSNAKE 30
H-say snake face chicken 3RD-this PR-come-take 1EX 3RD
"The snake said to the chicken, 'This man came to
take me with him.'"

On a discourse level, then, the basic consideration seems to be a desire for clarity of reference. This means that pronouns will normally be used for only one referent in the sentence, unless confusion is avoided by person or animacy distinctions in the pronouns used.

5.2.2 Bound R-expressions and the Null Third-Person Pronoun

We saw in Chapter 3, in the discussion regarding control constructions, that QZ seems to have a hierarchy of types of nominal phrases.[10] In this hierarchy full quantified, possessed, or modified nominal phrases are at the top, with pronouns at the bottom. Proper names and unmodified common nouns fit in between. Pronouns must always be overt throughout, and section 5.1.3 showed that the same forms are used for both pronouns and anaphors. At the beginning of section 5.2 we saw that R-expressions may be freely repeated in QZ (though not bound by a pronoun); subsequent instances may also be changed to pronouns, subject to the discourse considerations just discussed. All the examples of bound R-expressions in (136) involved proper names or common nouns, however. These types of nominal phrases make up the middle tier of the hierarchy. When we consider whether quantified, possessed, or modified nominal phrases may be bound, the results are much different. These phrases which comprise the top level of the hierarchy may not be bound without yielding highly unnatural readings, as shown in (146).[11] In the text example (146a), the second clause has a

[10]Both this hierarchy and the parameterized Principle C restriction that an R-expression may not be bound by a pronoun may at least partially fall out from the class inclusion hierarchy proposed by Stenning (1987:167–168). He shows that the most specific descriptions are subordinate to more general, generic descriptions, which are in turn subordinate to pronouns. Stenning states that "a locally defined hierarchy of class inclusion defines a direction within texts: subordinate phrases are not eligible anaphors of their superordinate antecedents."

[11]The hierarchy may need to be further divided to place possessed phrases lower than quantified nominal phrases, since there are text examples which contain repeated instances of possessed nominals, as in (i). The second instance of *znaa noo* "my mother" could also be replaced by an overt pronoun, as in (ii), or possibly by a null third person pronoun, as in (iii).

(i) *Chene w-uu noo lgyëz y-ra znaa noo, r-a znaa noo San Jose.* SANJOSE 1
when C-be 1EX town P-all mother 1EX H-go mother 1EX San Jose
"When I lived in town with my mother, my mother went to San Jose."

null subject which is coindexed with the subject of the main clause. My language consultant actually prefers the reading in (146b), where an overt pronoun fills the subject position in the embedded clause. (146c), with the bound quantified nominal phrase, however, is highly unnatural.[12] Further variation on the same text is shown in (147) to demonstrate that strong DPs behave exactly the same as weak DPs in this regard. Therefore, this restriction against bound quantified nominal phrases is not simply due to the novelty requirement for weak DPs.

(146) a. *Teb tir te wnaa gring r-laan* GRING 1
one time one woman gringa H-want
"One time a gringa (American woman) wanted
ts-a-no __ te wnaa mejikan Estados Unidos.
P-go-take __ one woman Mexican States United
to take a Mexican woman to the United States."

b. *Teb tir te wnaa gring r-laan*
one time one woman gringa H-want
"One time a gringa (American woman) wanted
ts-a-no men te wnaa mejikan Estados Unidos.
P-go-take 3RD one woman Mexican States United
to take a Mexican woman to the United States."

c. *??Teb tir te wnaa gring r-laan*
one time one woman gringa H-want
(One time a gringa (American woman) wanted
ts-a-no te wnaa gring te wnaa mejikan Estados Unidos.
P-go-take one woman gringa one woman Mexican States United
to take a Mexican woman to the United States.)

(ii) *Chene w-uu noo lgyëz y-ra xnaa noo, r-a men San Jose.*
when C-be 1EX town P-all mother 1EX H-go 3RD San Jose
"When I lived in town with my mother, she went to San Jose."

(iii) *Chene w-uu noo lgyëz y-ra xnaa noo, r-a __ San Jose.*
when C-be 1EX town P-all mother 1EX H-go __ San Jose
"When I lived in town with my mother$_i$, she$_i$ went to San Jose."

(ii) could also be understood to mean that someone else went to San Jose, which may be why the R-expression was repeated in the text.

[12](146c) is improved somewhat if the quantifier is omitted in the consequent to read simply *wnaa gring* "American woman".

(147) a. *Teb tir* *y-ra* *wnaa* *mejikan* *r-laan*
one time P-all woman Mexican H-want
"One time all the Mexican women wanted
ts-a-no __ *Biki* *San Jose.*
P-go-take Virginia San Jose
to take Virginia to San Jose."

b. *Teb tir* *y-ra* *wnaa* *mejikan* *r-laan*
one time P-all woman Mexican H-want
"One time all the Mexican women wanted
ts-a-no *men* *Biki* *San Jose.*
P-go-take 3RD Virginia San Jose
to take Virginia to San Jose."

c. *??Teb tir* *y-ra* *wnaa* *mejikan* *r-laan*
one time P-all woman Mexican H-want
(One time all the Mexican women wanted
ts-a-no *y-ra* *wnaa* *mejikan* *Biki* *San Jose.*
P-go-take P-all woman Mexican Virginia San Jose
to take Virginia to San Jose.)

(148) shows a similar distribution and verifies that the options for the subject position in an embedded clause are not dependent upon the Aspect marker in the clause; Habitual Aspect is definitely not nonfinite. Again, the reading in (148b) with an overt pronoun is preferred over the use of the null pronoun (148a) and both of the former are much better than allowing the bound quantified phrase (148c). (149) is included to underscore the lack of distinction between strong and weak DPs in their ability to be bound.

(148) a. *R-a* *txup* *tson* *wnaa* *r-ka* __ *gyus* SANJOSE 2A
H-go two three woman H-buy pot
"A few women went to buy a pot
ne *y-gw-eey* *x-nisyaa* *men.*
that P-CAUS-cook POS-food 3RD
that they can cook their food in."

b. *R-a* *txup* *tson* *wnaa* *r-ka* *men* *gyus* ...
H-go two three woman H-buy 3RD pot
"A few women went to buy a pot ..."

c. *??R-a txup tson wnaa r-ka txup tson wnaa gyus ...*
H-go two three woman H-buy two three woman pot
(A few women went to buy a pot ...)

(149) a. *R-a y-ra wnaa San Jose r-ka __ gyus ...*
H-go P-all woman San Jose H-buy pot
"All the women of San Jose went to buy a pot ..."

b. *R-a y-ra wnaa San Jose r-ka men gyus ...*
H-go P-all woman San Jose H-buy 3RD pot
"All the women of San Jose went to buy a pot ..."

c. *??R-a y-ra wnaa San Jose r-ka y-ra wnaa San Jose gyus ...*
H-go P-all woman San Jose H-buy P-all woman San Jose pot
(All the women of San Jose went to buy a pot ...)

Two proposals are needed to account for this behavior. First, we need to account for the fact that bound quantified nominal phrases (and other modified nominals to some extent) yield very unnatural readings which are similar to Principle C violations in English. This can be achieved by limiting the type of R-expressions that must be free. The Principle C restriction relevant in QZ, in addition to the prohibition against binding by a pronoun in (142), is given in (150).

(150) A quantified R-expression must not be bound.

Secondly, an account is needed for when an argument can be null. Leaving aside the QZ version of the Yatzachi reflexive of possession construction (which will receive further attention and a tentative analysis in Chapter 13), we saw that whenever the antecedent is a pronoun, all coindexed nominals must also be overtly realized as a pronoun. The prohibition against binding of an R-expression by a pronoun in (142) rules out the possibility of an R-expression having a pronominal antecedent (at least one that is also a binder). Further, the data showed that the coindexed consequent of a pronoun may not be null. Since a nominal which has a pronominal antecedent must be overtly realized, and first and second person are always expressed by pronouns, the only arguments which can possibly be null are third person. I believe that QZ has a null third person pronominal which must have an R-expression as its antecedent. If

this view is correct, it accounts for the fact that null subjects may be found outside of control constructions and local anaphoric constructions, as well as for the fact that the null arguments are always third person.

There is data that confirms that the antecedent of the null pronoun need not be local, yet is always an R-expression. This comes from the cases where a null object appears, as exemplified from several texts in (151)–(153). The antecedent is underlined in each case, with the null pronoun indicated by an underscore.

(151) a. *G-ix de tapet lyu.* BATHROOM 20
P-put 2 rug land
"Put the rug on the floor."

b. *G-ix-nii de* __. BATHROOM 21
P-put-foot 2
"Put your foot [on the rug]."

c. *Chene lux lo g-ats xab de,* BATHROOM 25
when finish face P-put clothes 2
"When you finish putting your clothes on,
y-lis-ke de tapet.
P-raise-ASSOC 2 rug
raise the rug also."

d. *Y-xob de* __ *ru tank, let-ne w-az de.* BATHROOM 26
P-put 2 mouth tub side-that C-bathe 2
"Put [the rug] on the side of the tub, where you bathed."

(152) a. *S-ya Benit.* BENIT 75
PR-go Benito
"Benito went."

b. *La Jasint z-a-nal* __. BENIT 76
FM Jacinto PR-go-with
"Jacinto went with [him]."

(153) a. *Bwoo men teb gix gee zaa.* SAMUEL 5
C/extract 3RD one bag each elote
"They each harvested a bag of elote."

b. *W-eey men y-rup men* __. SAMUEL 6
C-take 3RD P-two 3RD
"They each carried [one]."

c. *Kesentyent n-uu gi nii men.* SAMUEL 45
much S-be swollen foot 3RD
"His foot is really swollen."

d. *Te mëël w-u* __. SAMUEL 46
one snake C-eat
"A snake ate [it]."

(154) a. *W-nëëz men txup mëëk* MANSNAKE 82
C-catch 3RD two dog
"The man caught two dogs
ne maz-re n-dux-re ne r-ap men.
that more-this S-angry-MORE that H-have 3RD
that were the wildest that he had."

b. *W-see men* __ *te leen kotens.* MANSNAKE 83
C-throw 3RD one inside sack
"He threw [them] into a sack."

c. *W-dxiin n-eey men* __ *lo koyot.* MANSNAKE 84
C-arrive S-take 3RD face coyote
"The man brought [the sack] to the coyote."

In these examples, the null object pronoun has an R-expression as its antecedent, but not as a binder. C-command cannot hold across sentence boundaries in the discourse.

We need to ask, then, whether QZ distinguishes between null subjects and null objects, or whether they have the same distribution.[13] This involves two questions: (a) Can null objects have an R-expression which is its binder as well as its antecedent? and (b) Can null subjects occur outside of the c-command domain of the R-expression antecedent? The examples in (155)–(156) verify that the answer to both questions is "Yes". (155) shows that a null object pronoun may be bound by the subject of the higher clause.[14]

[13]Both Chamorro and Japanese allow null subjects to be routinely bound by a c-commanding antecedent, whereas null objects are licensed by antecedents that are not binders (Chung, p.c.). QZ does not appear to follow this pattern.

[14]As in several earlier examples, though (155) is acceptable, my language consultant prefers to have the overt third person pronoun *men* in place of the null pronoun.

The word for "official", *xdiiz*, may etymologically consist of the possessive marker *x-* and the root *diiz* "word", indicating that the town officials are the possessors of words.

(155) *Per n-an y-rup mgyeey gin* BRU 50A
but S-know P-two man this
"But those two men knew
y-guu xdiiz __ chigiib te xman o chii gbiz.
P-sow official jail one week or ten day
the officials would throw them in jail for a week or ten days."

(156) gives a text example where two null subjects find their antecedent across sentence boundaries.[15]

(156) a. *Per la Biki n-eey ne g-u Karmita.* GRING 19
but FM Virginia S-take that P-eat Carmita
"But Virginia had brought Carmita's food."

b. *N-eey __ gayet.* GRING 20
S-take cracker
"She had crackers."

c. *N-eey __ nex.* GRING 21
S-take fruit
"She had fruit."

I therefore conclude that there is only one null third person pronoun in QZ (which can act either as a subject or an object) and that it must have an R-expression as its antecedent, but not necessarily as its binder.

[15]This may be a special case, though, since my language consultant says that the subject must be overtly present in the second sentence in (i), as shown in (ii) or (iii).

(i) **W-a xnaa noo San Jose. Lex bweree __ lygëz.*
C-go mother 1EX San Jose later C/return village
(My mother went to San Jose. Later she returned to Quiegolani.)

(ii) *W-a xnaa noo San Jose. Lex bweree xnaa noo lygëz.*
C-go mother 1EX San Jose later C/return mother 1EX village
"My mother went to San Jose. Later my mother returned to Quiegolani."

(iii) *W-a xnaa noo San Jose. Lex bweree men lygëz.*
C-go mother 1EX San Jose later C/return 3RD village
"My mother went to San Jose. Later she returned to Quiegolani."

(156) provides the best example of the antecedent being found across sentence boundaries, similarly to the examples of null objects, since it is not easily reanalyzed as sentence-level coordination. A null subject in a coordination construction also provides evidence that the null subject pronoun need not be bound by its antecedent, however, since c-command cannot hold from within one conjunct into another conjunct either. See section 11.1.2 for this type of example.

In summary, we have seen that QZ does not distinguish between anaphors and pronominals, except through the use of a syntactic construction similar to the Yatzachi Zapotec reflexive of possession construction. Further, Principle C needs to be parameterized (as Lasnik 1986 proposed) to account for the behavior seen. No R-expressions may be bound by a pronoun, but proper names and common nouns may be repeated, and thus bound by other coindexed non-pronominals, while quantified nominal phrases must be free. Positing that QZ has a null third person pronominal that must have an R-expression as its antecedent within the discourse accounts for the distribution of null arguments.

Part II
Clause Structure and Ā-Dependencies

This part of the dissertation undertakes the task of analyzing the overall clause structure for QZ in particular, and for Zapotecan languages in general. Chapter 6 introduces the theoretical issues involved in the decision-making process. These issues include, among others, the questions of what functional projections are needed and whether Verb Movement or Subject Adjunction is responsible for the basic VSO order.

This theoretical discussion is followed by a deeper look, in Chapters 7–9, at the formation of focus and topicalization constructions, questions, relative clauses, and constructions involving negation. The restrictions on *wh*-movement and the required fronting of negative indefinite pronouns are seen to basically follow from the *Wh*-Criterion and the Negative Criterion (May 1985, Rizzi 1991). However, the cross-linguistic differences in how questions are formed cannot be fully accounted for by the *Wh*-Criterion, so a parameterized account is proposed in the Appendix at the end of Part II (following Chapter 10).

Although neither focus and topic constructions nor questions and relative clauses provide any empirical evidence to decide between the clause structure proposals, the negation constructions clearly point toward a Verb Movement analysis.

Finally, Chapter 10 examines the possibilities for interaction between the fronting involved in focusing, questions, and negative constructions, as well as between negation and clause-level coordination. This investigation provides the answer to the question of how many functional projections are required, yielding the overall clause structure analysis.

Chapter 6

Theoretical Issues

The overarching theoretical issue addressed in this part of the dissertation is the question of how many functional projections are needed in the overall clause structure and how these projections are ordered with respect to one another. This is the topic of the next section. Included there is discussion of how the specifier position in each projection is utilized, and how its use is correctly restricted. Section 6.2 moves to the independent question of how VSO word order is generated within X′-Theory. Secondary issues touched on by the analyses given for the specific constructions covered in Part II are noted in section 6.3.

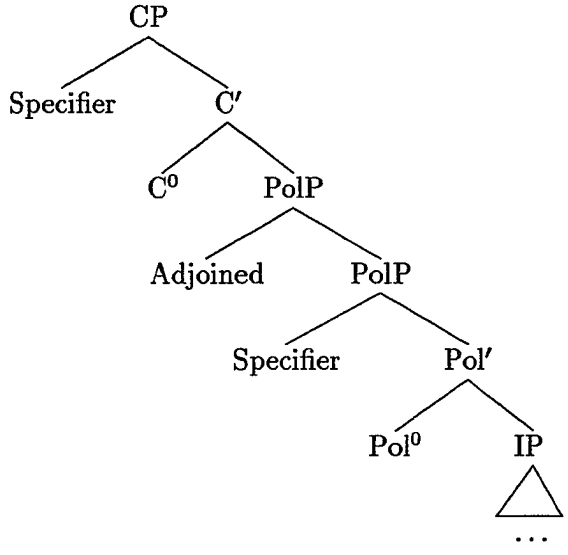
6.1 How Many Functional Projections are Necessary?

Pollock (1989) first advocated splitting IP into the separate projections of TenseP, AgrP, and NegP. Others have since proposed additional projections, such as a distinction between subject agreement and object agreement for languages that manifest both types. Similarly, Hendrick (1991) argues that Aspect heads its own AspP projection.

The Infl elements in Zapotec are quite restricted; only Aspect is marked, so TenseP and AgrP are not needed. I present evidence that there is a NegP projection above IP (=AspP) in Zapotec, however, in Chapter 9. In addition, the data for focus constructions (Chapter 7) and question formation (Chapter 8) indicate that another $\bar{A}$ landing site is needed. The interaction of these various constructions with one another and with clausal coordination clarifies the picture, as shown in Chapter 10. In summary, I claim that Zapotec clause structure has only two functional projections

above IP, as well as allowing an adjoined position. These consist of a polarity phrase (PolP), which is the ± counterpart of NegP[1], and the usual complementizer phrase (CP). PolP is immediately above IP and below CP. An additional position for Ā-movement is left-adjoined to PolP, directly below CP, as shown in (157).

(157)



Looking at (157), one might wonder what the three specifier or adjoined positions are used for.[2] This issue has largely been left unanswered in the proposals which advocate additional functional projections. Two options are normally seen: either the specifier positions and single bar projections are omitted from the tree structure so that only the heads and maximal projections are visible (for example, Chomsky 1989:16), or, in SVO languages, the specifier positions are shown and the subject is assumed to raise successively through each specifier position to the highest one (Koopman & Sportiche 1991). NegP is an exception to this, since the French *pas* is assumed to occupy the specifier of NegP, and this is probably true of English *not* as well (Pollock 1989 and Zanuttini 1991, among others).

[1]PolP seems similar to the proposal of ΣP in Laka (1990), but the two proposals are distinct. See section 10.4.

[2]In addition to the specifiers of CP and PolP and the adjoined position, we must also consider the specifier of IP under the Verb Movement proposal.

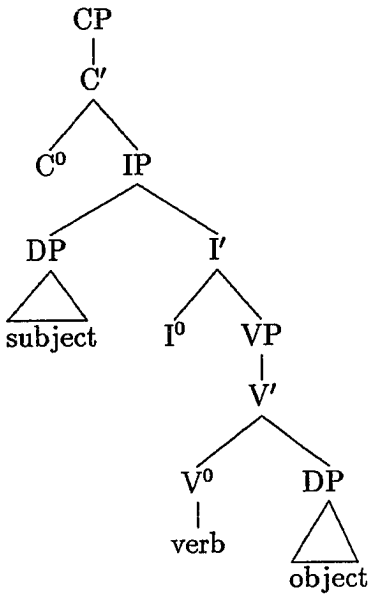
This is not the scenario in Zapotec. One of the main reasons for positing the projection in each case is to make use of its specifier position. Each specifier or adjoined position, with the possible exception of the specifier of CP, has a unique use as a landing site for movement. Further, there need to be restrictions on exactly what can or must fill each specifier position. The requirement that the *Wh*-Criterion and the Negative Criterion hold at S-structure, discussed in Chapters 8 and 9 respectively, accounts for two crucial facts. First, only a phrase which carries the relevant feature may occupy the specifier or adjoined position. Second, these phrases are required to front. We will see that while the normal Specifier-head relationship holds for a Neg^0 and its specifier, a $C^0_{[+wh]}$ requires that the fronted *wh*-phrase follow it in a minimal government relationship. Focused phrases occupy the same adjoined position as *wh*-phrases do.

6.2 How VSO Word Order is Obtained

Greenberg (1963) documented three basic word orders for natural language: SVO (like English), SOV, and VSO (with VOS and OVS also occurring rarely). All of these word orders, except VSO order, can be accounted for by positing that the verb and its object form a verb phrase (VP) and the subject occurs on one side of the VP. This means that the clause structure for all except VSO languages would be as shown in (158) (except for possible linear reordering of the verb and its object within VP and/or reordering of the subject with respect to VP). The C^0 position is for complementizers and the I^0 position is filled by one or more inflectional elements, such as tense, aspect, and/or agreement.[3]

[3]Under the theory of Chomsky (1981, 1982, 1986), the subject would begin in the specifier of I^0 position, as (158) shows. An alternative to this is to place the subject in the specifier of V^0 position, following the Internal Subject Hypothesis argued for by Kitagawa (1986), Kuroda (1986), Diesing (1990), Koopman & Sportiche (1991), McNally (1992), Burton & Grimshaw (1992), and others.

(158)



Beginning with this basic clause structure, two major proposals have been made within the GB theoretical realm to account for VSO word order.[4] The two proposals differ in the position assumed for subjects and in whether it is the subject or the verb that moves. The Verb Movement proposal involves movement of the verb upward over the subject, while the Subject Adjunction proposal assumes that the subject lowers to adjoin to the verb. These proposals will be presented and evaluated in turn.

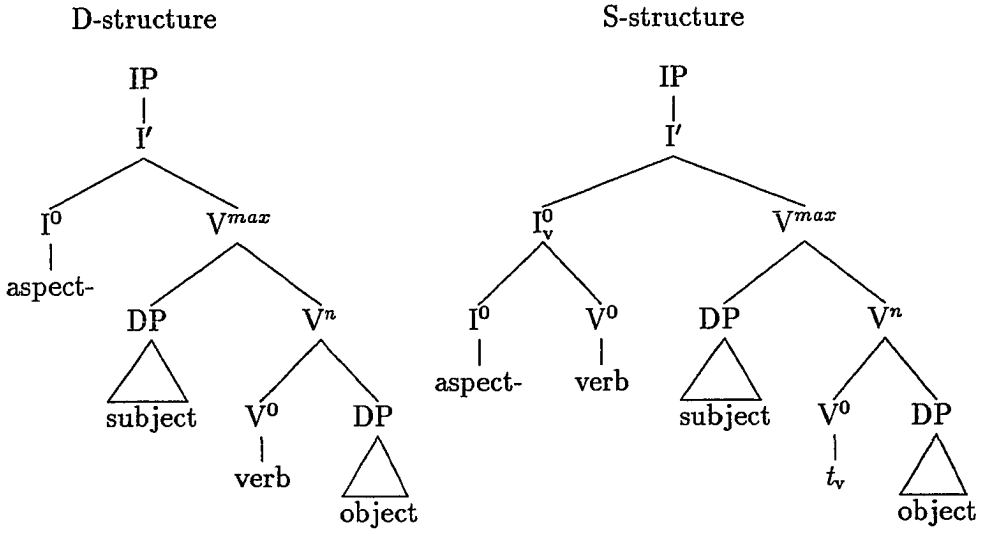
[4]There are two additional proposals that I do not consider here. The first of these is akin to Germanic-type Verb-Second movement, where the subject occupies the specifier of I^0, then the verb undergoes obligatory V^0-to-I^0-to-C^0 movement (Emonds 1979, Sproat 1985, Haider & Prinzhorn 1986). One reason for eliminating this proposal from consideration is that V^0-to-I^0-to-C^0 movement is posited in the Germanic languages only when there is no overt complementizer, whereas VSO order occurs in Zapotec regardless of the presence of an overt complementizer. Further, McCloskey (1992b) argues on the basis of the position of the verb with respect to IP-adjoined adverbials that the verbal complex in Infl does not move on to Comp in VSO languages.

The second proposal, by Woolford (1991), is that VSO order is base generated within V′, where the verb, subject, and object are sisters, and both the specifier of V^0 and the specifier of I^0 are empty (though Woolford argues that A-movement can move the subject to the specifier of I^0 position in the clauses that have SVO order). This proposal seems to offer no clear benefits for Zapotec, while going against the X′-Theory of clause structure, so I do not consider it further. See footnote (20) in section 13.2.1.1, however, for discussion of how the Zapotec facts differ from the Jacaltec facts which constitute Woolford's main argument.

6.2.1 Verb Movement

The Verb Movement proposal incorporates a version of the Internal Subject Hypothesis, as presented by McCloskey (1991), Koopman & Sportiche (1991), and many others. Under this approach, the subject begins in the specifier of V^0 and still occupies this position at S-structure. V^0-to-I^0 movement produces the standard VSO surface order. I assume that the movement from V^0-to-I^0 is right-adjunction rather than substitution.[5] The D- and S-structures are shown in (159), where the specifier of I^0 position is assumed to be empty and possibly available as a landing site for movement. Following McCloskey (1991), I use the V^{max} over V^n notation in (159) to remain neutral, at least for now, on the question of whether the predicate phrase which is the sister to the subject is non-maximal (i.e. V′) as Kuroda (1986), Huang (1990), and Speas (1991:179–183) have argued, or maximal (i.e. VP) as argued for by Koopman & Sportiche (1991).

(159)



We can evaluate the Verb Movement proposal by looking at how it fares with respect to the theory of phrase structure and the theory of movement, and then at what motivates the proposed movement.

[5]In the use of the term by Rizzi & Roberts (1989), this movement is still substitution. See the following discussion on the morphological motivation for V^0-to-I^0 movement.

How the Verb Movement proposal fares with respect to the theory of phrase structure depends partially on whether the subject is actually in the specifier within the minimal VP projection (as sister to V′), or whether it must be adjoined to the VP (i.e. within V^{max} as noted above). As Emonds (1985) and Kuroda (1986) argue, if the subject is the specifier of the minimal XP predicate, this is a plus for the theory of phrase structure, since the fact that there is otherwise no specifier for VP is an embarrassment within the X′-Theory of phrase structure. Positing either an additional bar-level, as in X^{max} over XP, or that the subject adjoins to the XP predicate, however, complicates (rather than enhances) the theory of phrase structure. Such a move is argued to be necessary by Koopman & Sportiche (1991:239–244) since some languages require the object to be in the specifier of VP position. Further, McCloskey (1991:286) notes that possible movement of the predicate phrase without the subject in clefting constructions in Irish indicates that the predicate phrase is maximal. Similar evidence that the predicate phrase must be maximal in Zapotec non-verbal predicates is shown in some examples of negative fronting in Chapter 9.[6]

Regardless of the bar-level status of the predicate phrase containing the subject, the Verb Movement proposal faces another drawback with respect to the theory of phrase structure. This is the fact that the specifier of IP position is empty. If, however, it can be shown to be the landing site for either A-movement or Ā-movement, this drawback will be eliminated.

The Verb Movement proposal shines with respect to the theory of movement. Movement of V^0 to I^0 is an instance of head-to-head movement allowed as substitution in Chomsky (1986:4 & 73) and extended to "incorporation" or adjunction in Baker

[6]This complication of X′-Theory might be minimized by adopting an amendment along the lines of the proposal by Fukui & Speas (1986) where functional categories have a single specifier and a single complement but lexical categories may have multiple specifiers and complements, limited only by the Projection Principle and the subcategorization requirements of the head.

Another alternative is the proposal by Bowers (1993) that there is an additional predicate phrase (PrP) in every clause. Under this view, the subject is the specifier of PrP and VP is usually its complement. Verb Movement would be V^0-to-Pr^0-to-I^0, yielding VSO order without violating strict X′-Theory.

(1988:309–310). Furthermore, the proposed movement is leftward and upward, so it meets the normal restrictions imposed upon its trace by the Empty Category Principle (ECP).

As for the question of what motivates the movement of V^0 to I^0, three possible explanations have been put forth. One rationale for why French verbs and English auxiliaries raise to Infl, yet full verbs in English do not raise, is that French has a strong AGR (agreement), whereas English AGR is weak (see Emonds 1979, Pollock 1989 and Chomsky 1989).[7] Strong AGR is assumed to be able to "attract" all verbs, causing V^0-to-I^0 movement, whereas weak AGR can only "attract" auxiliary elements. If English AGR is weak, however, then Zapotec AGR is even weaker because it is completely non-existent. This cannot be the motivation for V^0-to-I^0 movement in Zapotec.[8]

A second possible explanation for why the verb must move to Infl involves Case theory. Koopman & Sportiche (1991:227–232) claim that there are two distinct mechanisms available for Case assignment that may be chosen by a particular category within a particular language. Case may either be assigned by a head to its complement or the specifier of its complement under government, or it may be assigned to its own specifier under agreement via the Specifier-head agreement relationship. In English and French finite clauses, Infl is specified as assigning Case only under the agreement relation, not by government. Koopman & Sportiche (1991) maintain that this requires the subject to move up to the specifier of IP position in English and French, since it cannot receive Case in the specifier of VP (which is the D-structure position of the subject in all languages under the Internal Subject Hypothesis they

[7]Pollock (1989) uses the terms "transparent" and "opaque" instead of "strong" and "weak".

[8]Vikner (1991:137) cites Platzack & Holmberg (1989:73–74) as noting that the idea that Infl must include a substantial number of distinctive features to trigger V^0-to-I^0 movement must be an implicature, or one-way correlation, not an equivalence. Therefore, a strong AGR may imply V^0-to-I^0 movement but the presence of V^0-to-I^0 movement does not imply the presence of a strong AGR. Platzack & Holmberg give evidence from a dialect of Swedish spoken in Kronoby, Finland to verify this. This dialect has no subject-verb agreement at all and yet it apparently has V^0-to-I^0 movement, since V^0 precedes VP-adjoined adverbials in non-V2 embedded clauses.

are arguing in favor of). In contrast, in finite clauses in VSO languages such as Irish and Welsh, Infl may only assign Case under government, not by Specifier-head agreement. Therefore, the subject can receive Case in its D-structure position and no A-movement of the subject is called for. Note, however, that this difference in Case assignment mechanisms, in itself, accounts only for the different S-structure positions of the subject, not for the S-structure position of the verb. In order to use Case theory to explain why the verb must move to Infl in VSO languages and in French, we must also assume that in these languages Infl alone is not sufficient to assign Case to the subject; Infl must be supported by the verb as well.[9] Once V^0-to-I^0 movement has taken place, the subject can receive Case by the mechanism prescribed.

The appeal to Case theory to motivate Verb Movement seems plausible and may be correct. Additionally, it is an overriding assumption of this dissertation that (at least a portion of) the morphology is reflected in the syntax. Therefore, the fact that Infl (which is simply the Aspect marking in Zapotec) is morphologically marked on the verb can be seen as consistent with incorporation of the verb into Infl via head movement of V^0-to-I^0. This idea of a direct relationship between the morphology and the syntax is a basic tenet of Baker (1988), as well as being maintained in Chomsky (1986, 1989:4) for inflectional morphology. Rizzi & Roberts (1989:18–19) specifically claim that all head movement is substitution, where the incorporation host morphologically subcategorizes for the incorporee. Specifically for V^0-to-I^0 movement, Infl has the subcategorization frame [__+V^0], so a slot for V^0 is base-generated within I^0, which triggers the substitution of V^0 during the derivation. The complex head created by this incorporation remains I^0, so no problems are created for the Projection Principle.

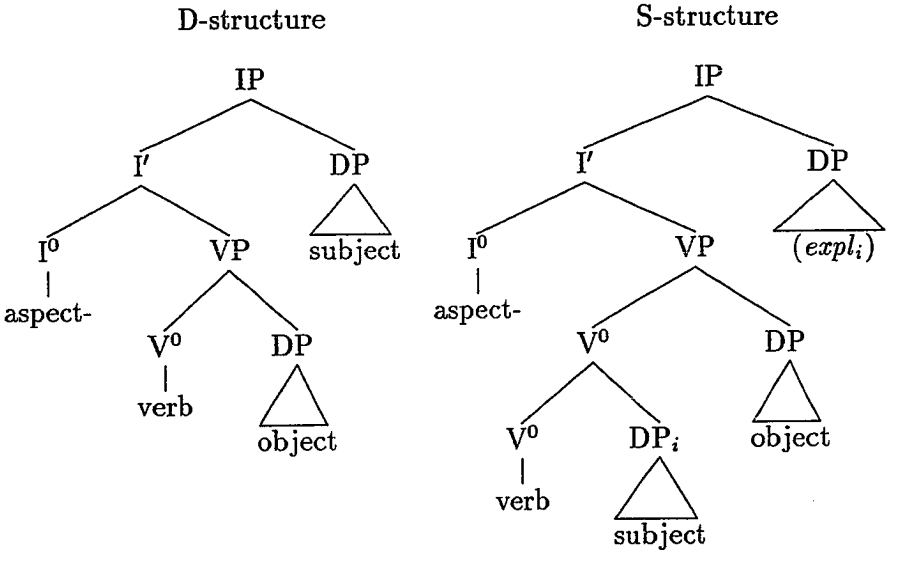
Overall, the Verb Movement proposal seems to be on basically solid ground theoretically. It has some weak points in the area of phrase structure, but is very strong in complying with the theory of movement.

[9]This deficiency of Infl to be able to assign Case on its own seems somewhat contradictory to the claim in the preceding paragraph that French has strong AGR.

6.2.2 Subject Adjunction

The Subject Adjunction proposal was developed for Chamorro in Chung (1990) and was originally proposed by Choe (1986) for Berber. In this case, the subject begins in the specifier of I^0 and then right-adjoins to the verb, leaving behind a coindexed expletive *pro*. The D- and S-structures under this proposal are shown in (160):

(160)



The Subject Adjunction proposal also needs to be evaluated with respect to the theory of phrase structure and the theory of movement, including the motivation for the proposed movement.

The Subject Adjunction proposal fares best in terms of the theory of phrase structure. The proposed D-structure in (160) complies perfectly with X′-Theory in that each projection has both a specifier and a complement.[10] Further, the notion that the clause is projected from Infl, in which the subject serves as its specifier and the predicate XP is its complement, is maintained under this proposal.

In contrast, the proposed adjunction of the subject to the verb is clearly problematic for the theory of movement. First, the adjunction of a maximal projection to a head is disallowed by the constraints on movement in Chomsky (1986:4). Second, the

[10]With the otherwise known exception that there is not a clear specifier for VP.

movement is downward (though it is leftward), which means that the trace could not be governed by its antecedent, in violation of the ECP. This necessitates the claim that a coindexed expletive *pro* is left behind in the specifier of IP position, rather than a trace. Though also proposed by Rizzi (1982) and Burzio (1986) to deal with free inversion of subjects in Italian, the use of a coindexed expletive *pro* seems to be a powerful mechanism which is invoked chiefly to legitimize what would otherwise be an ECP violation.

Exactly what might motivate Subject Adjunction, other than the need to account for surface word order, is unclear. Case theory is not involved here, since the subject would have to receive Case in its D-structure position from Infl. Likewise, we cannot assume that the syntactic movement is "caused" by morphological requirements, since the verb and subject do not form a single word.[11] Instead, Chung (1990:615–616) speculates that the motivation might be due to the need to resolve a conflict between the underlying head-initial (VOS) structure of the clause and the universal preference (noted in Greenberg 1963) for subjects to precede objects. Subject Adjunction might be a way of resolving this dilemma.

Overall, the Subject Adjunction proposal faces serious problems under the theory of movement, while maintaining the theory of phrase structure. Strictly from a theoretical point of view, the Verb Movement proposal seems more attractive. This means that, if the empirical coverage is equivalent between the two, the Verb Movement hypothesis would be chosen. Chung (1990) shows quite conclusively that the empirical coverage is not always equivalent, which merits the choice of Subject Adjunction for Chamorro.

A basic task of this part of the dissertation will be to determine which of these proposals for obtaining VSO order, or combination thereof, will fully account for the clause structure of QZ. We will see that the negation constructions prompt the deci-

[11]Chung (1990:581, fn.12) notes that the proposal that the subject may adjoin to V^0 does not entail that the created constituent is a word, since the mapping between zero-level categories and words is not exactly one-to-one.

sion to adopt the Verb Movement proposal, since these constructions show evidence for head movement of the verb. Chapter 11 in Part III presents additional evidence in support of this choice.

6.3 Other Issues

A number of other points of theoretical interest will also be addressed in the course of this investigation into the clause structure of QZ. These issues relate to the analyses given for the various constructions looked at. In the remainder of Part II, the three types of constructions involving Ā-movement are analyzed, bringing up a number of questions about how to correctly motivate the movement and account for its distribution.

For example, the ordering between overt complementizers and *wh*-phrases or focused phrases calls into question the precise structure of the CP projection in Chapters 7 and 8. Positing either a two-level projection, or combination of one projection and a lower adjoined position, for these constructions resolves this issue (with the second option being chosen here). A related question is how to limit the adjunction to a single phrase, rather than allowing multiple adjunctions. I appeal to the spirit of Relativized Minimality (Rizzi 1990:7) in conjunction with restrictions placed on the content of the adjoined phrase by the *Wh*-Criterion to correctly limit the allowed adjunction to one. In the Appendix to Part II, I look beyond Zapotec to propose a parameterized account of question formation which allows for the full range of cross-linguistic variation seen in the positions available for *wh*-movement and the levels at which it takes place. The account is extendable to the other types of Ā-movement also.

In addition, we see in Chapter 8 that not all morphemes should be represented in the syntax. The case in point involves some question particles in other dialects of Zapotec which are final rather than initial in the clause. Since Zapotec is in general strongly head-initial, these elements receive a better treatment as clitics which attach

to intonational phrases (Selkirk 1986, Aissen 1992a). Therefore, the basic assumption I have made that morphemes may be syntactic constituents themselves (following Baker 1988 and others), needs to be limited. This issue arises again in Chapter 10 with respect to whether the adverbial-type verbal suffixes are best analyzed as Adverb Phrases adjoined to VP or simply as part of V^0. The ordering of these suffixes with respect to negation can be obtained under either analysis but the strong adjacency requirement for Case assignment under government, noted by McCloskey (1991), argues that these suffixes should be simply part of V^0.

In Part III, the analysis is extended to lower-level constituents. This investigation thus attempts to find an analysis which is compatible with, and explanatory of, a very broad range of constructions within a single language (or language family). The wide scope of the investigation is itself of theoretical interest, since it will surely prove to have repercussions for at least some of the areas of theory that it touches on.

Chapter 7

Focus and Topic Constructions

This chapter begins our look at Ā-dependencies by presenting and contrasting focus and topic constructions. Section 7.1 shows how the two types of constructions can be distinguished syntactically and discusses the semantics of each construction. Topic constructions are analyzed as simply adjoined to a main clause, with no further syntactic analysis required, since I assume that the fact that there can be only one topic per sentence is a semantic requirement. In contrast, focus constructions clearly involve Ā-movement to the front of the clause.

Section 7.2 then looks at the so-called focus marker itself, seeking to clarify when it is used and to determine its syntactic category. The available evidence in QZ leads to the conclusion that the focus marker is a type of determiner, either filling D^0 or adjoining to a D^0 filled by a quantifier. The focus marker is not required on a fronted phrase, since its use is determined by the discourse, but a phrase marked with the focus marker must front, subject to ECP restrictions. Data involving focused phrases in embedded clauses show that the focus position is below the complementizer position, rather than above it. Section 7.3 gives two possible phrase structure analyses for focus constructions, both of which rely on the involvement of more than a single functional projection. The decision between these analyses will be made in Chapter 10.

7.1 Focus versus Topic Syntactically and Semantically

The most common alternative to standard VSO order is SVO order, which I analyze as the result of focusing the subject. Some examples with SVO order are given in

(161). A so-called focus marker may occur directly before the focused subject.[1]

(161) a. *Y-ra maa gin r-dil noo.* BENIT 19
P-all 3A this H-fight 1EX
"All those animals are bothering me."

b. *Le Manwel w-ruu dxe ne w-et x-maa men.* AGOSTO 68
FM Manuel C-leave day that C-die POS-3A 3RD
"Manuel left the day that his animal died."

c. *Laad men La Merse w-dee lgyëz.* GRANDMA1 8
FM 3RD La Merced C-give town
"The people of La Merced burned the village."

d. *Per la Biki n-eey ne g-u Karmita.* GRING 19
but FM Virginia S-take that P-eat Carmita
"But Virginia had brought Carmita's food."

e. *Laad x-unaa Dolf dxe z-u nga.* HORTENS 37
FM POS-woman Rodolfo already PR-stand there
"Rodolfo's wife was already standing there."

f. *Lët me r-diix-o.* LIFEINQ 7
FM 3R H-turn.over-3I
"She turned them over."

The object may be optionally focused instead, yielding OVS order. This is less common and may only be done when it is clear either from the context or from the argument structure which nominal phrase is the subject, as is the case in each of the examples in (162).

(162) a. *Noze laa-w r-ap-kwent men.* SEMBRAR 7
only FM-3I H-have-watch 3RD
"Only it they watch."

b. *Pur le yuu r-kaa zhich men.* GRANDMA2 26
pure FM bundles H-put back 3RD
"Just the bundles they carried on their backs."

c. *Teb gix mank w-eey men.* OLDMAN 10
one bag mango C-take 3RD
"He took a bag of mangos."

[1]As previously noted in Chapter 4, the focus marker usually has the form *laa*, as in (162a). Though quite a bit of phonetic variation is possible, as shown in (161b–f), there is no meaning difference associated with this variation. An analysis for the focus marker is given in section 7.2.

d. *Y-ra ngyed win w-u msii.* RANCHO 13
P-all chicken small C-eat eagle
"An eagle had eaten all the young chickens."

In QZ, there is no resumptive pronoun following the verb in a focus construction regardless of whether the fronted phrase is a subject or an object. Other Zapotecan languages vary greatly in this regard; some require a resumptive pronoun only for fronted subjects, some for both subjects and objects, and others allow it optionally. Resumptive pronouns most commonly appear when the fronted nominal is a first or second person pronominal subject.[2] QZ focus constructions involve Ā-movement of the fronted nominal with only a trace left in its D-structure position.

In contrast, in QZ topic constructions there is a constituent corresponding to the initial constituent in its normal position following the verb. The examples in (163) show that this repeated constituent in the standard position is not simply a resumptive pronoun. (163a) shows that the repeated constituent may be a name, and (163b–c) demonstrate that it may be common noun phrase. The subject in normal position is a pronoun in (163d) only because the topic is also a pronoun. This repetition of the nominal rather than changing the subsequent entry to a pronoun relates to the overall distribution of pronouns and nonpronominals in QZ (discussed in Chapter 5). Proper names and common nouns may be freely repeated, even in bound positions, rather than undergoing pronominalization. (163b) shows the effect of the hierarchy of nominal phrases, however, in that the possessed nominal phrase in the topic position is not repeated in the argument position: only the common noun is used.[3]

[2]This information was gathered from various SIL colleagues working on other Zapotecan languages (p.c.).

[3]I do not have any data involving a topic phrase which is a quantified nominal phrase, but I assume that the full quantified nominal phrase would not be repeated, similarly to (163b). Instead it would be replaced by the common noun or a pronoun. The presence of the null third person pronoun (discussed in section 5.2.2) brings up a technical problem in that nonpronominal topic phrases could antecede this null pronoun. In that situation, topic constructions and focus constructions would be indistinguishable since both would have an empty category in argument position. Such structural ambiguity could apply in (162d), for example. Topic constructions with overt DPs in argument position are clearly distinct from focus constructions, however.

(163) a. *Per laa Gecha w-on-t Gecha* GRING 25
but FM Lucrecia C-hear-NEG Lucrecia
"But as for Lucrecia, Lucrecia didn't hear
porke ndal yaa men ndxin.
because S/lots very 3RD there
because there were lots of people there."

b. *No x-pëëd le de g-an pe-zee n-eey de mëëd.* TRIPTOQ 10
and POS-baby FM 2 P-know Q-how S-take 2 baby
"And your baby, we'll see how you take the baby."

c. *Per laa mdxin nagon dxe n-an mdxin no* RYENEGU 33
but FM deer however already S-know deer there
"But as for the deer, however, the deer already knew
ne y-gw-et meedx mdxin.
that P-CAUS-die lion deer
that the lion was going to kill him."

d. *Re Jasint: Laa de naa,* BENIT 23
H-say Jacinto FM 2 DEM
"Jacinto said, 'And you,
pe r-laan de y-laa de dxiin nee.
Q H-want 2 P-do 2 work here
do you want to work here?'"

Syntactically, then, while the QZ focus constructions involve movement of a constituent from its unmarked position following the verb, the topic constructions do not involve any movement; the topicalized constituent is still in its normal position in the clause as well as being appended to the front of the sentence. I assume that the syntax of topic phrases is simply that they are adjoined to a matrix clause, following Aissen (1992a).

An adjunction analysis predicts the possibility of multiple topics, however, which (164) verifies is not allowed.

(164) a. **Per [laa Gecha], [x-pëëd Gecha],* GRING 27A
but FM Lucrecia POS-baby Lucrecia
(But as for Lucrecia, her baby,
w-ni-t-leech Gecha x-pëëd Gecha.
C-lose-NEG-liver Lucrecia POS-baby Lucrecia
Lucrecia had forgotten about her baby.)

b. *Per [laa mdxin], [meedx], nagon* RYENEGU 33A
but FM deer lion however
(But as for the deer, the lion, however,
dxe n-an mdxin no ne y-gw-et meedx mdxin.
already S-know deer there that P-CAUS-die lion deer
the deer already knew that the lion was going to kill him.)

I assume that the limitation of only one topic per sentence may be accounted for by the semantics. Since the semantics of topic constructions is, as expected, that of designating a particular referent to be the topic of conversation (i.e. who or what is being talked about) in the following discourse, it seems intuitive that there could be at most one topic per matrix clause. This semantic or discourse constraint allows the syntactic adjunction analysis to remain valid, even though the syntax alone would predict the possibility of multiple topics.

The semantics of the focus constructions is less clear, as it moves further into the realm of discourse. The construction definitely highlights the referent of the fronted nominal, but there seems to be no clear distinction as to whether the focused phrase is presupposed or whether it introduces a new referent. Discourse analyses done on other Zapotecan languages show that the fronted nominal may be either old or new information. In his paragraph analysis in Amatlán Zapotec, Riggs (1987) found that fronting was used more than usual in the peak paragraph to drive home the point. In non-peak paragraphs, fronting signals a new participant or focuses on some known participant. Newberg (1987) found that in Yalálag Zapotec, fronting in narrative discourse serves to highlight the referent of the fronted nominal in relation to the other participants or in relation to the development of the plot. He gives the examples in (165), translated from texts, where all the clauses have the unmarked VSO order except where noted.

(165) a. The lion wanted to kill the mouse but the MOUSE (fronted) begged for mercy.
b. They took the coffee pot, poured water in it, prepared it, set it on the ground and thought it would boil; but in fact it was the kind that needs fire. PETER (fronted) had tricked them.

Focus constructions are also limited to a single phrase being focused. Though some of the other Zapotecan languages allow both the subject and the object to be fronted in a focus construction, this is not allowed in either order in QZ, as shown in (166).

(166) a. *[*Pur le yuu*] [*zhich men*] *r-kaa* __ __. GRANDMA2 26A
pure FM bundles back 3RD H-put back
(Only the bundles on their backs they carried.)

b. *[*Zhich men*] [*pur le yuu*] *r-kaa* __ __. GRANDMA2 26B
back 3RD pure FM bundles H-put
(On their backs only the bundles they carried.)

c. *[*Laad men La Merse*] [*lgyëz*] *w-dee* __ __. GRANDMA1 8B
FM 3RD La Merced town C-give
(The people of La Merced the village burned.)

d. *[*Lgyëz*] [*laad men La Merse*] *w-dee* __ __. GRANDMA1 8C
town FM 3RD La Merced C-give
(Their village the people of La Merced burned.)

Although neither multiple topics nor multiple focused phrases are allowed in QZ, it is possible under very limited circumstances to have both a topic phrase and a focus phrase in the same clause, with the topic phrase (the one which has an overt coindexed argument in its normal position) obligatorily occurring first. In general, though these constructions are seldom used, a topic phrase and a focused phrase may occur in the same clause when both refer to humans, as shown in (167a). (167b–c) verifies that the topic phrase and the focused phrase must have distinct referents and (167d–e) shows that ungrammaticality results when one of the phrases is non-human. This demonstrates that topic phrases and focused phrases must have syntactically distinct positions, though the limitations on their interaction will again have to relegated to the semantics.

(167) a. *Per* [*Karmita*] [*laa Biki*] *n-eey* __ *ne g-u Karmita.* GRING 19A
but Carmita FM Virginia S-take that P-eat Carmita
"But as for Carmita, Virginia had brought Carmita's food."

b. *Per [Biki] [le Biki] w-yan __ fwer. GRING 18A
but Virginia FM Virginia C-stay outside
(But as for Virginia, Virginia had stayed outside.)

c. *Per [laa mdxin] nagon dxe [mdxin] n-an __ no RYENEGU 33B
but FM deer however already deer S-know there
(But as for the deer, however, the deer already knew
ne y-gw-et meedx mdxin.
that P-CAUS-die lion deer
that the lion was going to kill him.)

d. *[Laad men La Merse] [lgyëz] w-dee men __. GRANDMA1 8A
FM 3RD La Merced town C-give 3RD
(As for the people of La Merced,
the village they burned.)

e. *Per [msii] [y-ra ngyed win] w-u msii __. RANCHO 13A
but eagle P-all chicken small C-eat eagle
(But as for the eagle, all the young chickens it had eaten.)

A syntactic account of this type of fronting movement in QZ, which I will continue to refer to as focus, will minimally have to assign a position before the verb that the focused item can move to (which is distinct from and below the topic position) and give an analysis for the focus marker itself. The next section explores the question of the category of the focus marker, and then section 7.3 presents two possible phrase structure accounts for focus constructions.

7.2 The Category and Function of the Focus Marker

The analysis of the focus marker breaks down into two parts. We will look first at where the focus marker appears in order to determine its category. Then section 7.2.2 answers the question of why the focus marker is used in some constructions and not in others.

7.2.1 The Category of the Focus Marker

We have seen that the so-called focus marker not only marks focus phrases, but also appears in topic phrases. This argues against the assumption that the focus marker is a complementizer, and that the focus position is immediately after the complementizer. More evidence against the complementizer analysis is provided in (168). (168a) shows the focus marker following *pur* "only", which is itself a type of focus marker. In (168b) the focus marker follows *chene* "when", which makes it unlikely that the focus marker is a complementizer if *chene* is analyzed as a complementizer itself.[4] Note that there is a focus marker on the fronted constituent in each clause in (168b). (168c) gives a clear example where a focused phrase, marked with the focus marker, follows the overt complementizer *ne* "that" in an embedded clause. Thus, the focus marker cannot be a complementizer.

(168) a. *Pur le yuu r-kaa zhich men.* GRANDMA2 26
pure FM bundles H-put back 3RD
"Only the bundles they carried on their backs."

b. *Chene le gyo bni g-yab nagon, le men g-uu bni.* GRANDMA4 20
when FM grain seed P-fall however FM 3RD P-sow seed
"When it rained seed, however, they planted the seed."

c. *Bweree x-yag men, w-nii lo xuz nzaap gin* CWENT 6A
C/return nephew 3RD C-speak face father girl this
"His nephew$_i$ returned and said to this girl's father$_k$
ne la xsaap men y-ka men.
that FM daughter 3RD P-buy 3RD
that his$_k$ daughter he$_i$ would marry."

Further, the focus marker can occur in positions other than the front of the clause. (169a) shows that it can occur with the object of a preposition, while in (169b) it occurs with the possessor in a topic, and in (169c) it is part of the possessor in a conjoined DP subject which has not been fronted.[5]

[4]Alternatively, *chene* "when" could be analyzed as a preposition which takes a sentential complement.

[5](169c) has an alternative analysis where *le* is not a focus marker, but instead is a form of *lee* "also" used in lists. In a list of the conjoined DPs we would expect the *lee* to be last, however, after

(169) a. *R-e Benit: Nee n-eey noo te bëd mël por laa de.* BENIT 12
H-say Benito here S-take 1EX one little fish for FM 2
"Benito said, 'Here, I have a little fish for you.'"

b. *No x-pëëd le de g-an pe-zee n-eey de mëëd.* TRIPTOQ 10
and POS-baby FM 2 P-know Q-how S-take 2 baby
"And your baby, we'll see how you take the baby."

c. *W-u tson bech Dolf, s-te bzaan Dolf,* TEXAS 13
C-eat three brother Rodolfo F-one sister Rodolfo
"Rodolfo's three brothers, another sister
xuz le Dolf, xnaa le Dolf.
father FM Rodolfo mother FM Rodolfo
his father and his mother ate."

The lack of fronting of the focus-marked phrases in these cases is illustrative of the general lack of extractability of possessors and objects of prepositions, indicating that these positions are not properly governed. We will see in Chapters 8 and 9 that pied-piping of the whole prepositional phrase or possessed nominal is required in *wh*-movement and negative fronting. (170a & c) demonstrate that pied-piping is possible in (169a & c), while extraction of the focus-marked prepositional object or possessor alone is highly questionable (170b & d).

(170) a. *R-e Benit: Por laa de n-eey noo te bëd mël* __. BENIT 12A
H-say Benito for FM 2 S-take 1EX one little fish
"Benito said, 'For you I have a little fish.'"

b. *??R-e Benit: laa de n-eey noo te bëd mël por* __. BENIT 12B
H-say Benito FM 2 S-take 1EX one little fish for
(Benito said, 'You I have a little fish for.')

c. *Tson bech le Dolf w-u* __. TEXAS 13A
three brother FM Rodolfo C-eat
"Rodolfo's three brothers ate."

d. *??Le Dolf w-u tson bech* __. TEXAS 13B
FM Rodolfo C-eat three brother
(Rodolfo's ate three brothers.)

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the possessor *Dolf*, and occur only once. The analysis of *le* as a focus marker in this example would be clearer if the possessor in the first two conjuncts was also marked by *le*.

Further, (171) verifies that fronting of focus-marked phrases is required for subjects and direct objects. It must therefore be the lack of direct extractability which accounts for the acceptance of the in situ focus-marked phrases in (169).

(171) a. **W-yan le Biki fwer.* GRING 18B
C-stay FM Virginia outside
(Virginia had stayed outside.)

b. **Per n-eey la Biki ne g-u Karmita.* GRING 19B
but S-take FM Virginia that P-eat Carmita
(But Virginia had brought Carmita's food.)

c. **R-ap-kwent men noze laa-w.* SEMBRAR 7A
H-have-watch 3RD only FM-3I
(They watch only it.)

The distribution of the focus marker is much more that of a determiner than a complementizer. Analyzing the focus marker as a type of determiner would account for the fact that only DPs can be marked with the focus marker in QZ.[6] The determiner analysis would also allow for the occurrence of the focus marker on DPs that have not been fronted, or which occupy the topic position above CP, as seen in (169).

Examples like (172a) show that the focus marker is not simply a determiner, though, since it may cooccur with a quantifier which otherwise seems to be the head of DP. (172b) verifies that the focus marker must occur outside of the quantifier.

(172) a. *Laa y-rup meedx z-umbës-te-ke __ y-ruu mdxin.* RYENEGU 37
FM P-two lion PR-stay-MORE-ASSOC P-leave deer
"The two lions were just waiting for the deer to leave."

b. **Y-rup laa meedx z-umbës-te-ke __ y-ruu mdxin.*
P-two FM lion PR-stay-MORE-ASSOC P-leave deer
(The two lions were just waiting for the deer to leave.)

[6]Which types of phrases can be focus-marked varies somewhat throughout the Zapotecan language family. For example, in Santo Domingo de Albarradas Zapotec both DPs and VPs can be preceded by the focus marker. In the case where it is preposed to a verb, the effect is one of emphasizing the action (Kreikebaum 1987). The distribution of the focus marker in Santo Domingo de Albarradas Zapotec is similar to the distribution of *only* in English. It is also similar to the distribution of two words meaning "only" in QZ, *nonchee* and *noze*, to be shown further below. Mitla Zapotec exemplifies the other end of the distribution in not having a focus marker at all (Stubblefield, p.c.).

I assume, therefore, that the focus marker can adjoin to (or within) a DP, similarly to the usual analysis for term negation, as in *not one man*.

We still need to fine tune this analysis further, since there are also ordering restrictions between the focus marker and the words meaning "pure" or "only". There seem to be three QZ words translated as "only": *pur*, *nonchee*, and *noze*. Of these, *pur* is to limited to modifying nominal phrases only. It can be used on a fronted phrase, as in (173a), or on a phrase left in place (173b–c).

(173) a. *Per pur men Santyoo n-uu nga.* TRIPTOQ 62
but pure 3RD Santiago S-be there
"But only people from Santiago are there."

b. *Nga lo play zob restawran* BENIT 45
there face beach PR/sit restaurant
"There at the beach is a restaurant
ne r-too men pur mël.
that H-sell 3RD pure fish
in which they only sell fish."

c. *Teb-o w-uu pur mgyeey.* MTLEMON 32
one-3I C-be pure man
"One was only men."

In contrast, *nonchee* and *noze* can also be used to directly modify (or focus on) the predicate, as shown in (174).

(174) a. *R-e Javyer: Gu-kwëw, nonchee g-u-b.* SAMUEL 39
H-say Javier IMP-wait only P-eat-1I
"Javier said, 'Wait until after we eat.'"

b. *Noze r-on noo diiz n-ak noo men win.* GRANDMA1 6
only H-hear 1ex word S-become 1EX 3RD small
"I only heard it, when I was a child."

c. *R-yab gyeey, noze n-gich x-too gyeey.* LIFEINUS 63
H-fall ice only S-white POS-head mountain
"It snows such that it's all white on the mountain."

However, when these words meaning "only" are used with a DP which is marked with the focus marker, the focus marker must occur closest to the DP, as shown in (175)–(176).

(175) a. *Pur le yuu r-kaa zhich men.* GRANDMA2 26
pure FM bundles H-put back 3RD
"Only the bundles they carried on their backs."

b. **Le pur yuu r-kaa zhich men.*
FM pure bundles H-put back 3RD
(Only the bundles they carried on their backs.)

(176) a. *Per chene wii mdxin, r-u-t meedx,* RYENEGU 22
but when C/see deer H-eat-NEG lion
"But when the deer saw that the lion wasn't eating,
noze laa mdxin r-u ...
only FM deer H-eat
only the deer was eating..."

b. **Per chene wii mdxin, r-u-t meedx,*
but when C/see deer H-eat-NEG lion
(But when the deer saw that the lion wasn't eating,
laa noze mdxin r-u ...
FM only deer H-eat
only the deer was eating...)

If both the focus marker and the words meaning "only" are analyzed as adjoining to a DP, what accounts for the ordering restrictions between them? The best account of this seems to be that the focus marker is most like a determiner and can therefore fill the D^0 position itself or adjoin to an already filled D^0 position. In contrast, the words meaning "only" could be some type of phrasal projection which adjoins to a DP[7] (or to IP in the case of *noze* and *nonchee*).

Thus, the analysis of the focus marker as a type of determiner which can either fill D^0 or be adjoined to it makes more sense of the QZ data than an analysis where the focus marker is a complementizer or another head (such as Foc^0) along the backbone of the clause.

[7]This is probably adjunction to D′ to avoid the problem of adjunction to an argument (Chomsky 1986:6).

7.2.2 The Function of the Focus Marker

Having addressed the issue of where the focus marker can occur, we turn now to the issues of why it occurs, what it means, and why it is not always present on the fronted nominal phrase in a focus construction.

The best conclusion I can come to for QZ is that the focus marker has the discourse function of picking one referent out of a group to highlight. There needs to be more than one discourse familiar referent present or the focus marker would not be used, though fronting of the constituent is still possible. For example, (177)–(178) show that focus constructions with and without the focus marker are both syntactically grammatical. However, they would be used in different contexts. The (a) examples would only be used when other possible referents were already mentioned in the discourse. The focus marker serves to highlight the marked referent out of this group. In contrast, the (b) examples make no claim about there being more referents in the discourse.[8]

(177) a. *Le Manwel w-ruu dxe ne w-et x-maa men.* AGOSTO 68
FM Manuel C-leave day that C-die POS-3A 3RD
"Manuel left the day that his animal died."

b. *Manwel w-ruu dxe ne w-et x-maa men.*
Manuel C-leave day that C-die POS-3A 3RD
"Manuel left the day that his animal died."

(178) a. *Laad x-unaa Dolf dxe z-u nga.* HORTENS 37
FM POS-woman Rodolfo already PR-stand there
"Rodolfo's wife was already standing there."

b. *X-unaa Dolf dxe z-u nga.*
POS-woman Rodolfo already PR-stand there
"Rodolfo's wife was already standing there."

The focus marker is not normally used when a referent is first introduced into a discourse, which further restricts the marked referent to one which has been previously identified. (179) shows that adding the focus marker to the introductory statement

[8]The relationship between the presence of the focus marker and the presence of a group of referents is thus a one-way entailment rather than a biconditional relationship.

in a text is highly questionable. (180)–(181) give further text examples showing that while the focus marker is not used to introduce the referent, it is used later in the text to highlight the action or the identification of the referent.

(179) a. *Teb tir te mër zob lo yag,* MARTRIST 1
one time one pigeon PR/sit face tree
"One time a male pigeon sat in a tree
r-oolbaan maa te-tee maa.
H-sing 3A one-one 3A
singing all by himself."

b. *??Teb tir laa te mër zob lo yag,*
one time FM one pigeon PR/sit face tree
(One time a male pigeon sat in a tree
r-oolbaan maa te-tee maa.
H-sing 3A one-one 3A
singing all by himself.)

(180) a. *Te men z-a x-ten y-rup x-pëëk men.* MENMAAC 1
one 3RD PR-go POS-ranch P-two POS-dog 3RD
"A man went to his ranch with his dog."

b. *Laad mëëk w-aa zhiin yag.* MENMAAC 4
FM dog C-lie.down below tree
"The dog lay down below the tree."

(181) a. *Laz noo n-uu te mgyeey. Dxe gol men.* OLDMAN 1,2
homeland 1EX S-be one man already old 3RD
"In my homeland there is a man. He is old."

b. *Wii mee laad men gol gin nex.* OLDMAN 26
C-see boy FM 3RD old this lie.down
"The boy saw that old man lying down."

We also saw that the focus marker may occur on the topic phrase in a topic construction. The focus marker has exactly the same function and meaning in this position, that of picking out one specific referent from a group of discourse familiar referents.[9] (182)–(183) show that the topic constructions are syntactically grammatical either with or without the focus marker. In each case, however, the use of the

[9]The focus marker cannot be used with indefinites, such as 'no one' or 'someone', indicating this requirement of a specific referent.

focus marker in the (a) examples indicates that there are other discourse familiar referents present.

(182) a. *Per laa Gecha w-on-t Gecha* GRING 25
but FM Lucrecia C-hear-NEG Lucrecia
"But as for Lucrecia, Lucrecia didn't hear
porke ndal yaa men ndxin.
because S/lots very 3RD there
because there were lots of people there."

b. *Per Gecha w-on-t Gecha*
but Lucrecia C-hear-NEG Lucrecia
"But as for Lucrecia, Lucrecia didn't hear
porke ndal yaa men ndxin.
because S/lots very 3RD there
because there were lots of people there."

(183) a. *Per laa mdxin nagon dxe n-an mdxin no* RYENEGU 33
but FM deer however already S-know deer there
"But as for the deer, however, the deer already knew
ne y-gw-et meedx mdxin.
that P-CAUS-die lion deer
that the lion was going to kill him."

b. *Per mdxin nagon dxe n-an mdxin no*
but deer however already S-know deer there
"But as for the deer, however, the deer already knew
ne y-gw-et meedx mdxin.
that P-CAUS-die lion deer
that the lion was going to kill him."

7.3 The Phrase Structure of Focus Constructions

Though we have determined that the focus marker itself is a type of determiner, we still need to account for the position of the fronted focused phrase and for why phrases marked with the focus marker normally must front. We saw in (168c) that when the focus marker cooccurs with an overt complementizer, the complementizer is first. Thus, we need a position below that complementizer for focused phrases. This can

be accomplished by positing either an adjoined position or a two-level projection[10], as shown in (184). In (184a) the focus phrase occupies the specifier of FocP directly below C^0, and the head of FocP is always null. We could assume that the focus phrase in the specifier position licenses the null head. The focus phrase would be in a Specifier-head relationship within FocP, in this structure. In contrast, (184b) has the focus phrase simply adjoined to the phrase below C^0. The only relationship between the focus phrase and a head here would be government by C^0. Both of these structures are plausible and the determination of which one is best will be postponed until Chapter 10, where the interaction between the various constructions involving Ā-movement is studied.

[10]Interestingly, Quioquitani Zapotec has a corresponding focus marker on the paragraph level of discourse, *name*. Ward (1987) says that *name* signals the beginning of a new paragraph, and may be used to introduce a new character, a change of scene, or direct speech. This paragraph level focus marker differs syntactically from the regular focus marker, since *name* is post-posed to the phrase it modifies, rather than being pre-posed like the focus marker. The use of *name* is independent of the ability to front adverbial phrases, as shown in (i)–(ii), and of normal focusing, as (iii)–(iv) verify.

(i) *Tsigo name lëë ma kwloo xusy tu leñ kyexpey.*
then PM FM 3A put lady one in net
"Then the lady put it (an animal) in a net."

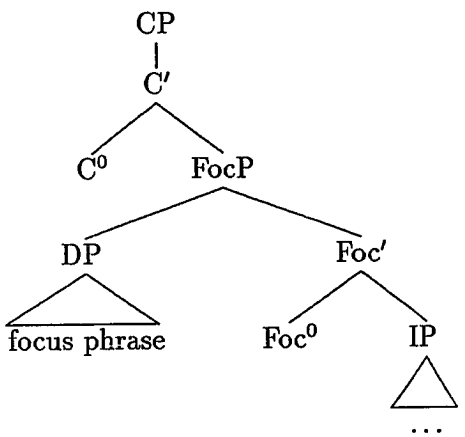
(ii) *Tsigo lëë ma kwloo xusy tu leñ kyexpey.*
then FM 3A put lady one in net
"Then the lady put it (an animal) in a net."

(iii) *Tsigo name chëb ma:*
then PM say 3A
"Then the animal said,"

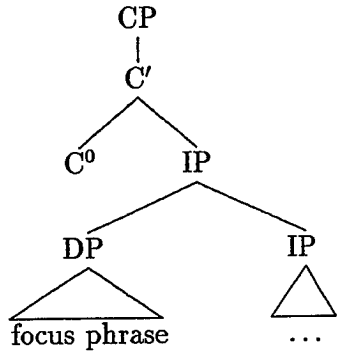
(iv) *Tsigo name lëë ma chëb:*
then PM FM 3A say
"Then the animal said,"

We may, therefore, simply assume that *name* heads its own projection above CP and requires a phrase to be fronted to its specifier position.

(184) a. CP over FocP



b. IP adjoined



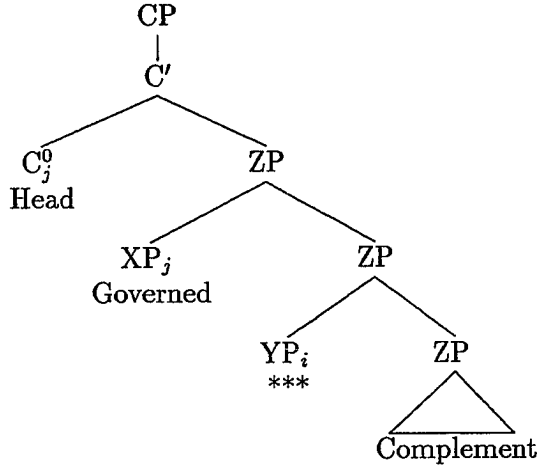
The issues of what motivates the fronting of a focused phrase, and what limits the fronting to a single phrase remain to be dealt with. If we adopt the CP over FocP configuration in (184a), we could assume that the focus marker carries a [+*foc*] feature that must be in a Specifier-head relationship with a Foc^0 at S-structure to be licensed. This is parallel to the *Wh*-Criterion that has been proposed for questions (May 1985, Rizzi 1991). The limitation of FocP to a single specifier would correctly limit the number of phrases that could be fronted.

The same basic assumptions could be applied to the adjoined configuration in (184b), except that the required licensing relationship would be a minimal government relationship[11], where the C^0 must be the closest governor for the focused phrase and no other phrase may intervene. This is similar in spirit to Relativized Minimality (Rizzi 1990:7), though this relationship involves government by a functional head rather than a lexical head and the barred intervention is by a closer potential governee rather than a closer potential governor. The minimal government relationship defined here also encompasses the strict adjacency requirement noted in McCloskey (1991:291–292).

[11]See Rudin (1993) for discussion of a similar licensing requirement by the focus marker in Bulgarian which must also be discharged by S-structure. In Bulgarian, the cannonical focus position is adjoined to IP and the topic position is adjoined to CP, just as in the analysis presented here. The focus marker *li*, used in questions, is analyzed as a complementizer, however, with subsequent movement of the focused phrase to the specifier of CP.

(185) illustrates how this minimal government relationship disallows adjunction of another phrase from meeting the requirement. Crucially assuming that ZP is not a barrier for government since all segments of ZP do not dominate XP (May 1985), the head C^0 governs XP in a minimal government relationship (indicated by the coindexing in (185)). C^0 cannot also minimally govern YP, however, since another potential governee (XP) intervenes between C^0 and YP.

(185) *Multiple Adjunction to ZP



This licensing requirement would thus both motivate the fronting of a focus-marked phrase and limit the fronting to a single phrase.

Dealing with the case of focused phrases not marked by the focus marker is more complex, and I do not have a fully satisfactory account to propose. We can assume syntactically that Move-α allows the phrase to move. The problem is how to limit such movement to a single phrase and how to assure that it ends up in the proper position only.[12] The CP over FocP proposal (184a) can assume that there is a single specifier position present, so only one phrase can move there. However, without feature marking on the moved DP, we cannot be assured that the moved phrase lands in the specifier of FocP position instead of somewhere else. The account involving an adjoined position for focus phrases (184b) faces similar problems. It seems necessary

[12]The same questions that I raise here for QZ apply to English and other languages as well.

to posit that a DP that is not already a semantic operator (i.e. is [-*wh*,-*neg*]) becomes [+*foc*] when it moves. This $DP_{[+foc]}$ would then be required to adjoin below C^0 to be licensed. Further, a second phrase could not front since it could not meet the minimal government relationship.

Apparently, QZ has a strong desire to have scope relations readable at S-structure, which motivates the fronting of focused phrases as well as other semantic operators. This means that LF movement in QZ is very limited. As far as focus constructions go, a focus-marked phrase is only allowed to remain in situ if its movement would violate the ECP. We will see in the next chapter that *wh*-movement absolutely must take place by S-structure and Chapter 9 will show that the negative indefinite pronouns are also required to front by S-structure. At least one of the quantifiers, *zhi* (or sometimes *zhindxe*) "few", must be fronted at S-structure as well, as shown in (186)–(187). (187c) shows that a similar statement could be expressed using *txup-tson* "two-three" instead of *zhi* "few" with the quantified argument remaining in situ.

(186) a. *Zhi maa gin r-dil __ noo.*
few 3A this H-fight 1EX
"Those few animals are bothering me."

b. **R-dil zhi maa gin noo.*
H-fight few 3A this 1EX
(Those few animals are bothering me.)

(187) a. *Zhi ngyed win w-u msii __.*
few chicken small C-eat eagle
"An eagle had eaten a few small chickens."

b. **W-u msii zhi ngyed win.*
C-eat eagle few chicken small
(An eagle had eaten a few small chickens.)

c. *W-u msii txup-tson ngyed win.*
C-eat eagle two-three chicken small
"An eagle had eaten two or three small chickens."

We can analyze this required fronting by saying that the quantifier *zhi* must assume its scope position at S-structure also. Analyzing the fronted position of this quantified

phrase as the same as the focus position accounts for the fact that nothing else may be fronted along with the quantified phrase, as shown in (188). The required fronting can then be subsumed under the licensing requirement for focus phrases by assuming that *zhi* is [+*foc*].[13]

(188) *[*Zhi ngyed win*] [*msii*] *w-u.*
few chicken small eagle C-eat
(An eagle had eaten a few young chickens.)

The overall generalization is that licensing requirements that determine semantic scope hold at S-structure in QZ.

[13]The focus marker may not occur either before or after *zhi*, though we saw that the focus marker can occur before a numeral quantifier. The difference seems to be that the phrases with numeral quantifiers may be referential.

Chapter 8

Questions and Relative Clauses

As expected from the typology in Greenberg (1963) and shown earlier in section 4.4.2, content questions are formed in QZ by fronting a *wh*-phrase. Only one *wh*-phrase may be present per clause, however; no additional *wh*-phrases may be fronted, nor may they remain in situ. In section 8.1 this is shown to follow from the requirement that both clauses of the *Wh*-Criterion hold at S-Structure (with adjunction disallowed as a means of fulfilling the required configuration). Section 8.2 then shows that QZ does not follow the widely attested pattern of having the fronted *wh*-phrase in the specifier of CP position, above the $C^0_{[+wh]}$. Instead, the complementizer is first, with the *wh*-phrase following it (similarly to the position of focus phrases studied in Chapter 7). The section is devoted to finding a principled analysis of these facts, and includes an analysis of similar facts in Samoan. Proposals for the clause structure of questions in QZ are given in section 8.3, along with a revised version of the *Wh*-Criterion as needed for QZ. In the Appendix at the end of Part II, I readdress the issue of the motivation for and restrictions on *wh*-movement. The investigation reveals that the QZ facts are part of a much larger picture. I propose there a replacement for the *Wh*-Criterion which, with the available parameters, should account for the full range of cross-linguistic variation.

Section 8.4 then presents the data for relative clauses, which are basically unproblematic for either of the clause structure proposals under consideration. The possibility of separation of a relative clause from its head, however, foreshadows the analysis in Chapter 13 of similar facts in the special number marking constructions.

8.1 Question Formation and the *Wh*-Criterion

Languages have different requirements for what constitutes a question. In English, for example, the normal method for asking a content question is to front the phrase with the *wh*-word in it and to reverse the order of the subject and the first auxiliary verb, as in (189a). Rising intonation also accompanies a question, and this intonation (along with emphasis of the *wh*-word) can be used to signal a question, as in (189b), where the *wh*-word is allowed to remain in situ only in contexts where someone is asking for clarification of a statement just made (compare with (189c)).[1] Further, English allows multiple *wh*-questions, either where one of the *wh*-phrases is fronted (189d), or where all of the *wh*-phrases remain in situ (189e) (in the same context as noted for (189b); (189f) verifies its ungrammaticality without this special intonation and context). English does not allow more than one *wh*-phrase to be fronted, however (189g–i).

(189) a. What are you doing?
— b. You are doing **what**?
c. *You are doing what?
d. What are you doing to whom?
e. You are doing **what** to **whom**?
f. *You are doing what to whom?
g. *What whom are you doing to?
h. *What to whom are you doing?
i. *Who what is doing?

The pattern for QZ is quite distinct from the English pattern, except for the case where there is a single *wh*-phrase and it is fronted (190a), and the fact that QZ does

[1]This special intonation is not enough to allow the *wh*-phrase to remain in situ in a embedded question:
(i) *I wonder you went **where**.

not allow multiple fronting either. QZ is a tonal language and does not have a distinct intonation for questions. Therefore, syntactic marking is needed. To signal a Yes/No question, *pe* is added to the front of a sentence which is otherwise in the normal VSO order. To signal that an information question is being asked, a *wh*-phrase must be fronted (190a–b). A *wh*-phrase may never remain in situ, even if the question marker *pe*, used in Yes/No questions, is added (190c). Further, no multiple *wh*-questions may be formed. (190d) shows that multiple *wh*-questions are impossible when one phrase is fronted and one remains in situ, and (190e) shows that fronting more than one *wh*-phrase is equally unattested. Finally, (190f), like (190b–d), shows that QZ does not allow any *wh*-phrases to remain in situ.

(190) a. *Pa go r-laa de.* GRING 34
what thing H-do 2
"What are you doing?"

b. **R-laa de pa go.*
H-do 2 what thing
(You are doing what?)

c. **Pe r-laa de pa go.*
Q H-do 2 what thing
(You are doing what?)

d. **Pa go r-laa de lo txu.*
what thing H-do 2 face who
(What are you doing to whom?)

e. **Pa go txu lo r-laa de.*
what thing who face H-do 2
(What are you doing to whom?)

f. **R-laa de pa go lo txu.*
H-do 2 what thing face who
(What are you doing to whom?)

The pattern shown in (190) can be straightforwardly accounted for by two basic assumptions, which will be listed here and then discussed in turn. First, I assume that the obligatory fronting means that QZ only allows *wh*-movement in the syntax; no further movement can take place at LF. This can be seen to follow from the

requirement that both parts of the *Wh*-Criterion hold at S-structure. Second, the fact that only a single *wh*-phrase may be fronted can be accounted for by assuming that only a single position is available which fulfills the required licensing configuration.

The *Wh*-Criterion was originally proposed by May (1985); Rizzi (1991) made it compatible with the theory of COMP in Chomsky (1986). I cite Rizzi's version in (191).[2]

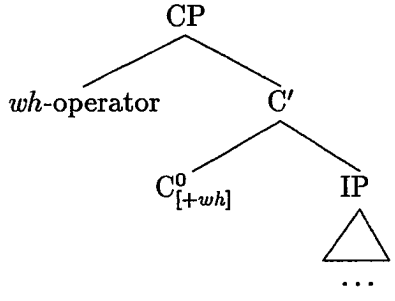
(191) The *Wh*-Criterion

A. A *wh*-operator must be in a Spec-head configuration with an $X^0_{[+wh]}$.

B. An $X^0_{[+wh]}$ must be in a Spec-head configuration with a *wh*-operator.

Rizzi (1991:23) describes the *Wh*-Criterion as "a general well-formedness condition on *wh*-structures, which is also ultimately responsible for the SS distribution and LF interpretation of *wh*-operators." It expresses the fact that, at the designated level of representation, interrogative operators must be in the specifier of a $CP_{[+wh]}$, and a $C^0_{[+wh]}$ must have an interrogative operator as its specifier, in the familiar configuration shown in (192).

(192)



Clause B of the *Wh*-Criterion has the effect of requiring a single *wh*-phrase to front to the specifier of a $C^0_{[+wh]}$. May (1985) assumed for English that Clause B must be fulfilled at S-structure, whereas Clause A, which requires all *wh*-phrases to front, only holds at LF. This asymmetric application allows a second *wh*-operator to remain in situ in a multiple *wh*-question as long as one interrogative operator has

[2]The version appropriate to QZ will require some slight modifications (see section 8.3). See the Appendix for a further modified proposal which I hope will correctly account for the broad range of variation seen across languages.

fronted to the specifier of $C^0_{[+wh]}$. May (1985) thus assumes the definition of operator given in Cinque (1990:73) following Chomsky (1981:102), whereby all *wh*-phrases are *wh*-operators:

(193) Operator $=_{def}$ bare quantifiers, *wh*-phrases, and null NPs in Spec CP.

Rizzi (1991:29–32) takes a different view and claims that both clauses of the *Wh*-Criterion apply at S-structure in English. In order to account for the possibility of *wh*-phrases remaining in situ in multiple *wh*-questions, he redefines the notion of *wh*-operator, as shown in (194).

(194) *Wh*-operator $=_{def}$ a *wh*-phrase in a scope position,
where scope position $=_{def}$ a left-peripheral $\bar{A}$-position.

Rizzi shows that the requirement that both clauses of the *Wh*-Criterion apply at S-structure, coupled with the definition of *wh*-operator in (194), explains why the second *wh*-phrase in a multiple *wh*-question cannot move to an intermediate $\bar{A}$-position in the syntax.[3] Instead, it must remain in situ until LF, as shown in (195)–(196) (taken from Rizzi 1991:31).

(195) a. Who thinks [C [Mary saw whom]]?
b. *Who thinks [whom C [Mary saw *t*]]?

(196) a. Who believes that John, Mary likes *t* ?
b. *Who believes that whom, Mary likes *t* ?

While these moves provide a nice account of the facts in (195)–(196),[4] the effectiveness of the *Wh*-Criterion in forcing movement at LF of *wh*-phrases remaining in situ is lost. Rizzi notes that the stronger definition of operator (193)[5] will have to be used and the *Wh*-Criterion would have to reapply at LF to cause the raising of *wh*-phrases remaining in situ at S-structure.

[3]Rizzi credits the observation of this generalization, exemplified in (195) to Aoun, Hornstein & Sportiche (1981). Lasnik & Saito (1984, 1992) pointed out the similar facts in (196).

[4]The full analysis proposed in the Appendix accounts for the facts in (195)–(196) by positing a universal filter constraining the presence of *wh*-elements in intermediate $\bar{A}$-positions.

[5]Perhaps limited to non-Discourse-linked phrases, following Pesetsky (1987).

Further, Rizzi's account provides no explanation for the difference in distribution of *wh*-phrases between English and QZ. I assume instead that all *wh*-phrases are *wh*-operators, as in (193). This definition of operator, coupled with the requirement that both clauses of the *Wh*-Criterion hold at S-structure, entails that no *wh*-phrase may remain in situ, correctly predicting the obligatory fronting.

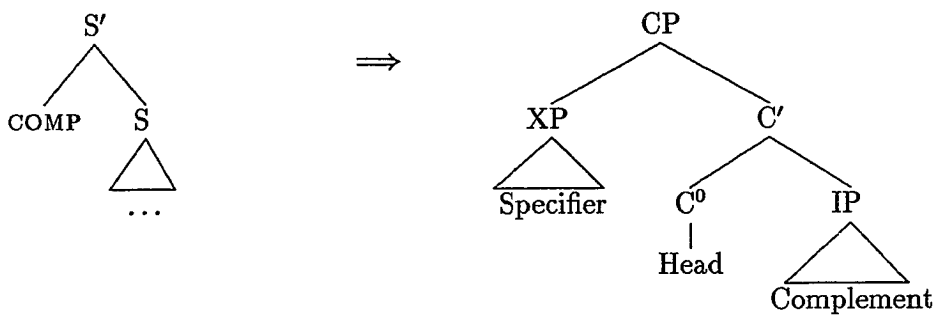
We still need to insure that multiple fronting is not allowed. If movement is to a specifier position, we could simply specify that CP only has a single specifier. Then only one *wh*-phrase could qualify as meeting the special relationship required by the *Wh*-Criterion. If movement is instead to an adjoined position, as was posited as a possibility for focus constructions, the minimal government relationship required for licensing only allows a single fronted phrase.

As already hinted at, the QZ data seemingly allow the overt presence of both a *wh*-phrase and a *wh*-complementizer in some cases, which adds complications to the overall clause structure. Exactly where this "specifier position" for *wh*-phrases is located relative to the *wh*-complementizer is discussed in the next section. Then section 8.3 returns to the question of the correct version of the *Wh*-Criterion needed to account for the QZ data.

8.2 The Structure of $CP_{[+wh]}$

In Chomsky (1986), the theory of COMP underwent significant restructuring, as illustrated in (197). Instead of the S′ category previously used, a Complementizer Phrase (CP) projected from COMP=C^0 and following X′-Theory was proposed.

(197)



The new structure for CP revolutionized the analysis of second position clitics and also that of Verb Second languages, since these clitics or verbal elements can now be seen as occupying C^0 at S-structure, with the phrase they attach to residing in the specifier position (see Emonds (1979), Sproat (1985), and Haider & Prinzhorn (1986) on V-2; Klavans (1982, 1985), Marantz (1989), and Anderson (1992) on 2P clitics; and H.A.Black (1992) on both topics).

Further, most of the familiar languages have a requirement that disallows the presence of both an overt C^0 and a fronted *wh*-phrase in a $CP_{[+wh]}$, thus trivially conforming to the new configuration in (197). Some languages, such as Chamorro and Irish, allow both the specifier and head positions to be overtly-filled under some conditions, and these cases provide evidence for the structure in (197). As documented in Pullum (1979) and Pullum & Postal (1979), however, there are also a number of languages which allow both the specifier and the head position to be overtly-filled, but for which (197) does not seem to be correct. QZ and Samoan are two of these languages. We look first at the QZ data and then at very similar facts in Samoan and sketch possible analyses for each case.

8.2.1 QZ Question Formation

In this section, I review and expand on the question formation data seen earlier in section 4.4.2 before discussing possible analyses.

Yes/No questions are formed by inserting a question marker *pe* at the beginning of a regular declarative sentence, as shown in the main clause questions in (198).

(198) a. *R-e Javyer: Pe w-u maa nii de.* SAMUEL 28
H-say Javier Q C-eat 3A foot 2
"Javier asked, 'Did the snake eat your foot?'"

b. *Pe r-laan de s-aa de ts-a-b Estados Unidos.* HORTENS 16
Q H-want 2 F-walk 2 P-go-1I States United
"Do you want to go together to the United States?"

Pe also occurs in embedded questions in the position of a complementizer. Further, it never cooccurs with the other known complementizer *ne* "that". This lends credence to the claim that *pe* is itself a complementizer.

(199) a. *N-a men g-an pe r-laan-t noo* HORTENS 3
S-say man P-know Q H-want-NEG 1EX
"She asked if I didn't want
ts-a noo y-laa noo dxiin Estados Unidos.
P-go 1EX P-do 1EX work States United
to go and work in the United States."

b. *G-an pe s-na de g-aa de lyu* TRIPTOQ 8
P-know Q F-want 2 P-lie.down 2 land
"We'll see if you want to lie down on the ground
o g-aa de lo daa.
or P-lie.down 2 face petate
or lie down on a petate."

Content questions in QZ are formed by moving a *wh*-phrase to the beginning of the clause, just as they are in English. Some of the *wh*-phrases may not cooccur with the question marker, *pe*, making them unproblematic for the normal CP structure (197). These *wh*-phrases use the *wh*-words *pa* "what", *txu* "who", *palal* "how much" and *pa* or *go* "where".[6] *Pe* may not occur either before or after these *wh*-phrases.

(200) a. *Pa go r-laa de.* GRING 34
what thing H-do 2
"What are you doing?"

b. *N-an-t men pa nëz z-a Biki.* AGOSTO 59
S-know-NEG 3RD what road PR-go Virginia
"They don't know which way Virginia is going."

[6]Questions asking "when" are also expressed using the *wh*-determiner *pa* "what", as in *pa or* "what hour". The adverbial *chene* "when" is not normally used as a *wh*-phrase in QZ.

c. *Txu n-an palal zek n-on yag.* GRANDMA3 21
who S-know how.much as S-cost tree
"Who knows how much the tree is worth?"

d. *Pa g-u-gwe noo.* MTLEMON2 33
where P-eat-lunch 1EX
"Where were we to eat lunch?"

e. *Go Karmita.* GRING 35
where Carmita
"Where is Carmita?"

There is another set of *wh*-words in QZ, however, which must cooccur with the question marker *pe* used in Yes/No questions. *Zee* means "how", but it always occurs with the question marker *pe*.[7] Note especially that the *wh*-word comes after the complementizer, and not the other way around.

(201) a. *Pe-zee n-ak no.* BENIT 32
Q-how S-become there
"How is it there?"

b. **Zee n-ak no.*
how S-become there
(How is it there?)

c. **Zee pe n-ak no.*
how Q S-become there
(How is it there?)

[7]In embedded contexts, *zee* or *ze* can appear without the question marker *pe*, as in the comparative construction in (i), but only when it is not expressing a question. (ii) shows that *pe* is still required in an embedded question asking "how".

(i) *Nap ndzee n-it-nëz me porke* MEXICO 1
soon very S-lose-road 3f because
"They got lost right away, because
ze r-naa-ke nëz zhich me r-naa nëz lo me.
how H-appear-ASSOC road back 3f H-appear road face 3f
the road back looks the same as the road ahead."

(ii) *R-laan noo, Mam-gol, g-u de diiz g-an* GRANDMA2 1
H-want 1EX mother-old P-chat 2 word P-know
"Grandma, I want you to talk about
pe-zee w-ak antes.
Q-how C-become before
how it was before."

"Why" is expressed by using the question marker *pe* followed by the stative verb *n-ak* "S-become".

(202) *Pe n-ak g-u de noo.* MANSNAKE 20
Q S-become P-eat 2 1EX
"Why are you going to eat me?"

In addition, *zh* seems to be a *wh*-demonstrative which can occur in combination with some of the other *wh*-words. In (203a), the *wh*-phrase *dxiin zhe*[8] has fronted to the position after the question marker *pe*. (203b–c) show *zh* used with *txu* "who" or its complement, and (203d) shows it used with *go* "where". The use of *zh* adds a Discourse-linked reading to the *wh*-phrase it attaches to (Pesetsky 1987) since something about the questioned item must have been previously identified in order for *zh* to be used. Note, however, that its position is always after the normal *wh*-word, rather than before it, where *pe* is found.

(203) a. *R-e Benit: Pe dxiin zhe r-laa de na-ree, Jasint.* BENIT 15
H-say Benito Q work WH H-do 2 which-this Jacinto
"Benito said, 'What work are you doing with this, Jacinto?'"

b. *W-a-ke mee wii g-an txu-zh ne.* OLDMAN 25
C-go-ASSOC boy see P-know who-WH 3D
" The boy went to see who he was."

c. *Lex n-uu lextoo men: Txu maa-zh maa.* MANSNAKE 3
later S-be liver 3RD who 3A-WH 3A
"Then he wondered, 'What animal is it?'"

d. *R-e doktor: Go-zh men naa.* SAMUEL 43
H-say doctor where-WH 3RD DEM
"The doctor said, 'Where is the man?'"

[8] I assume that the morpheme is simply *zh*, since it occurs in this form whenever it can be syllabified as the coda of the final syllable of the preceding word. In (203a) this is not possible, so an epenthetic vowel *e* is added to allow syllabification. Alternatively, it could be *zhe* underlyingly but be a phonological clitic which can only attach following a vowel, like the first person inclusive pronoun *be*. Truncation of the final vowel occurs when the clitic is able to attach to the preceding word, since it is incorporated into the final syllable of that word.

There are various possible analyses to consider for this data. The most straightforward alternative is to assume that the complexity lies in the morphology, rather than in the syntax. This would mean that *pe* is a complementizer for Yes/No questions, but that it may also be a *wh*-determiner in examples like (203a). Further, *pe-zee* would not be analyzed as a combination of the question complementizer *pe* and the adverb *zee* "how", but instead simply as a *wh*-adverb meaning "how" consisting of a single morpheme. Likewise, "why" would be simply *penak*, rather than a combination of morphemes. *Zh* would either simply be a *wh*-demonstrative that must only occur in a Discourse-linked *wh*-phrase, or it could possibly be a *wh*-complementizer that can be used in Discourse-linked content questions (whereas *pe* would be restricted to Yes/No questions).[9] This analysis would allow QZ to form questions using the normal CP configuration in (197), and would therefore be the most likely analysis if all other languages followed that pattern. We will see in the next section that this alternative does not seem as attractive for Samoan. Let us therefore consider other options for QZ.

A second possibility is that *pe* is not a complementizer at all, but is simply adjoined to a regular clause to signal a question. Some of the other Zapotecan languages have both an initial and a final question marker, which seem to function like the syntactic analogue of intonation. For example, in Isthmus Zapotec (Pickett 1979:143–144), *ñee* is used optionally at the beginning of a Yes/No question and *la* is required at the end (204a). Further, *la* is also used in the middle of a sentence to mark a pause between two units (204b). A different marker *ya'* is used at the end of content questions (204c). Similarly, *xa* appears sentence finally to indicate strong emphasis or exclamation (204d). Since there is no audible intonational difference in Zapotec between a question and a declaration or an exclamation, these markers signal to the hearer what type of phrase is being uttered.

[9]Pickett (1979) reports that Isthmus Zapotec has different markers for Yes/No questions and for content questions. See the following paragraph for details.

(204) a. *(Ñee) n-uu dxita la.*
Q S-be egg Q
"Are there any eggs?"

b. *Después de ngue la u-yaa México.*
after of this Q C-go Mexico
"After this, I went to Mexico."

c. *Paraa cheu' ya'.*
where PR-go WH
"Where are you going?"

d. *Zeeda be xa.*
F-sell 3RD !
"He will sell it!"

The final position of these markers seems unusual for a complementizer, since the complementizer is a head, and all other heads in Zapotec are initial. At the same time, the fact that these markers occur in embedded questions is problematic for the hypothesis that they are simply adjoined to the clause. This is because at least some embedded $CPs_{[+wh]}$ that are introduced by *pe* are selected as an argument of the higher predicate. Adjunction of *pe* to such CPs would be disallowed by the principle prohibiting adjunction to arguments, taken from Chomsky (1986:6).

(205) Adjunction is possible only to a maximal projection that is a non-argument.

Instead, we can take the view that at least the markers in final position actually are morphemes that signal intonation, and as such they need not have any syntactic representation at all. Thus, the Isthmus Zapotec morphemes *la*, *ya'*, and *xa* would be analyzed as attaching to the right edge of an intonational phrase of the appropriate type.

There is now quite a body of literature on the relationship between prosodic structure and syntactic structure: for examples, see Selkirk (1978, 1984, 1986), Nespor & Vogel (1986), Hayes (1989), and the articles in Inkelas & Zec (1990). Selkirk (1986) proposes an edge-based theory for mapping S-structure into prosodic structure which allows reference to an edge of an X′-constituent. This is extended by Hale & Selkirk

(1987) for Papago to include reference to the government relation, and by Aissen (1992a), following their lead, for the Mayan languages. Aissen (1992a:57) claims that the algorithm for determining Intonational Phrase boundaries in Tzotzil maps the right edge of an ungoverned X^{max} to the right edge of an Intonational Phrase. This algorithm correctly predicts the distribution of the Tzotzil clitics *un* and *e*.

A similar algorithm for determining Intonational Phrase boundaries may be correct for Zapotec. However, the Isthmus Zapotec intonational morphemes differ from the Tzotzil clitics in not simply attaching (optionally) to the end of any Intonational Phrase, but only to certain types of phrases. To illustrate, though the use of *la* in (204b) is to simply indicate a pause (which coincides with an Intonational Phrase boundary), *la* in (204a) indicates a Yes/No question. *La* would not be used in final position of a declarative sentence, even though the end of a sentence is clearly the edge of an Intonational Phrase. Further, *ya'* is only used with content questions, and *xa* is used with exclamations.

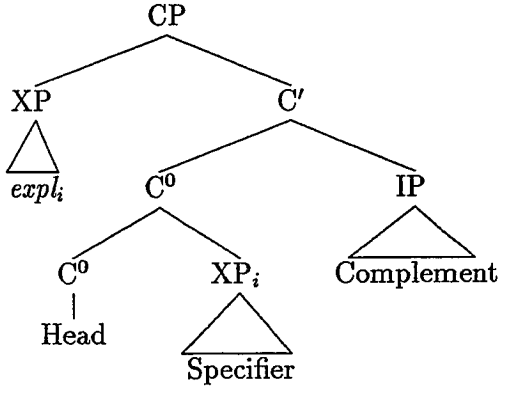
These morphemes make it clear that it is crucial to know what type of phrase an Intonational Phrase is. However, neither the edge-based theory (Selkirk 1986) nor the relation-based theory for mapping syntactic structure to prosodic structure (developed by Selkirk 1984, Nespor & Vogel 1986, and Hayes 1989) has any mechanism for obtaining this necessary information. Hyman (1990) suggests that features such as [+*wh*] and [+*imp*] must be marked on the intonational phrases if the syntactic phrases they contain are so marked. This seems workable, though the details remain to be specified. Of further interest here is that the Isthmus Zapotec morphemes point out the need to posit distinct features for content questions and Yes/No questions, as well as distinguishing each type of question from exclamations. We will see in section 8.3 that these same distinctions are also necessary to correctly limit the application of the *Wh*-Criterion.

In QZ, the question marker *pe* is initial in the normal position of a head and it is syntactically required as a complementizer in embedded clauses. This fact rules

out an adjunction analysis, either at the Intonational Phrase level or syntactically. Several other possible syntactic configurations need to be considered.

One possibility is that the normal CP structure (197) is the D-structure,[10] but that after *wh*-movement QZ allows the specifier to right-adjoin to the head. Such movement would be string vacuous if there is no overt complementizer, but it would be visible (and required) when the complementizer is overt. This analysis, diagrammed in (206), is equivalent to assuming that Subject Adjunction-type movement also applies within CP.

(206)



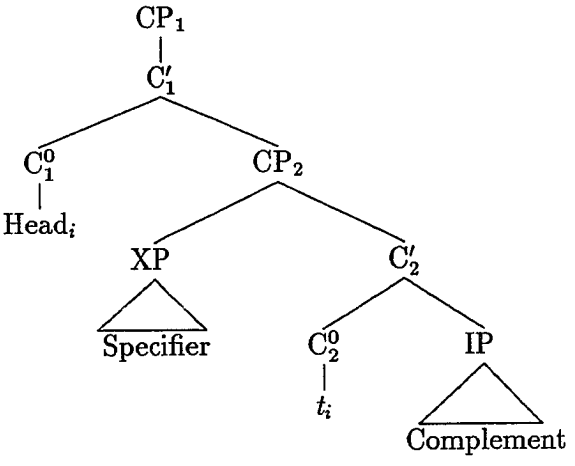
The appeal of such an analysis would be greater if the Subject Adjunction proposal was shown to be best for QZ clause structure on independent grounds.

Within the Verb Movement hypothesis, the Head-Specifier-Complement order exhibited by these questions would seem to call for a double CP structure or another additional projection. The double CP structure, also known as CP-recursion, has been proposed for embedded CPs that have the characteristics of matrix clauses. Specifically, it has been proposed to account for embedded V2 phenomenon in Germanic (Haider & Prinzhorn 1986), embedded *que*+Question constructions in Spanish (Suñer 1991, 1993 and Fontana 1993), and the embedded I^0-to-C^0 movement (i.e. Subject-Aux inversion) allowed in negative contexts in standard English (Rizzi & Roberts 1989) and more freely in Hiberno-English (McCloskey 1992a). (207) dia-

[10]Or a version of (197) with the specifier on the right.

grams how this double CP account could be applied to QZ. The *Wh*-Criterion could be met in the lower CP (=CP_2) via the normal Specifier-head relationship, and then head movement of the $C^0_{[+wh]}$ to the head of the higher CP_1 projection would produce the surface order.

(207)



It is unclear why such head movement is needed, however, since the higher CP_1 would be selected as [+*q*] in an embedded structure, and thus *pe* would already be expected to lexically fill that head position. Alternatively, we could assume that the *wh*-morpheme *zh* fills the C^0_2 position (when present), while *pe* occupies the C^0_1 position in (207). Then no head movement would occur, eliminating the problem of lack of motivation noted above (but also eliminating the parallel with the Verb Movement proposal). In this alternative as well, the *Wh*-Criterion would be met within CP_2. This may be the best account of the Samoan matrix questions, to be seen in the next section.

Use of such an account for QZ (and Samoan) questions would require a double CP structure to be available in both matrix and embedded question contexts. The extension of the double-CP structure to matrix questions does not appear to be theoretically problematic. More crucial is the restriction on embedded questions noted in the above references, which calls for the double-CP structure to be limited to embedded interrogative contexts in which a true question is expressed. McCloskey

(1992a) (see also Berman 1989, discussed below) summarizes this distinction by saying that verbs like *wonder* and *ask* always select a true question of the same semantic type as a matrix question, while verbs such as *know*, *discover*, and *find out* select a semi-question. McCloskey also notes that complements of this second type of predicate can have the true question interpretation if the matrix clause is an interrogative, and possibly also when the matrix clause is negated.[11]

The question to explore then, is whether this type of selectional distinction is also seen in QZ. This exploration proves to be quite interesting in a descriptive sense, but is somewhat inconclusive from a theoretical point of view. The basic generalization is that only the verb *an* "know" selects a *wh*-question complement.[12] (208) gives examples of *an* "know" with interrogative CP complements: in (208a–d) the complement is a *wh*-interrogative, and in (208e) it is an indirect Yes/No question. (209) shows that *an* can also take a declarative CP complement.

(208) a. *N-an-t men pa go r-zak men.* AGOSTO 2
S-know-NEG 3RD what thing H-have 3RD
"Nobody knew what she had."

b. *R-laan noo t-sa noo g-an pe-zee n-ak-o.* LIFEINUS 3
H-want 1EX P-go 1EX P-know Q-how S-become-3I
"I want to go find out what it's like."

c. *Mejor saa noo ts-a-b* MARTRIST 11
better F-walk 1EX P-go-1I
"It's better that I go, we should go together,
g-an pa ts-a de.
P-know where P-go 2
to find out where you are going."

[11]Though there is both language variation and individual variation in the acceptability of these complements. For instance, Spanish does not allow the interpretation as a true question for complements of *know*, etc. even if the matrix clause is interrogative, but Spanish does allow it with manner-of-speaking verbs such as *whisper* and *shout* (Suñer 1991, 1993).

[12]*An* "know" with the Stative Aspect marking is a regular transitive verb with an expressed subject and either a DP or CP complement. When it has the Potential marking and takes a CP complement, however, *g-an* "P-know" acts as a nonfinite verb and takes either a controlled *PRO* or a PRO_{arb} subject (even in the matrix clause). Its meaning is more like "*PRO* find out". In (209b) there is an overt subject with the verb marked with the Potential because of the causative construction. This distinction was noted earlier in sections 3.3.2 and 4.3.4.

d. *Por negin n-an-t noo g-an pa or chiid de.* CARTA 6
for this S-know-NEG 1EX P-know what hour P/come 2
"Because of this, I don't know when you will come."

e. *Che-bel chiid de, g-an pe s-u de gyët* TRIPTOQ 11
when-if P/come 2 P-know Q F-eat 2 tortilla
"If you come, we'll see if you eat tortillas,
porke no r-u men gyët.
because there H-eat 3RD tortilla
because there they eat tortillas."

(209) a. *Per laa mdxin nagon dxe n-an mdxin no* RYENEGU 33
but FM deer however already S-know deer there
"But the deer, however, already knew
ne y-gw-et meedx mdxin.
that P-CAUS-die lion deer
that the lion was going to kill him."

b. *Laz noo chene r-et te men, r-kaa men kwib* DEATH 1
homeland 1EX when H-die one 3RD H-touch 3RD bell
"In my land, when someone dies, they ring the bell,
chin ga-gu-nan y-ra men ne w-et men.
so.that P-CAUS-know P-all 3RD that C-die 3RD
so that everyone will know that the person died."

Verbs of speaking can, of course, take complements that are direct quotations, including questions. They can also take complements that are Yes/No indirect questions, as shown in (210a). My language consultant prefers the reading given in (210b), however, where the indirect question complement is further embedded under *g-an* "P-know". The text example in (210c) gives a further example where the indirect question complement is embedded under *g-an*.

(210) a. *Laa de y-na pe s-u noo men o g-u-t noo men.* MANSNAKE 43
FM 2 P-say Q F-eat 1EX 3RD or P-eat-NEG 1EX 3RD
"You say whether I should eat him or not."

b. *Laa de y-na g-an pe s-u noo men o g-u-t noo men.*
FM 2 P-say P-know Q F-eat 1EX 3RD or P-eat-NEG 1EX 3RD
"You say whether I should eat him or not."

c. *N-a men g-an pe r-laan-t noo* HORTENS 3
S-say 3RD P-know Q H-want-NEG 1EX
"She asked if I wouldn't want
ts-a noo y-laa noo dxiin Estados Unidos.
P-go 1EX P-do 1EX work States United
to go and work in the United States."

This embedding strategy is required for indirect *wh*-questions under a verb of speaking, as (211) shows.

(211) a. *W-zëët de g-an pe-zee n-ak nëz ro.* BENIT 60
C-say 2 P-know Q-how S-become road this
"You said how it is there."

b. **W-zëët de pe-zee n-ak nëz ro.*
C-say 2 Q-how S-become road this
(You said how it is there.)

Embedding of *g-an* "P-know" is also used to express an embedded *wh*-interrogative when the main verb is *wii* "see".

(212) a. *W-a-ke mee wii g-an txu-zh ne.* OLDMAN 25
C-go-ASSOC boy see P-know who-WH 3D
"The boy also went to see who he was."

b. **W-a-ke mee wii txu-zh ne.*
C-go-ASSOC boy see who-WH 3D
(The boy also went to see who he was.)

c. *R-e mdxin: Ts-a noo wii g-an* RYENEGU 6
H-say deer P-go 1EX see P-know
"The deer said, 'I'm going to see
pe-zee r-naa gyeey ne r-yab gyo.
Q-how H-appear mountain that H-fall rain
how the mountain appears where the rain is.'"

d. **R-e mdxin: Ts-a noo wii*
H-say deer P-go 1EX see
(The deer said, 'I'm going to see
pe-zee r-naa gyeey ne r-yab gyo.
Q-how H-appear mountain that H-fall rain
how the mountain appears where the rain is.')

QZ uses an idiomatic expression, *n-uu lextoo* "S-be liver" to express the same basic meaning as *think* or *wonder*, as shown in (213).[13] This predicate can take a direct quotation interrogative complement (213b) but not an indirect question complement without embedding *g-an*. (213c) gives a similar example using the expression *z-a lextoo* "PR-go liver" to mean "remember" with the embedded *g-an* before the indirect *wh*-interrogative complement.

(213) a. *Noo n-uu lextoo noo wen-dee Pwert.* BENIT 28
1EX S-be liver 1EX good-more Salina.Cruz
"As for me, I think it's better in Salina Cruz."

b. *Lex n-uu lextoo men: Txu maa-zh maa.* MANSNAKE 3
later S-be liver 3RD who 3A-WH 3A
"Later he wondered, 'What animal was it?'"

c. *Z-a lextoo Susan g-an pa gos w-dee men lo Susan*
PR-go liver Susan P-know what thing C-give 3RD face Susan
"Susan remembers what things she received
chene w-zaa Susan iz.
when C-complete Susan year
when she had her birthday."

Therefore, the distribution of embedded *wh*-interrogative complements is clearly limited by lexical selection in QZ, since such complements are only allowed embedded directly under the verb *an* "know". This verb is not the same type as the normally cited *ask* and *wonder*, however. Berman (1989) notes that the specific difference between verbs like *wonder* and verbs like *know* is that only the latter group may have clear variable readings, due to their factivity. The factive verbs presuppose their complements, making a distinction in the readings available for (214a) versus (214b) (examples from Berman 1989:33,37).

[13]The liver is the center of the emotions for Zapotecos. In addition to the expression shown in (213), there is also a word *pazer* glossed "I.think" which is used as a parenthetical or qualifying expression, as shown in (i).

(i) *Zhaache n-ak-o, pazer.* TRIPTOQ 77
pretty S-become-3I I.think
"It's pretty, I think."

Pazer does not select any type of complement.

(214) a. Sue mostly remembers what she got for her birthday.

b. Sue mostly wonders what she got for her birthday.

In (214a) the quantificational force of the embedded interrogative is that of a variable under the scope of the adverb, giving a reading of 'Sue remembers most of the presents...'. Also available is the universal reading that 'Most of the time, Sue remembers all of the presents...'. In contrast, (214b) with the nonfactive verb only allows the universal reading with the adverb being equivalent to 'most of the time'. Unfortunately, QZ does not have adverbs equivalent to 'mostly' or 'occasionally' to test for the readings obtained. Adverbs expressing similar meanings are either tied directly to time, as in *n-uu or* "S-be hour" meaning 'there are times', or else tied directly to a thing, as in *ndal* "lots" (used with count nouns) or *naal* "much" (used with mass nouns). The factivity of *g-an* seems to disallow an analysis of the QZ embedded interrogative clauses as matrix questions, though, thus eliminating a CP-recursion structure for embedded questions.

We turn now to consider similar facts in Samoan before returning to propose a particular analysis for QZ.

8.2.2 Question Formation in Samoan

Samoan, as documented in Churchward (1951), Johnson & Harmon (1970) and Mosel & Hovdhaugen (1992), is remarkably similar to QZ in the morphemes and word order required in its question formation.[14] Some very simple questions (taken from Johnson & Harmon 1970:32) are given in (215). (215a) is a Yes/No question which has the interrogative particle *pe* added to the front of the sentence. (215b–c) show that the fronted *wh*-phrase follows *pe* in a content question.[15]

[14]Samoan is basically also a VSO language, although pronominal subjects normally cliticize to Infl and therefore precede the predicate. There is no copula.

[15]The question particle *pe* surfaces as *po* due to assimilation when it precedes the nominative marker *'o* or the progressive *o'lo'o*.

(215) a. *Po 'o lenei mea 'o se va'a?*
Q NOM this thing NOM INDEF boat
"Is this a boat?"

b. *Po 'o le ā lenei mea?*
Q NOM DEF what this thing
"What is this thing?"

c. *Po 'o ai lou suafa?*
Q NOM who your name
"What is your name?"

In Samoan every fronted *wh*-phrase can occur after the interrogative marker *pe* (and none occur before it). This makes a morphological analysis which combines *pe* with each *wh*-word or phrase untenable, since it would be clearly missing a generalization.

Churchward (1951:103) notes that the situation is really more complicated. Direct questions can be indicated in the following ways in Samoan:

(216) (a) An interrogative pronoun, adverb, or determiner,
(b) *pe* at the beginning of the sentence,
(c) *'ea* after the predicate,
(d) Any combination of the above, or
(e) Simply by falling intonation.

This means that *pe* is optional and it is often omitted in colloquial speech. Johnson & Harmon (1970:122–123) report that due to the frequent omission of *pe*, *'ea* has come into use as a question particle. *'Ea* originally indicated a preconceived answer, but it has now taken on a broader usage as an interrogative marker. Interestingly, *'ea* comes **after** the *wh*-phrase in the normally expected position for a complementizer (217a–b), or after the verb in a Yes/No question (217c). (217a) shows the *wh*-question expressed using a predicate nominal construction, which is apparently widely used in Samoan, and (217b) shows the more familiar (to us) interrogative construction. Both *pe* and *'ea* are shown in parenthesis to indicate their optionality.

(217) a. *(Po) 'o le ā ('ea) le mea 'olo'o faia e Sesa?*
Q NOM DEF what Q DEF thing PROG do ERG Sesa
"What is the thing that Sesa is doing?"

b. *(Po) 'o le ā ('ea) 'olo'o faia e Sesa?*
Q NOM DEF what Q PROG do ERG Sesa
"What is Sesa doing?"

c. *(Pe) 'e te alu ('ea) 'i Apia?*
Q 2sg NONPAST go Q to Apia
"Are you going to Apia?"

The optionality of *pe* is limited to main clause contexts, however. *Pe* is required as the complementizer in embedded questions, as shown in (218), cited by Churchward (1951:104) from the Samoan Bible. Further, Mosel & Hovdhaugen (1992:485) confirm that *'ea* may not be used in embedded questions. In (218a) the *wh*-phrase *'o ai* "who" has fronted to follow *pe*, just as in the main clause examples. (218b) shows *pe* by itself in the complementizer position of an embedded question, corresponding to *whether* or *if* in English. These examples make the analysis of *pe* as a type of intonation marker seem implausible.

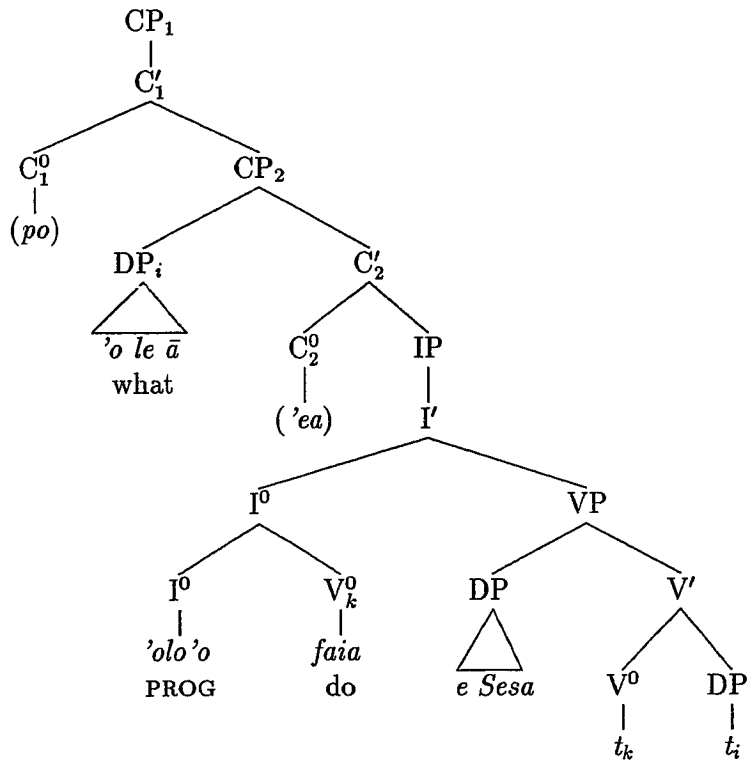
(218) a. *Inā filifili ia po 'o ai tou te 'au'auna 'i ai.*
IMP choose PN$_i$ Q NOM who$_i$ 2PL NONPAST serve to PN$_i$
"Choose whom you will serve." (Joshua 24:15)

b. *'Ou te lē iloa pē ai se tasi na 'ou papatisoine.*
1SG NONPAST not know Q exists any other PAST 1SG baptize
"I know not whether there is anyone else whom I baptized."
(I Corinthians 1:16)

Of the possible analyses for QZ discussed in the previous section, only the double CP structure where *pe* and *'ea* both head their own projections seems reasonable for matrix questions in Samoan. This will be illustrated for (217b & c) in (219) and (220), respectively.

The S-structure required under this analysis for (217b) is given in (219).[16]

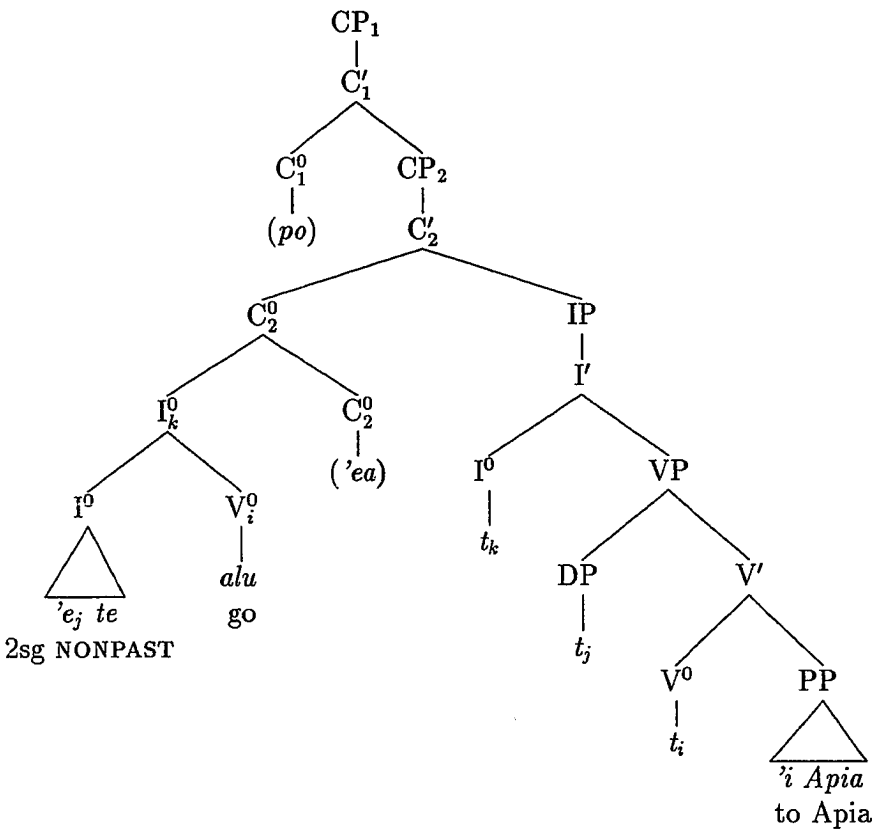
(219)



[16]I show the VSO order being obtained under the Verb Movement analysis in (219) though Subject Adjunction would also work for this case. Head movement of the verb is required in (220), however.

In order to analyze *'ea* as a complementizer in (217c), we must posit that V^0-to-I^0-to-C^0 movement takes place, since *'ea* follows the verb and the Infl elements in the surface form. *'Ea*, unlike *pe*, apparently requires phonological material to its left, reminiscent of 2P-clitics.[17] This movement is shown in the S-structure for (217c) given in (220). The cliticization of the pronominal subject to the left of Infl is also shown.

(220)



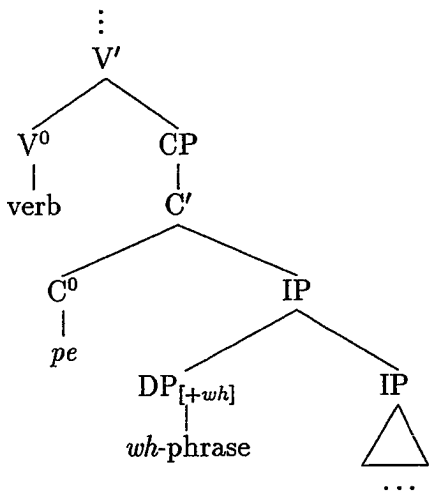
Though the double CP analysis seems plausible for matrix questions, it does not seem as likely for embedded questions. Since *'ea* may not be present in embedded questions, we cannot have it be the head of the CP_2 projection without a stipulation that *'ea* may only be overt in matrix clauses. Further, just like in QZ, verbs which

[17]There are other languages in which a question marker appears to the right of a moved *wh*-phrase or follows the predicate in Yes/No questions. One example is *-kah* in Indonesian and Malay.

select indirect interrogative complements are limited almost exclusively to *iloa* "know" in Samoan. The factivity of *iloa* "know" places it in the wrong class of verbs to select an embedded double CP structure.

Instead, we can analyze *pe* as the complementizer in embedded interrogatives, with the position for moved *wh*-phrases being directly following *pe*, adjoined to IP, as diagramed in (221).

(221)



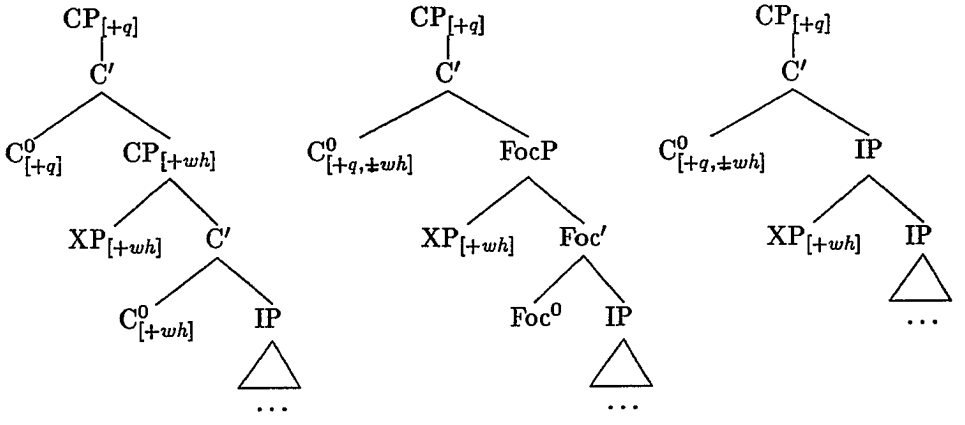
8.3 CP Structure and the *Wh*-Criterion for QZ Revisited

The fact that the double CP projection analysis seems quite plausible for Samoan matrix questions (and the need for it may decrease as the use of *'ea* in place of *pe* increases) opens the possibility for a similar analysis of the QZ facts. Note, though, that even if *zh* is analyzed as a complementizer parallel to *'ea* in Samoan, there is no parallel evidence in QZ Yes/No questions for movement of V^0-to-I^0-to-C^0. Hence, the question formation data remain neutral with respect to the issue of VSO clause structure.

The QZ matrix question data seems compatible with either a double CP structure (222a) where the top CP might bear the feature [+*q*] while the embedded CP would

be [+*wh*],[18] a CP over another projection, such as a focus phrase (FocP) (222b), or simply a CP with an adjoined position immediately below it for the *wh*-phrase to occupy, as shown in (222c).

(222) a. Double CP b. CP over FocP c. IP adjoined



Since we have determined that the embedded questions cannot involve the CP-recursion structure because the embedding verb *an* "know" is not of the right semantic type, I prefer not to pursue the double CP structure (222a) for matrix questions either. The choice between the other two configurations is dependent on the interaction between question formation and focus constructions and negative constructions which will be dealt with in Chapter 10, so a definite decision cannot be made as yet. Certain facts are clear, however. In both (222b & c) the specifier of the top CP projection is empty (with the possible exception of the pied-piping constructions shown below in (223)) and the moved *wh*-phrase occupies the position immediately below the $C^0_{[+q]}$, rather than the normal specifier position. I claim that QZ utilizes a minimal government relationship (as defined in section 7.3 to include the strict adjacency requirement noted in McCloskey 1991:291–292) to license its *wh*-phrases, instead of the usually assumed Specifier-head relationship.

[18]I assume that [+*q*] indicates a question, which may be either a Yes/No question or a content question. In contrast, [+*wh*] indicates a construction involving *wh*-movement. This distinction is explored more fully in section 8.3.2.

The only case where the Specifier-head relationship might possibly be at work in QZ questions is in a construction involving pied-piping. This special case will be looked at in the following subsection before returning to the discussion of how to revise the *Wh*-Criterion for QZ.

8.3.1 Inversion in Pied-Piping Constructions

There is a phenomenon called Pied-Piping with Inversion, shown by Smith Stark (1988) to be prevalent throughout Meso America, in which both the [+*wh*] object of a prepositional phrase and the [+*wh*] possessor in a possessed nominal move out of their normal position in a pied-piped phrase. This is shown in (223a–c) for prepositional phrases, where (223a) gives the normal order in a declarative sentence and (223b–c) show that the *wh*-word must be first when the phrase is pied-piped, reversing the normal order. The similar facts for questioning the possessor are given in (223d–e). The examples in (224) verify that this inversion does not occur with focused prepositional phrases, while (225) shows that inversion must occur in negation constructions, just as in questions.

(223) a. *N-dux xnaa noo lo noo.* SNAKHAIR 4
S-angry mother 1EX face 1EX
"My mother was angry with me."

b. **Lo txu n-dux xnaa noo __.*
face who S-angry mother 1EX
(With whom was my mother angry?)

c. *Txu lo n-dux xnaa noo __.*
who face S-angry mother 1EX
"With whom was my mother angry?"

d. **Xnaa txu n-dux __ lo de.*
mother who S-angry face 2
(Whose mother was angry with you?)

e. *Txu xnaa n-dux __ lo de.*
who mother S-angry face 2
"Whose mother was angry with you?"

(224) a. *Lo Jose, n-dux xnaa noo* __.
face Jose S-angry mother 1EX
"With Jose, my mother was angry."

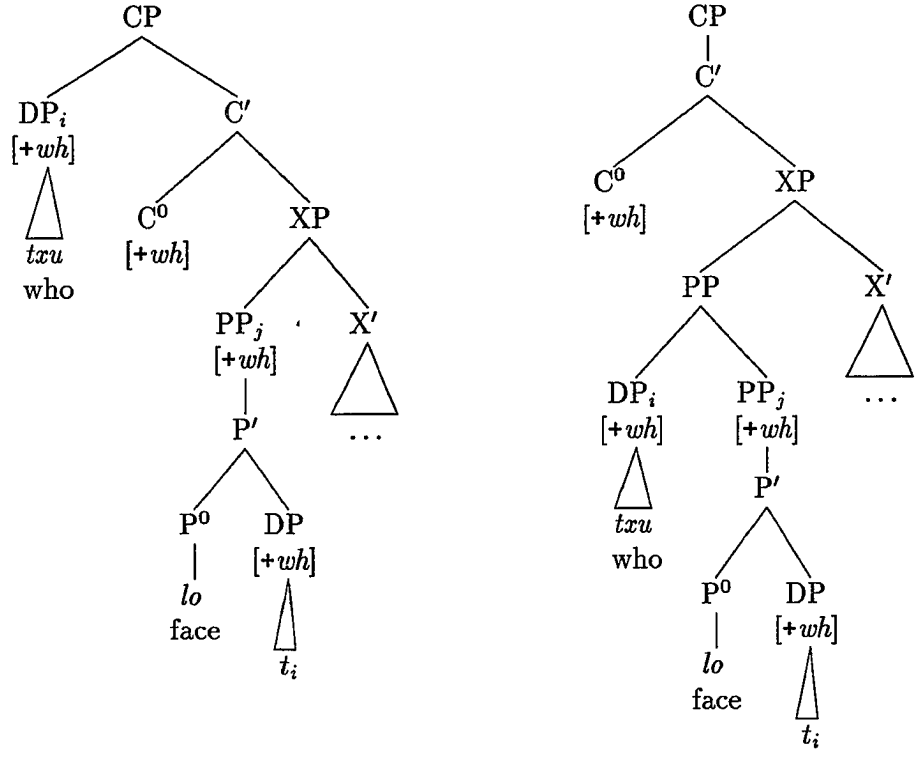
b. **Jose lo, n-dux xnaa noo* __.
Jose face S-angry mother 1EX
(With Jose, my mother was angry.)

(225) a. **Lo rut w-gwed-et Susan kart* __.
face nobody C-give-NEG Susan letter
(Susan didn't give the letter to anybody.)

b. *Rut lo w-gwed-et Susan kart* __.
nobody face C-give-NEG Susan letter
"Susan didn't give the letter to anybody."

The analysis of this inversion in pied-piped phrases is not at all clear, but a possible analysis will be sketched here. We can assume that when the pied-piped phrase has fronted to the position immediately below the $C^0_{[+wh]}$, the *wh*-phrase is too deeply embedded to meet the strict adjacency requirement. This prompts further fronting of the *wh*-phrase, either to fill the specifier of CP position as diagrammed in (226a) (then meeting a Specifier-head relationship with the $C^0_{[+wh]}$), or possibly left-adjoining to the pied-piped phrase and thus being immediately below the $C^0_{[+wh]}$ as shown in (226b) (in which case the government relationship would still hold).

(226) a. In Specifier of CP or b. Adjoined below C^0



If we restrict our attention only to *wh*-questions, the account in (226a) where the inverted *wh*-phrase is in the specifier of CP seems preferable; it allows the pied-piped phrase to meet the adjacency requirement of the government relationship and it provides a use for the specifier of CP position (though it is perhaps odd to have the position utilized only in this special case). The fact that inversion also occurs in cases of negative fronting makes the adjunction account in (226b) more probable, however, since the fronted negative phrase already occupies the specifier position within the negative projection (see Chapter 9).

Problematic for this analysis is the fact that pied-piping is required in QZ; extraction of a possessor or the object of a preposition yields highly unnatural to ungrammatical results. I assume this is due to P^0, N^0, and D^0 not being proper

governors.[19] Why, then, can the *wh*-phrase be extracted out of a pied-piped phrase? Rizzi (1990:Appendix 2) suggests that movement to the specifier position[20] triggers abstract agreement with the head, which then turns the head into an appropriate head governor for the trace. For QZ, however, the possessor already occupies the specifier of NP position, and there is agreement between the possessor and the head overtly marked for alienably possessed nouns, yet the possessor cannot normally be extracted. Thus, Rizzi's suggestion does not explain the difference in extraction possibilities between the normal possessors and prepositional objects and pied-piped ones. I can only suggest that perhaps this is a case of the need for ranking of constraints (see also section 13.2.1.1), where the requirements of the *Wh*-Criterion (and the Negative Criterion) outrank the ECP requirement that traces be properly governed. Such a ranking would need to be formulated so that the ECP is strong enough to block direct extraction of the possessors and prepositional objects, but the licensing criterions force pied-piping to occur. Within the pied-piped phrases, the ranking would then force further fronting, in violation of the ECP.[21] In the case of the fronting involved in focus phrases seen in the last chapter, however, we saw that the ECP is stronger than the licensing requirement on focus phrases. This ranking allows focus-marked phrases to remain in situ only in these two positions; pied-piping is not required. Further, when pied-piping does occur, no further fronting out of the pied-piped phrase is required or allowed.

[19] I am assuming that head government as well as antecedent government must hold for Ā-traces.

[20] One might wonder whether the inversion might instead be due to movement of the *wh*-phrase to the specifier of P^0 within the pied-piped prepositional phrase, as has been suggested to account for inversion in Sluicing constructions such as (i) (Chung, Ladusaw & McCloskey 1994:footnote 1).

(i) He left but I don't know [who with].

Such an analysis is not plausible for QZ, since the specifiers of all [-V] projections, PP, NP and DP, are on the right (see Chapters 11 and 12). Thus, neither movement of the object of a preposition to the specifier of PP nor movement of the possessor (which is already the specifier of NP) to the specifier of DP would result in the desired change in word order.

[21] This idea of ranked and violable constraints is developed under Optimality Theory (Prince & Smolensky 1991, 1992, 1993 and McCarthy & Prince 1992, 1993; see also H.A.Black 1993 for an implementation within a derivational framework).

Returning to the issue of revising the *Wh*-Criterion for QZ, we can differentiate two changes that need to be made in order to account for QZ questions. First, as we have seen, the required Specifier-head relation must be changed to a minimal government relationship for the normal case. This can be seen as simply a parameter: some languages require a Specifier-head relation, some require instead a government relationship, and some allow both types for licensing *wh*-phrases in scope position. (This type of parametric variation is explored more fully in the Appendix.) Koopman & Sportiche (1991) claim that Nominative Case assignment exemplifies a parallel type of variation in that SVO languages assign Nominative Case via the Specifier-head relationship while VSO languages assign Nominative Case under a government relationship. The same strict adjacency requirement for Case assignment under government is also noted.

The second change needed in the *Wh*-Criterion is that the required relation must only hold of *wh*-questions, not of Yes/No questions as well. The next subsection explores how this distinction can be made, then the proposal for the QZ version of the *Wh*-Criterion will be given.

8.3.2 Featural Distinction between Clause Types

Yes/No questions do not require a *wh*-phrase to be fronted; a *wh*-phrase may not even be present in the clause. This is illustrated in the familiar English examples of embedded Yes/No questions in (227). The grammatical example (227a) has a complementizer *whether*, indicating that a question is being asked, but there is no corresponding *wh*-phrase in the specifier of CP, as is required if the *Wh*-Criterion is applicable. (227b) verifies that the presence of a *wh*-phrase in the specifier position is ungrammatical, and (227c) demonstrates that it is equally bad to have a *wh*-phrase remain in situ.

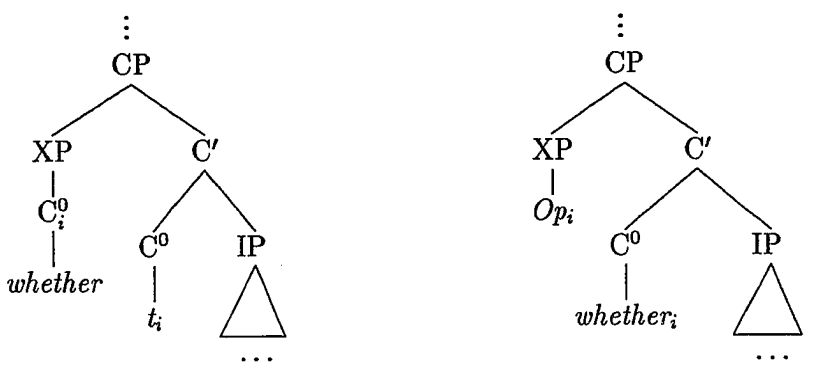
(227) a. I wonder whether you saw it.

b. *I wonder what whether you saw __.

c. *I wonder whether you saw what.

Under the S′ over S system, where there was only a single position in COMP, examples such as (227b) were ruled out since COMP was already filled by *whether*. In the CP system proposed in Chomsky (1986), examples like (227b) have been accounted for either by saying that *whether* begins in C^0 and then moves to the specifier position[22] (due to its *wh* morphology), as illustrated in the S-structure tree in (228a), or that *whether* licenses an empty operator in its specifier position (228b). Either of these options provides a filled specifier of CP position, which accounts for the weak island effects seen when extraction out of the embedded clause is attempted.

(228) a. Movement of *whether* or b. Licensed empty Operator



But this filled specifier analysis, by itself, would not account for the ungrammaticality of (227b–c), as the schematic forms for (227), shown in (229), illustrate. All three cases have a filled specifier, yet two are ungrammatical.

(229) a. I wonder *Op* whether [you saw it]
b. *I wonder what$_i$ whether [you saw t_i]
c. *I wonder *Op* whether [you saw what]

If *whether* were simply a $C^0_{[+wh]}$, the moved *wh*-phrase in (229b) should be allowed, assuming that the empty operator is only used if an overt operator is not available.

[22]This proposed movement of a head to a specifier position is clearly suspect given the constraints on movement given in Chomsky (1986:4).

Even if we assume instead that either movement of *whether* or the presence of the empty operator precludes movement of the *wh*-phrase (in the syntax), there would still be nothing to disallow (229c), where the *wh*-phrase remains in situ at S-structure and presumably moves to adjoin to CP or to the specifier of CP at LF. This is the analysis for the grammatical examples in (230).

(230) a. I wonder what$_i$ $\emptyset$ [you saw t_i where]
b. I wonder who$_i$ $\emptyset$ [t_i saw what]

Therefore, we must be able to distinguish between Yes/No questions and *wh*-questions. Also, questions must be distinguished from relative clauses and exclamations, which also involve *wh*-movement but are subject to different constraints (Grimshaw 1979). All of the above must be kept distinct from regular declaratives. Rizzi (1990:67–68) suggests a two-feature system (±*wh* and ±pred) which allows *wh*-questions to be featurally distinct from *wh*-relatives, 'that'-relatives, and declaratives. This system is a move in the right direction, but it does not draw enough distinctions. Specifically, Yes/No questions are not distinguished from content questions as crucially needed here, and exclamations are not distinguished from the other types. I suggest here a three-feature system which makes all six distinctions needed, as shown in (231).[23]

(231)

+*q*	−*wh*	−*rel*	Yes/No questions
+*q*	+*wh*	−*rel*	content questions
−*q*	+*wh*	−*rel*	exclamations
−*q*	−*wh*	−*rel*	declaratives
−*q*	−*wh*	+*rel*	'that'-relatives
−*q*	+*wh*	+*rel*	*wh*-relatives

Besides making the six individual distinctions noted, the feature specifications shown in (231) divide the constructions into natural classes: questions are separated from non-questions by the [±*q*] feature, relative clauses are separated from non-relatives

[23]There are two possible feature specifications missing in (231): [+*q*,−*wh*, +*rel*] and [+*q*,+*wh*, +*rel*]. These are not possible specifications given the restriction +*q*⟹−*rel*, which expresses the intuition that a construction cannot be both a question and a relative clause simultaneously.

by the [±*rel*] feature, and constructions with *wh*-phrases are distinguished from those without by the [±*wh*] feature.

Given this feature system, we can assume that matrix verbs subcategorize for a $CP_{[+q]}$ rather than for a $CP_{[+wh]}$, explicitly recognizing that +*q* (=question) is distinct from +*wh* (=must acquire a moved *wh*-phrase). We can then account for the distribution of Yes/No questions in (227). Since *whether* is used only with Yes/No questions, it would be specified [+*q*,−*wh*]. As an $X^0_{[-wh]}$, Clause B of the *Wh*-Criterion does not apply, so no *wh*-phrase is required in its specifier position and (227a) is correctly predicted to be grammatical. Further, a *wh*-phrase may not occupy the specifier position above *whether* (227b), since there would be a clash of *wh*-features, in violation of Clause A of the *Wh*-Criterion. Clause A also rules out the *wh*-phrase remaining in situ (227c). If Clause A is assumed to hold at S-structure for English, then the *wh*-phrase is only grammatical if it is in a Specifier-head relationship with a $C^0_{[+wh]}$. Even if Clause A is not required to apply until LF, the *wh*-phrase cannot be licensed by *whether*, since it is [−*wh*]. The presence of *wh*-phrases in a Yes/No question is thus correctly prohibited.

Returning to QZ, recall that *pe* is used in Yes/No questions and it also cooccurs with some of the *wh*-phrases. I propose that *pe* be specified [+*q*,*α wh*] to allow it to be in the proper licensing relationship with a *wh*-phrase when appropriate, but not require the presence of a fronted *wh*-phrase itself. This featural specification eliminates the need to posit an empty operator and allows us to reduce the statement of the *Wh*-Criterion for QZ to a single clause, as given in (232).

(232) Revised *Wh*-Criterion for QZ

A *wh*-operator (=*wh*-phrase) must be in a minimal government relationship with a $C^0_{[+wh]}$ at S-structure.

As noted earlier, this minimal government relationship includes a strict adjacency requirement[24], which limits the fronting to a single *wh*-phrase. The fact that the

[24]As a reminder to the reader, (i) gives a more formal version of the definition of the minimal government relationship given at the end of Chapter 7.

Wh-Criterion holds at S-structure prohibits any *wh*-phrases from remaining in situ. The attested distribution of questions in QZ is thus accounted for.

The differences seen between QZ and English as to what licensing relationship is required between the head and the *wh*-phrase, how many positions are available, and at what level the licensing restrictions apply are part of a much larger picture cross-linguistically. The Appendix contains a proposal for a more general, parameterized treatment of *wh*-movement.

8.4 Relative Clauses

QZ relative clauses do not use the *wh*-words, unlike English. Many QZ relative clauses use the finite complementizer *ne* (see (234)), which also introduces 'that'-clauses, as (233) demonstrates. In (233a) the embedded CP introduced by *ne* is an adjunct, while in (233b) it is an argument.

(233) a. *R-e men lo x-mgyeey men:* RANCHO 52
H-say 3RD face POS-man 3RD
"She said to her husband,
Pa nëz w-a de ne w-zëlt de.
what road C-go 2 that C-be.found-NEG 2
'Which way did you go that I didn't find you?'"

b. *Per laa mdxin nagon dxe n-an mdxin no* RYENEGU 33
but FM deer however already S-know deer there
"But as for the deer, however, the deer already knew
ne y-gw-et meedx mdxin.
that P-CAUS-die lion deer
that the lion was going to kill him."

(i) X^0 MINIMALLY GOVERNS YP iff
a. X^0 governs YP, and
b. X^0 is the closest potential governor for YP, and
c. no closer potential governee ZP intervenes between X^0 and YP.

This minimal government relationship assures that the *wh*-phrase and the C^0 will be strictly adjacent (McCloskey 1991:291–292).

(234) gives some examples of this type of relative clause.

(234) a. *Chu tank zob giblew ne r-len nis za.* BATHROOM 5
belly tub PR/sit faucet that H-bear water warm
"In the middle of the tub sits a faucet that bears warm water."

b. *R-ap noo te x-mig noo ne r-laan te men* HORTENS 4
H-have 1EX one POS-friend 1EX that H-want one person
"I have a friend who wants a person
ne r-nii disa.
that H-speak language
who speaks the language."

c. *Yët yag ne n-gaa, per n-uu pur yag byaa chi.* LIFEINUS 93
not.be tree that S-green but S-be pure tree cactus prickly.pear
"There aren't any trees that are green, but purely (lots of) prickly pear tree cactus."

This type of relative clause can be analyzed as a normal 'that'-relative in which the gap in the relative clause is coindexed with a null operator in the specifier of CP and the operator is also coindexed with, and identified by, the head NP. I assume the normal analysis that the specifier of CP is filled in relative clauses to account for the inability to extract from a relative clause.

Na "which" may be used in relative clauses instead of *ne* "that". *Na* is restricted to occurring with heads which are inanimate[25] and is not otherwise used as a complementizer. Examples of this type of relative clause are given in (235). I assume that *na* originates in the position of the gap and moves to the specifier of CP position, as is normally assumed for *wh*-relative clauses.[26]

(235) a. *R-a me r-ka me gyus na g-eey x-nisyaa me.* SANJOSE 2
H-go 3R H-buy 3R pot which P-cook POS-food 3R
"She went to buy a pot which her food would cook in."

[25]Thus, the only way to form a relative clause modifying an animate or human head is by using *ne* as in (234b).

[26]Alternatively, one could assume *na* is a complementizer that must agree in animacy with a *wh*-operator in its specifier position. This would restrict *na* to appearing in the appropriate relative clauses only and would also prohibit its use as a general complementizer.

b. *N-guxkwaa tank na r-az men.* LIFEINUS 17
S-make tub which H-bathe 3RD
"A tub in which they bathe is made."

c. *N-uu pur byaa na win ger.* LIFEINUS 94
S-be pure cactus which small very
"There is a lot of cactus which is very small."

d. *W-tsoow x-unaa men gyët-guu na g-u men.* RANCHO 29
C-make POS-woman 3RD tortilla-tamale which P-eat 3RD
"His wife made tamales which he would eat (on his trip)."

(236) gives examples of what appear to be null-headed relative clauses.

(236) a. *La men ne la Danyel w-eey ne g-u noo y-ra noo.* MTLEMON 21
FM 3RD that call Daniel C-take that P-eat 1EX P-all 1EX
"The man called Daniel took that which we all ate."

b. *W-ka men ne g-u-gwe noo.* MTLEMON2 6
C-buy 3RD that P-eat-lunch 1EX
"They bought that which we would eat for lunch."

An explanation for these examples comes from Regnier (1989b). He notes that while all of the other pronouns may be modified by a relative clause, the third person inanimate pronoun cannot be. He cites the following example, where in (237a) the inanimate pronoun *-w* may occur without a modifying relative clause, or the same idea may be expressed using a null headed relative clause, as in (237b). But (237c) shows that the presence of both the inanimate pronoun and the relative clause is ungrammatical.

(237) a. *W-az y-ra-w leen yuu.*
C-wet P-all-3I inside house
"Everything in the house was wet."

b. *W-az y-ra ne n-uu leen yuu*
C-wet P-all that S-be inside house
"Everything that was in the house was wet."

c. **W-az y-ra-w ne n-uu leen yuu.*
C-wet P-all-3I that S-be inside house
(Everything which was in the house was wet.)

This restriction makes it seem probable that all examples of null headed relatives (as in (236)) can be analyzed as headed relatives with the third person inanimate pronoun (which is null only in this case) as the head.

This relative clause data should not be problematic for either of the theories of clause structure that we are considering. Of interest to the theory of Ā-movement in QZ, however, is the fact that the head of a relative clause may be fronted or focused (see Chapter 7), leaving behind the CP. Text examples of this separation are given in (238). Just as in English, either the 'that' complementizer *ne* or the relative pronoun *na* must be present for this separation to be allowed.

(238) a. *S-te giblew zob gya ne regader.* BATHROOM 7
F-one faucet PR/sit high that showerhead
"Another faucet that is the showerhead sits higher."

b. *Txup maa n-ak ne r-e g-u maa noo.* MANSNAKE 74
two 3A S-become that H-say P-eat 3A 1EX
"There were two animals that said the snake should eat me."

c. *S-te maa nagon n-ak* MANSNAKE 75
F-one 3A however S-become
"There was another animal, however,
na r-e g-u-t maa noo.
which H-say P-eat-NEG 3A 1EX
which said the snake should not eat me."

d. *Koyot n-ak ne w-sa-laa x-bit noo.* MANSNAKE 77
coyote S-become that C-fall-escape POS-life 1EX
"The coyote was the one that saved my life."

e. *Ndal edifisyo n-uu ne ndal yaa pis.* MEXICO 23
lots building S-be that lots very floor
"There are lots of buildings that have lots of floors."

All of the separated examples in (238) contain either stative or existential verbs. Separation of the head from the relative clause is not possible when the main verb is active, as shown in (239).

(239) a. *R-a me r-ka me gyus na g-eey x-nisyaa me.* SANJOSE 2
H-go 3R H-buy 3R pot which P-cook POS-food 3R
"She went to buy a pot which her food would cook in."

b. **R-a me gyus r-ka me na g-eey x-nisyaa me.*
H-go 3R pot H-buy 3R which P-cook POS-food 3R
(She went to buy a pot which her food would cook in.)

c. *N-guxkwaa tank na r-az men.* LIFEINUS 17
S-make tub which H-bathe 3RD
"A tub in which they bathe is made.

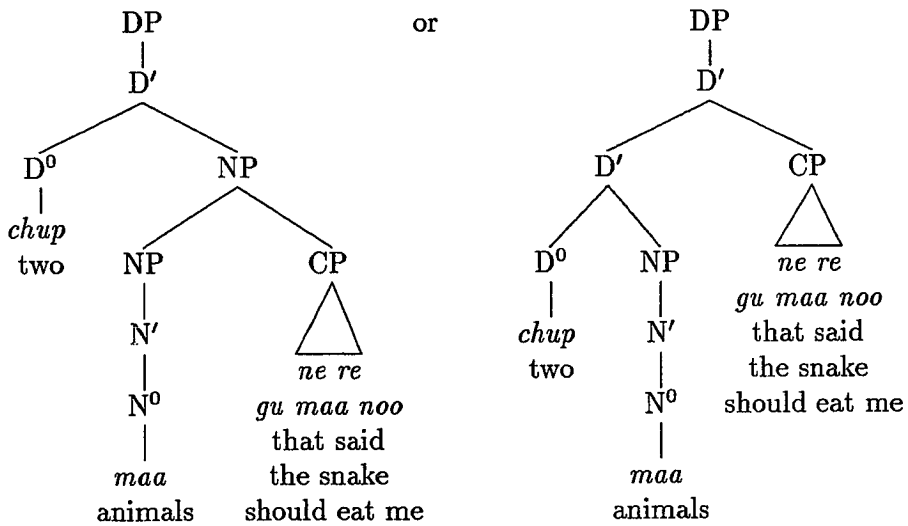
d. **Tank n-guxkwaa na r-az men.*
tub S-make which H-bathe 3RD
(A tub in which they bathe is made.)

e. *W-tsoow x-unaa men gyët-guu na g-u men.* RANCHO 29
C-make POS-woman 3RD tortilla-tamale which P-eat 3RD
"His wife made tamales which he would eat (on his trip)."

f. **Gyët-guu w-tsoow x-unaa men na g-u men.*
tortilla-tamale C-make POS-woman 3RD which P-eat 3RD
(His wife made tamales which he would eat (on his trip).)

The DP structure I propose in Chapter 12 has the CP part of the relative clause adjoined to either NP or to D′. We cannot assume that the CP is adjoined to the entire DP, since this would violate the prohibition against adjunction to arguments (Chomsky 1986:6) given earlier in (205). For example, the structure of the full relative clause in (238b) would be one of the options shown in (240), depending on the choice of adjunction site.

(240)



It is clear from these structures that the quantifier and noun which have been fronted in (238b) either do not form a constituent at D-structure or are only a single-bar constituent, so direct movement of these elements is not allowed. Under a movement analysis, we must assume instead that the CP is allowed to extrapose, thus leaving the remaining DP free to be fronted. This is the same type of Extraposition from DP movement allowed in English for comparatives and for some relative clauses[27], as shown in (241).

(241) a. More angels were in the sky over Bethlehem that night
than anyone could count.

b. Two men approached the sheriff who were wearing gunbelts.

c. Two men approached the sheriff that were wearing gunbelts.

Similar types of separated structures involving fronting of the head and extraposition of the clausal adjunct are very common in the quantifier structures analyzed in Chapter 13. See section 13.3 for discussion regarding whether the separation arises via movement or whether it is base generated.

[27]There are also restrictions on this extraposition from relative clauses in English. One of these is that the separated constructions are more acceptable when the head NP is indefinite.

Chapter 9

Constructions Involving Negation

Negative constructions in most of the Zapotecan languages have the same two crucial characteristics as seen for *wh*-questions: (a) a negative phrase must be fronted and (b) only one negative phrase per clause is allowed.[1] The analysis proposed will therefore be very similar as well, involving a requirement that the Negative Criterion holds at S-structure and the limitation to a single position available for fronting (see section 9.2.)[2] Refreshingly, there are also two major differences between negative constructions and questions. First, the fronted phrase is always found **before** the negative head, allowing the normal Specifier-head relationship to hold within a single projection in this case. Second, since the negative head is realized on the verb in most cases, these constructions provide important data for the decision regarding the best proposal for obtaining VSO order. V^0-to-I^0-to-Neg^0 movement is shown to give a natural account of this fact in section 9.2, then section 9.3 specifically contrasts the Verb Movement and Subject Adjunction proposals in their ability to account for the negation constructions.

We first need to provide a backdrop for the Zapotec negation constructions by placing them within the larger context of Negative Concord languages.

9.1 The Zapotecan Languages are Negative Concord Languages

All languages have the ability to express negation. There is great variation in how negation is expressed, however. A major division exists between Multi-Negation

[1] QZ actually allows a second negative phrase in limited circumstances. See section 9.2.1.

[2] Much of the content of this chapter appeared in Black (1993), though it has been updated by further fieldwork.

languages, like standard English, where the effect of each negation is cumulative, and Negative Concord languages, in which a single negation reading results from multiple markings of negation. For example, in standard English the sentence *I didn't see nothing* really means "I did see something". In contrast, in a Negative Concord language like some varieties of non-standard English, *I didn't see nothing* means the same as "I didn't see anything" in standard English. The Zapotecan languages are Negative Concord languages.

Zanuttini (1991) and Ladusaw (1992, 1993) have noted that it is a deep property of Negative Concord languages that negation must be expressed on or above the head of the clause. This means that a negative pronoun in a complement position alone is not grammatical; a higher negation which either m-commands or is part of Infl is also required, as shown in (242a–b) for Italian. In contrast, if the negative pronoun is in subject position, as shown in (242c), it can express negation by itself, without the separate negative word.[3]

(242) a. *Mario non ha visto nessuno.*
Mario NEG has seen nobody
"Mario has seen no one."

b. **Mario ha visto nessuno.*
Mario has seen nobody
(Mario has seen no one.)

c. *Nessuno ha visto Mario.*
nobody has seen Mario
"Nobody has seen Mario."

Most of the Zapotecan languages follow not only this general restriction that negation must be expressed above the head of the clause, but also require fronting of all negative words. Thus, in a sentence meaning roughly the same as (242a), QZ requires the order shown in (243a), where the negative pronominal object has fronted

[3]The separate negative word, *non* is not allowed to be present in this case in Italian. As noted by Ladusaw (1993), Negative Concord languages vary in whether the "Infl"-negation can be overt if there is a negative word higher in the clause: Italian does not allow it, Catalan allows it optionally, and Rumanian requires it to always be overt. This fact is thus simply a parameterization of an independent constraint.

before the verb which carries the negative marker, and the subject follows the verb in its usual position. The order given in (243b), which has a parallel structure to (242a) with the negative object pronoun in situ, is not allowed. Further, even when it is the subject, the negative pronoun must be fronted with negation still marked on the verb, yielding exactly the same surface form in (243c) as in (243a). The ambiguity arises from the obligatory fronting coupled with the normal VSO order and the lack of morphological case marking in the language. The meaning of a particular utterance would need to be sorted out from the context.

(243) a. *Rut wii-t Maryo __.*
nobody C/see-NEG Mario
"Mario saw nobody."

b. **Wii-t Maryo rut.*
C/see-NEG Mario nobody
(Mario saw nobody.)

c. *Rut wii-t __ Maryo.*
nobody C/see-NEG Mario
"Nobody saw Mario."

This obligatory fronting of negative words is analyzed here as the requirement that the Negative Criterion, fashioned after the *Wh*-Criterion (May 1985, Rizzi 1991), holds at S-structure (see also Haegeman & Zanuttini 1990 and Zanuttini 1991 on West Flemish and Aissen 1992b for Tzotzil). This means that all negative words or phrases will have to move to the NegP projection (first proposed by Pollock (1989)) by S-structure and that there will be Specifier-head agreement of the negative feature within NegP. The fact that there is only a single reading of negation in these Negative Concord languages can then be accounted for either by this Specifier-head agreement with a single negative feature (Zanuttini 1991) or by claiming that it is the NegP projection itself, rather than any of the individual negative words, that expresses the negation of the clause (Ladusaw 1992, 1993).

9.2 Analysis of the Obligatory Fronting

The analysis is presented in two parts. In section 9.2.1, we look at the impoverished system of marking negation available in QZ. The basic clause structure including a NegP projection and the obligatory fronting of negative pronouns, resulting in compliance with the Negative Criterion at S-structure, is developed for this simpler system. An account for the prohibition against Future Mood marking cooccurring with negation is given in terms of Future Mood being an Affirmative Polarity Item, which also argues for the placement of NegP above IP. Section 9.2.2 then examines the more complex negation system available in Mitla Zapotec, which is part of the Central group of Zapotecan languages, spoken in and around the city of Mitla in Oaxaca, Mexico. Mitla Zapotec has free negative words and negative quantifiers in addition to the negative pronouns. The basic analysis given for QZ is shown to extend to these other negative words also, giving an account for the cooccurrence restrictions. The Mitla data also argues for the placement of NegP above IP due to specific selection requirements. In addition, we see that the interpretation of constituent negation is exactly the same as clausal negation (at least for this type of Negative Concord language).

9.2.1 QZ's Limited Negation System

Most Zapotecan languages have at least one free negative word as well as having a negative marker which cliticizes to the verb, negative indefinite pronouns, and negative quantifiers. QZ is more limited in its negative markers. The normal way to express negation in QZ is via the verbal clitic *-t*, as shown in (244).

(244) *R-ool-t* *noo* *liber.*
H-read-NEG 1EX book
"I am not reading a book."

In addition to this negative clitic, QZ can express negation in three other ways:

a. Through use of the negative indefinite pronouns, *bet* "nothing", *rut* "nobody", *bat* "nowhere", and *nunk* "never", in combination with either a verb followed by the negative clitic or the negative existential verb *yët*,
b. By using the negative existential verb alone, or
c. By using the negative adverbial *gart* "still no", which can be combined with the negative indefinite pronouns but not with the negative verbal clitic nor with the negative existential verb.

Each of these uses is exemplified below.

The negative indefinite pronouns are always fronted, just as *wh*-words are.[4] These negative indefinite pronouns are frequently used in responses to questions, as shown in (245)–(246).[5]

(245) a. *Pa go r-laa de.*
what thing H-do 2
"What thing are you doing?"

b. *Bet r-laa-t noo.*
nothing H-do-NEG 1EX
"I am not doing anything."

(246) a. *Pa ts-a de.*
where P-go 2
"Where are you going?"

b. *Bat ts-a-t noo.*
nowhere P-go-NEG 1EX
"I am not going anywhere."

(247a) gives an example of the negative indefinite pronoun *rut* "nobody" with the negative existential *yët* and (247b) shows the negative existential verb used alone.

(247) a. *Rut yët ts-a-ron gyët g-u men.*
nobody not.be P-go-leave tortilla P-eat 3RD
"There isn't anybody to take the food for them to eat."

[4]This is similar to the use of *wh*-words as indefinite pronouns in Tzotzil. Aissen (1992b) reports that they must be fronted in either usage. In QZ, however, the negative indefinite pronouns do not double as *wh*-phrases.

[5]Note also that the negative pronoun by itself cannot be used to answer a question; the full sentence is required.

b. *Per yët dxiin.* GRANDMA3 7
but not.be work
"But there wasn't any work."

(248a) shows the usage of the adverb *gart* "still no" by itself and (248b) demonstrates that it can be combined with the negative indefinite pronoun *nunk* "never", which was borrowed from Spanish but is used according to the syntactic rules of QZ.

(248) a. *Por fabor gu-cheree x-kwiich noo g-an* CARTA 7
for favor IMP-return POS-paper 1EX P-know
"Please answer my letter so I can know
pa gos r-zak de ne gart chiid de.
what thing H-happen 2 that still.no P/come 2
what happened to you that you still haven't come."

b. *Jasint nunk gart ts-a Jasint Pwert.* BENIT 29
Jacinto never still.no P-go Jacinto Salina.Cruz
"As for Jacinto, he had never gone to Salina Cruz."

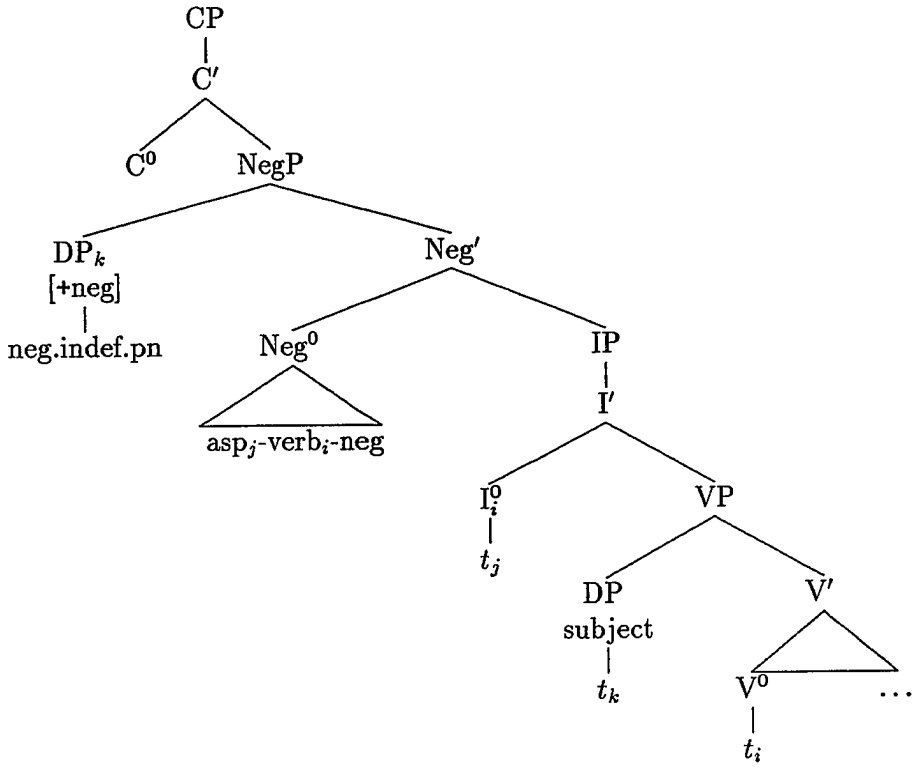
So far we have seen that QZ negation is expressed as a clitic on the verb (or as a negative existential verb or as the negative adverb *gart*) and that negative indefinite pronouns may also express negation. These negative indefinite pronouns must be fronted and they must cooccur with verbal negation or the negative adverb *gart*. Because QZ is a Negative Concord language, only one negation reading results.

9.2.1.1 Clause Structure Analysis: NegP and the Negative Criterion

Both the required word order and the single reading of negation can be accounted for via Specifier-head agreement, if the negative indefinite pronouns are seen as occupying the specifier of NegP at S-structure. The verbal clitic *-t*, the negative existential verb *yët*, and the negative adverb *gart* are mutually exclusive heads which must occupy Neg^0 at S-structure.

Under the Verb Movement hypothesis, the basic clause structure for a QZ negative clause would be as shown in (249), where the verb moves to I^0 and then to Neg^0 to carry both the Aspect marking and negation, and a negative indefinite pronoun moves to the specifier of NegP.

(249) S-structure



The movements posited in (249) will clearly obtain the surface word order of a sentence like (243c) and can be straightforwardly extended to also obtain (243a), where the object has fronted. We still need an account of why (243b), where the negative indefinite pronoun has remained in situ, is ungrammatical. Rizzi (1991:33) claims that this can be explained by the same basic mechanism which assures that *wh*-phrases must move to the front. He expresses this extension of the *Wh*-Criterion informally as, "Affective operators must be in a spec-head configuration with a head marked with the relevant affective feature at the appropriate level of representation." Haegeman & Zanuttini (1990) restate this specifically for negation cases as, "Each negative phrase must be in a Spec-head relation with a negative head"[6] and note that

[6]Note that both Rizzi's and Haegeman & Zanuttini's formulations correspond only to Clause A of the *Wh*-Criterion, thus not requiring the presence of a negative phrase with every negative head. This is also true of Zapotec, as seen in (244). My formulation in (250) includes a revised Clause B

the appropriate level of representation for the constraint is S-structure for West Flemish, though LF is the generally required level. Aissen (1992b) relates that fronting of *wh*-words is also required by S-structure in Tzotzil, whether they are used as *wh*-pronouns or as negative indefinite pronouns. This is the case for most Zapotecan languages as well; both *wh*-phrases and negative indefinite pronouns must front at S-structure. We can therefore formalize the Negative Criterion for QZ as:[7]

(250) The Negative Criterion for QZ

a. A negative operator must be in a Specifier-head configuration with an $X^0_{[+neg]}$ at S-structure.
b. An $X^0_{[+neg]}$ must occupy Neg^0 at S-structure.

As it stands, (250) says nothing about whether multiple negative indefinite pronouns may be fronted, only that they must front. Since only a single *wh*-phrase may be fronted in QZ, I was surprised to find that a second negative indefinite pronoun is allowed to be fronted. (251) shows the ways that the QZ equivalent of "Nobody saw nothing" (meaning the same as "Nobody saw anything" in standard English) may be expressed. (251a–b) show that multiple fronting is allowed as long as the subject or human pronoun is first. (251c–d) verify that neither of the negative indefinite pronouns may remain in situ. (251e) shows that there is a different form of the indefinite pronoun meaning "nothing", *betee* (a combination of *bet+tee* "nothing-one"), which

which does not require the presence of a negative phrase but does require that the negative head be in Neg^0 at S-structure. Haegeman (1991) proposes a Clause B fully parallel to that in the *Wh*-Criterion for West Flemish, since the clitic negative head in that language is insufficient to express negation without the support of a fronted negative phrase.

[7]Clause B of the Negative Criterion proposed here for QZ (and other Zapotecan languages) is not entirely parallel to the *Wh*-Criterion which was proposed by May (1985) and updated by Rizzi (1991) to be compatible with the theory of COMP in Chomsky (1986). This change eliminates the need to posit a null negative operator in the specifier of NegP position for cases where the negation is simply marked by the head Neg^0. Such clauses are parallel to Yes/No questions which were not treated under the version of the *Wh*-Criterion for QZ since they are [+*q*] but [−*wh*].

As discussed in section 8.1 for *wh*-operators, I use the term 'negative operator' here to mean all XPs that are [+*neg*], extending the definition of operator given in Chomsky (1981:102) whereby all *wh*-phrases and bare quantifiers are operators, as well as null NPs in the specifier of CP. Rizzi (1991) assumes that only **moved** *wh*-phrases or negative phrases are operators, thus allowing a second phrase to remain in argument position at S-structure in English, Italian and other languages that allow it. This is the case in Isthmus Zapotec negation (see footnotes in section 9.2.2.)

is allowed to remain in place. This form may only show up in this construction where there is another negative indefinite pronoun already fronted. I therefore analyze *betee* as a strong type of negative polarity item, requiring m-command by both a negative head and a negative indefinite pronoun.[8] Finally, (251f) shows the way this negative construction could be expressed without using two negative indefinite pronouns. This is parallel to the only way available for expressing such a thought in question form, shown in (251g).[9]

(251) a. *Rut bet wii-t.*
nobody nothing C-see-NEG
"Nobody saw nothing."

b. **Bet rut wii-t.*
nothing nobody C-see-NEG
(Nobody saw nothing.)

c. **Rut wii-t bet.*
nobody C-see-NEG nothing
(Nobody saw nothing.)

d. **Bet wii-t rut.*
nothing C-see-NEG nobody
(Nobody saw nothing.)

e. *Rut wii-t betee.*
nobody C-see-NEG nothing/one
"Nobody saw anything."

f. *Bet wii-t men te-tee men.*
nothing C-see-NEG 3RD one-one 3RD
"They each saw nothing."

g. *Pa gos wii men te-tee men.*
what thing C/see 3RD one-one 3RD
"What thing did they each see?"

[8] I assume that *betee* is a fairly recent addition to the language. There is no equivalent form (*rutee*) available for the indefinite pronoun meaning "nobody".

[9] The phrase *men te-tee men* is an example of the special number marking construction analyzed in Chapter 13.

This difference in how many items may be fronted in questions versus negative constructions shows up in other languages as well. For example, Tzotzil allows the fronting of multiple negative indefinite pronouns, whereas fronted interrogative pronouns are limited to one and none may remain in situ. West Flemish also allows multiple fronting of negative phrases at S-structure. In contrast, only one *wh*-phrase may (and must) front at S-structure but others are allowed to remain in situ until LF (Haegeman 1991). Mitla Zapotec, however, allows only a single negative phrase to be present per clause, and it must be fronted, completely parallel to the situation in *wh*-questions. These differences may be accounted for simply by a parameter as to whether or not adjunction to the specifier of NegP position is allowed; QZ, Tzotzil, and West Flemish allow such adjunction whereas Mitla Zapotec does not. (See the Appendix for a parallel parameterized account of the adjunction possibilities in both the specifier of CP and adjoined to IP positions for *wh*-questions.)

The required relation of Specifier-head agreement holding at S-structure (Clause A of the Negative Criterion), coupled with this parameterization of adjunction to the specifier of NegP, will correctly account for the obligatory fronting of the negative indefinite pronouns and the language specific allowance of whether one or more may front. The proposed accounts for both *wh*-questions and negative constructions are thus quite parallel.

The analysis of *bat* "nowhere" and *nunk* "never" (=no when) can be accounted for by a straightforward extension of the analysis given for the negative indefinite pronoun in subject position in (249). In this case, the pronoun is in a non-argument position at D-structure, most likely right-adjoined to VP, and moves to the specifier of NegP by S-structure. Thus, the analysis for both *bat* and *nunk* also follows from the clause structure and the Negative Criterion.

Analyses for the negative existential verb *yët* and the negative adverb *gart* remain to be given. The morphological makeup of the negative existential verb is unclear. It could conceivably be made up of three separate morphemes *y-ë-t* "P-exist-NEG",

with the Potential marking on the verb root, and the negative marker cliticizing to this. This account does not require any change in the analysis given above, since it would fit right into the configuration in (249). However, the 'root' *ë* is not used to indicate existence on its own (i.e. without negation; instead the copular verbs *uu* "be" or *ak* "become" are used). Further, only Potential marking ever occurs. A second possibility is that *yë* is an existential verb which does not take Aspect marking but must cooccur with negation. Head movement of the verb to Neg^0 would account for the surface realization as *yët*. The final possibility is to say that *yët* is simply an inherently negative verb that does not take Aspect marking. In this case, the basic clause structure would be the same, except that Neg^0 and I^0 would both be empty at D-structure. The negative verb would be forced to move to Neg^0 by Clause B of the Negative Criterion, where it could then be in a Specifier-head relation with a negative phrase, if present (as in (247a)).[10] See section 9.2.2 for further discussion of negative existential verbs with respect to Mitla Zapotec.

For the negative adverb *gart* "still no", I simply assume that it is base generated as Neg^0. This accounts for the fact that it cannot cooccur with either the verbal clitic *-t* or the negative existential verb, while it may cooccur with a negative indefinite pronoun. The fact that the negative indefinite pronoun precedes *gart*, as in (248b), further verifies that *gart* occupies the Neg^0 position in the clause structure shown in (249).[11]

9.2.1.2 Future Mood as an Affirmative Polarity Item

In addition to lacking free negative words simply meaning "no", QZ also lacks negative quantifiers which could be used to negate a nominal phrase.[12] There are not any words

[10]The "minimalist program" in Chomsky (1993) assumes this type of checking of the inflectional features which are morphologically spelled out on the verb.

[11]Only V^0-to-I^0 movement is assumed in this case.

[12]I found two examples in the texts (Regnier 1989a) in which the negative quantifier from Spanish *ni* "not even" is used. In each case the DP containing *ni* is fronted and cooccurs either with the verbal clitic *-t* or with *gart*. We can therefore assume that the $DP_{[+neg]}$ has fronted to the specifier of NegP, just like the negative indefinite pronouns must. So, like *nunk*, this Spanish loan word is

meaning "yes" or "no" either. Positive and negative responses to Yes/No questions are formed by repeating the complete IP, with or without NegP as appropriate. This is shown in (252).

(252) a. *Pe s-oo de nis.*
Q F-drink 2 water
"Will you drink water?"

b. *S-oo noo nis.*
F-drink 1EX water
"I will drink water."

c. *G-oo-t noo nis.*
P-drink-NEG 1EX water
"I will not drink water."

Note that the Aspect/Mood marking on the negative response in (252c) is the Potential, while the question and positive response carry the Future marker. This is a requirement; in Yes/No questions about events yet to occur and in statements about possible events (such as "perhaps..."), the Potential Mood is used with negation, whereas the Future Mood is used in positive contexts.

Potential Mood can be used in other positive contexts and other Aspects can be used with negation in other negative contexts, so the clear restriction seems to be that Future Mood may never cooccur with negation. This fact could be accounted for by saying that Neg^0 selects IPs having any Aspect/Mood except Future. Alternatively, Future Mood could be viewed as a type of Affirmative Polarity Item, which resists being in the same clause m-command domain of negation. Either view requires that NegP be above IP in the clause structure. (The precise position of NegP with respect to the other Infl projections has not been fully determined and may be a language-specific parameter. Pollock (1989) and Laka (1990) propose that TenseP must be above NegP, while AgrP is below it; Rizzi (1991) follows Belletti (1990) in assuming that AgrP is above NegP and TenseP is below NegP; Zanuttini (1991) argues for two NegP projections in Romance, one above and one below TenseP.)

being incorporated into QZ syntax.

9.2.2 The More Complete Negation System of Mitla Zapotec

The analysis for the negation system of Mitla Zapotec follows directly from the basic analysis given for QZ. Mitla also has a negative post-clitic *-di* which normally attaches to the verb. In addition, Mitla has the negative indefinite pronouns *rut* "nobody" and *xhet* "nothing". As in QZ, these pronouns must be fronted and must cooccur with the negative clitic, as shown in (253).[13]

(253) a. *Rut bi-ääd-di lo guejdx.*
nobody C-come-NEG to village
"Nobody came to the village."

b. *Xhet r-lajz-di-ni g-un-ni.*
nothing H-want-NEG-3RD P-do-3RD
"They don't want to do anything."

Further, Mitla Zapotec does not allow more than one negative indefinite pronoun to be present in a clause, either fronted or in situ, as shown in (254).

(254) a. *??Rut rut ba-hui.*
nobody nobody C-see
(Nobody saw nobody/anybody.)

b. **Rut ba-hui rut.*
nobody C-see nobody
(Nobody saw nobody/anybody.)

c. **Rut zhet ba-hui.*
nobody nothing C-see
(Nobody saw nothing/anything.)

d. **Zhet rut ba-hui.*
nothing nobody C-see
(Nobody saw nothing/anything.)

e. **Rut ba-hui zhet.*
nobody C-see nothing
(Nobody saw nothing/anything.)

[13]The description and data from Mitla Zapotec are taken mainly from Stubblefield & Stubblefield (1991), with a few clarifying examples provided directly by Morris & Carol Stubblefield (p.c.).

f. **Zhet ba-hui rut.*
nothing C-see nobody
(Nobody saw nothing/anything.)

The analysis of the negative indefinite pronouns can be exactly the same for Mitla Zapotec as that proposed for QZ, except that Mitla does not allow adjunction to the specifier of NegP.

9.2.2.1 Free Negative Words and the Negative Criterion

As noted, most Zapotecan languages have at least one free negative word. Mitla is especially blessed in this regard, having three such words. *Di* "no" is the most common. *Di* always appears first, generally with the subject immediately following it, as shown in (255a).[14] The negative post-clitic *-di* is optional with the free negative words and is usually not used in single clause constructions. (255b) shows its use with the free negative *di* in an auxiliary construction.

(255) a. *Di Juan ch-ää Lua.*
no Juan P-go Oaxaca
"Juan will not go to Oaxaca."

b. *Di g-ac-di g-un Juan-ni.*
no P-can-NEG P-do Juan-3RD
"Juan cannot do it."

This same pattern is seen with the second free negative word *gajd* or *gad* "still not", as shown in (256).

(256) a. *Gajd-ni g-un dzuunga.*
still.not-3RD P-do work
"He still has not done the work."

b. *Gad g-ac-di ch-a'a.*
still.not P-can-NEG P-go/1EX
"I still cannot go."

[14] An analysis for this position of the subject is given later in this section.

The third free negative word in Mitla is *na'c* "no". It is used mostly in negative imperatives, as shown in (257). In addition, *na'c* can be used by itself as a negative response to a question, suggestion, or command.

(257) *Na'c ch-ää-lu.*
no P-go-2
"Don't go!"

None of these three free negative words can cooccur with the negative pronouns, either fronted or in situ.[15] If we say that the three free negative words must also meet the requirement of the Negative Criterion at S-structure, we have an explanation for this fact. I assume that the free negative words, like the negative indefinite pronouns, are themselves maximal projections. Since all five negative words (or phrases) are licensed at S-structure only if they are in the specifier of NegP, and since there is only one specifier for that projection (and no adjunction allowed), only one of the five may occur in a given clause.[16]

[15]Bill Ladusaw pointed out that this is reminiscent of the incompatibility between the French negative *pas*, which seems parallel to the free negative words, and the French indefinites *personne* and *rien*.

[16]This cooccurrence restriction does not hold in all Zapotecan languages. Data from Isthmus Zapotec, one of the Eastern Zapotecan languages, shows this (provided by Steve Marlett (p.c.) from Isthmus Zapotec speakers Victor de la Cruz and Maria Villalobos). Isthmus Zapotec has the negative pronouns *giruti'* "nobody" and *gasti* "nothing". It also has a negative clitic *-di'* which normally cliticizes to the verb, though in Isthmus this negative clitic is optional and is seen as emphasizing the negation when it is used. When the negative pronouns occur alone in a sentence or with the negative clitic only, they must be fronted as shown in (i). This much follows the same analysis given for QZ and for Mitla Zapotec.

(i) a. *Giruti ñeeda(-di').*
nobody U/come(-NEG)
"Nobody came."

b. **Ñeeda(-di) giruti'.*
U/come(-NEG) nobody
(Nobody came.)

Isthmus Zapotec also has a free negative word *ke* "not" which may or may not cooccur with the negative clitic *-di'*. The difference between Isthmus and Mitla comes in the fact that the negative pronouns may cooccur with *ke*. Further, when they do cooccur with *ke*, the pronouns act as any non-negative argument would; they are not required to be fronted but remain in situ (as shown in (ii)(a)) unless they are topicalized or focused (above NegP), as shown in (ii)(b). (ii)(c) verifies the impossibility of placing the negative pronoun into a specifier of NegP position as well as having *ke* occupy that position.

We saw that the negative clitic *-di*, which corresponds to the head Neg^0 in the analysis given for QZ, is not required with the three free negative words. This fact can be accounted for by allowing the three free negative words (but not the negative indefinite pronouns) to license a null Neg^0, following Ladusaw (1993). These negative words could be base generated in the specifier of NegP position. Further, the three negative words and the null Neg^0 only cooccur with clauses inflected for either Potential or Unreal Moods. This can be seen as selection by Neg^0 of specific types of IP (see also Zanuttini 1991), again showing that NegP must be positioned above IP for Zapotec.

We need to take a deeper look at the fronting of the subject which is required to cooccur with the presence of one of the free negative words and the null Neg^0.

(ii) a. *Ke ñeeda(-di) giruti'.*
not U/come(-NEG) nobody
"Nobody came."

b. *Giruti ke ñeeda(-di').*
nobody not U/come(-NEG)
"Nobody came."

c. **Ke giruti ñeeda(-di').*
not nobody U-come(-NEG)
(Nobody came.)

Further, Isthmus is like Mitla in disallowing multiple fronting of the negative indefinite pronouns, as shown in (iii)(a). As long as one negative item is occupying the specifier of NegP, however, other negative indefinite pronouns may remain in situ, as (iii)(b–c) verify.

(iii) a. **Giruti gasti ñu-uya(-di').*
nobody nothing U-see(-NEG)
(Nobody saw nothing/anything.)

b. *Giruti(-di') ñu-uya gasti'.*
nobody(-NEG) U-see nothing
"Nobody say nothing/anything."

c. *Ke ñu-uya(-di') giruti gasti'.*
not U-see(-NEG) nobody nothing
"Nobody say nothing/anything."

In this respect, Isthmus is quite similar to Italian (i.e. *ke* is the analogue of *non*). If Isthmus only requires one negative phrase (rather than all negative phrases) to occupy the specifier of NegP at S-structure, and if *ke* is base generated in the specifier of NegP position, it follows that no movement of the negative pronouns is required when *ke* is present and that only one negative indefinite pronoun may/must front. This type of variation between languages is the same as that seen with question formation, which is treated more fully in the Appendix.

(258) presents data showing the distribution of this subject fronting. (258a) shows the widely attested order with the fronted subject following the free negative word *di* and no negative clitic on the verb. (258b) verifies that the subject is required to front in this situation; it cannot remain in place. (258c) then shows that the object instead of the subject may not be fronted to follow *di* and (258d) demonstrates that even when the subject is fronted to come after the free negative word *di*, another constituent may not normally be focused before *di* (such a construction could only be used in a contrastive context where the emphasis is on *Oaxaca* as opposed to some other city). Finally, (258e–f) show that the subject may not surface before the verb if the negative clitic is also present.

(258) a. *Di Juan ch-ää Lua.*
no Juan P-go Oaxaca
"Juan will not go to Oaxaca."

b. **Di ch-ää Juan Lua.*
no P-go Juan Oaxaca
(Juan will not go to Oaxaca.)

c. **Di Lua ch-ää Juan.*
no Oaxaca P-go Juan
(Juan will not go to Oaxaca.)

d. *??Lua di Juan ch-ää.*
Oaxaca no Juan P-go
(To Oaxaca Juan will not go.)

e. **Di Juan ch-ää-di Lua.*
no Juan P-go-NEG Oaxaca
(Juan will not go to Oaxaca.)

f. *Di ch-ää-di Juan Lua.*
no P-go-NEG Juan Oaxaca
"Juan will not go to Oaxaca."

How can we make sense of this distribution? The fact that fronting of the subject to follow the free negative word cannot occur when the negative clitic is present on the verb (258e–f) is predicted by the analysis that the free negative word is in the specifier of NegP and the negative clitic is in Neg^0. Once the verb moves to Neg^0

there is no place for the subject to be between the free negative word and the verb carrying the negative clitic. Neither multiple specifiers for NegP nor adjunction to the specifier of NegP is allowed in Mitla Zapotec.

Further, (258a–c) tell us that the subject, and only the subject, must occur after the free negative word and before the verb. The obvious surface position for the subject is the specifier of IP, which is otherwise unused. The specifier of IP is below the position of the free negative word (in the specifier of NegP) and above the verbal complex, which is in I^0 if V^0-to-I^0 movement has taken place. We can assume that the verbal complex only moves on to Neg^0 if there is an overt negative clitic needing a host.

But we still need to know what causes the subject to move and why it is only the subject that can move. We saw in Chapter 7 that any DP can be fronted in a focus construction; there is no limitation to subjects as we see in the negative constructions here. Also, we have seen that negative indefinite pronouns are fronted regardless of their grammatical function. Both focus movement and the fronting of negative indefinite pronouns are clearly $\bar{A}$-movement, distinct from the subject fronting seen in these negative constructions. This movement is reminiscent of the analysis that subjects in SVO languages raise from the specifier of VP to the specifier of IP under the Internal Subject Hypothesis. Perhaps for Zapotec, such movement only occurs in negative clauses. We need to determine whether the subject moves to the specifier of IP in all negative clauses, or only when Neg^0 is non-overt. This question is somewhat difficult to decide. In (258f) the subject could also be in the specifier of IP position, but the movement of the verbal complex to Neg^0 obscures the fronting. Likewise, since the negative clitic is normally present on the verb in QZ, movement to Neg^0 is required for negative clauses. Any fronting of the subject to the specifier of IP in these QZ negative clauses would therefore not be visible in the surface order. The one place where we can find empirical evidence is in QZ sentences using the negative adverbial *gart* "still no" in Neg^0. Though only a limited number of examples are

available, it is clear in (259) that the subject has not moved in front of the verb to the specifier of IP.

(259) a. *Por fabor gu-cheree x-kwiich noo g-an* CARTA 7
for favor IMP-return POS-paper 1EX P-know
"Please answer my letter so I can know
pa gos r-zak de ne gart chiid de.
what thing H-happen 2 that still.no P/come 2
what happened to you that you still haven't come."

b. *Jasint nunk gart ts-a Jasint Pwert.* BENIT 29
Jacinto never still.no P-go Jacinto Salina.Cruz
"As for Jacinto, he had never gone to Salina Cruz."

We can therefore assume that movement of the subject to the specifier of IP only takes place in IPs selected by the null Neg^0 in Mitla.

We might simply say that the specifier of IP is an A-position (argument-position) which the subject moves to under selection by Neg^0. I assume that the specifier of IP would have to be an A-position rather than an $\bar{A}$-position to properly restrict its occupants to subjects only.[17] We could then assume descriptively that the null Neg^0 in Mitla would select an IP with an "activated" A-specifier of IP (which otherwise must be empty) so that these negative clauses would have subjects in the specifier of IP at S-structure. What forces the movement of the subject from the specifier of VP to the specifier of IP is still a question. In English, such movement is required by Case theory. In Zapotec, the subject receives Case in the specifier of VP position, however, so Case theory cannot be involved.

It seems better to tie this movement to the special characteristics of the null Neg^0 itself. The null Neg^0 in Mitla was already seen to specially select an IP that was headed by either Unreal or Potential Mood. Further, the null Neg^0 needs to be licensed by a free negative word in the specifier of NegP. This null Neg^0 could have two licensing requirements. In addition to the requirement that it cooccur with a free negative word in the specifier of NegP, we could assume that it must also minimally

[17]Diesing (1990) argues that the specifier of IP must be an A-position that subjects only can move to in certain constructions in Yiddish.

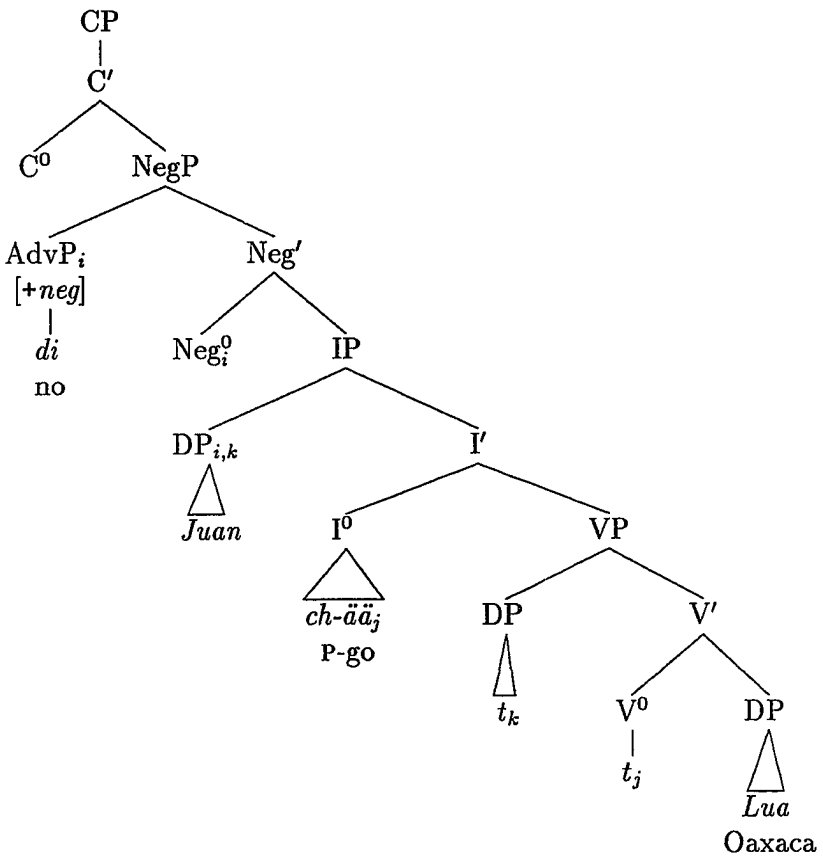
govern[18] the subject of the clause. Thus, the A-specifier of IP would be "activated" and A-movement of the subject would be forced if and only if Neg^0 is not overtly filled.

The term "activated" is useful as a descriptive metaphor, but we need to formalize the notion further. Even though it would be completely invisible morphologically, we could assume that this "activation" is really forced agreement between the null Neg^0, its specifier, and the specifier of IP that it minimally governs. Such an analysis is a straightforward extension of the proposal for agreement in COMP by Rizzi (1990:51–60) to account for such phenomena as the alternation between *que* and *qui* in French questions. Just as C^0 must simultaneously agree with its specifier and with the specifier of IP under Rizzi's analysis, the null Neg^0 in Mitla must simultaneously agree with a free negative word in its specifier (via Specifier-head agreement) and with the subject in the specifier of IP (via the minimal government relationship).

[18]No adverbials or other adjoined elements may intervene between the free negative word, the null Neg^0, and the subject.

The S-structure tree for example (258a) is given in (260) to clarify the proposed analysis. The free negative word *di* is base generated in the specifier of NegP position, licensing a null Neg^0 and thus meeting the Negative Criterion. This null Neg^0 both meets the Specifier-head agreement relationship with its specifier *di* and "agrees" with the specifier of the selected IP, which the subject DP *Juan* has fronted to, in the required minimal government relationship. V^0-to-I^0 movement has also taken place, but I^0-to-Neg^0 movement is not motivated since it is not necessary to provide a host for a negative clitic in Neg^0.

(260) S-structure



9.2.2.2 Negative Quantifiers and the Negative Criterion

Mitla also has two types of negative quantifiers which can be used to negate a nominal phrase or an adverbial. The first of these is *et* "not". The entire phrase negated by *et* appears at the front of the clause, just as we saw for the negative indefinite pronouns. I assume that this negative phrase occupies the specifier of NegP, since it cannot cooccur with any of the other negative words or negative indefinite pronouns. In this case, the negative clitic *-di*, analyzed to be in Neg^0, cliticizes to the end of the fronted phrase, as shown in (261a). This negative constituent may also be the head of a small clause itself with a copular reading (i.e. it may serve as the predicate of a clause where no verb is present). In this case the subject clitic attaches to the fronted phrase as well, after the negative marker, as (261b) shows.

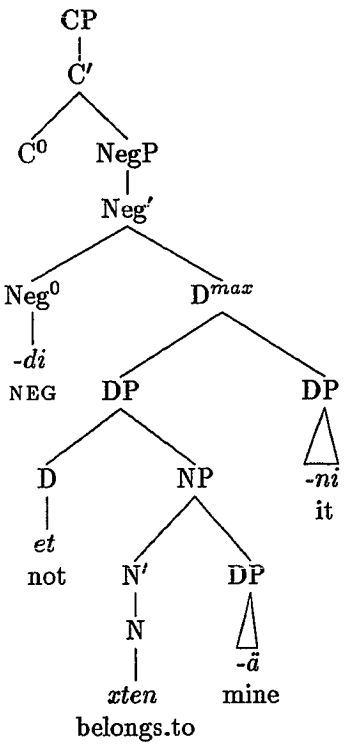
(261) a. *Et ro'c-di s-ää-ni.*
not there-NEG C-go-3RD
"It wasn't there that he went."

b. *Et xten-ä-di-ni.*
not belongs.to-1EX-NEG-3RD
"It isn't mine."

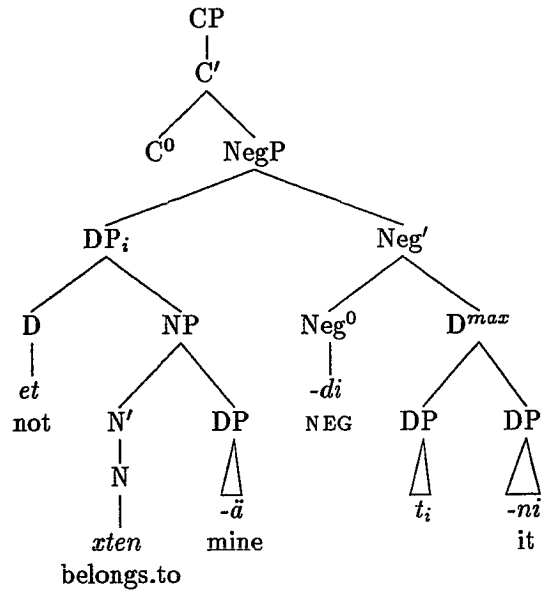
These sentences can thus also be seen as following from the clause structure and Negative Criterion analysis given above, where *-di* is in Neg^0 at D-structure and the negative phrase marked by *et* must move to the specifier of NegP by S-structure to meet the Negative Criterion. I assume that *et* is like the focus marker (analyzed in Chapter 7) in that it can either fill the D^0 position or adjoin to it.

The structures for (261b) are given in (262), where I assume the X^{max} over XP structure for small clauses argued for by Koopman & Sportiche (1991).[19]

(262) D-structure



S-structure

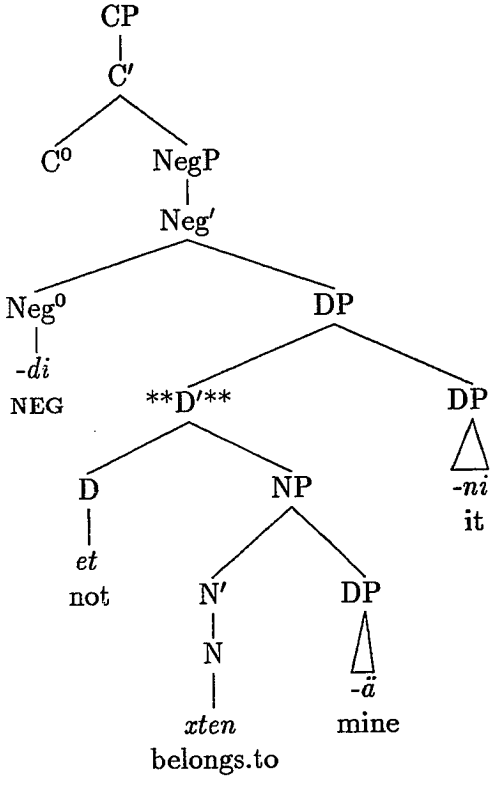


[19]I show the subject as a right-specifier of D^{max} in (262) since NP and DP (or D^{max}) have their specifiers on the right, as we will see in Chapter 12.

An empty IP projection could also be assumed to be present, though not shown in (262).

Note that due to the movement required by the Negative Criterion of the portion *et xten-ä*, which does not include the subject clitic, the more usual assumption that the subject of the small clause DP is simply the specifier of DP cannot be used. In that case, *et xten-ä* would be a D′ which can neither move nor occupy a specifier position, as shown in (263).

(263)



The second type of negative quantifier likewise follows the pattern shown by *et*. This involves the use of the negative indefinite pronouns *rut* and *xhet* as negative quantifiers meaning "none" or "not one" which agree in animacy or humanness with the nominal they are quantifying. The examples in (264) show again that the negated phrase is fronted and the negative clitic has attached to the end of the nominal phrase.

(264) a. *Rut gunaa-di huij.*
none woman-NEG C-come
"No women came."

b. *Xhet bisia-yas-di bi-dxäjl.*
none bean-black-NEG C-be.found
"No black beans were found."

Also, like the case of *et* used as a copular clause without a verb, *ruti* (which may be *rut+di*) is used as a negative existential with human subjects and *xheti* (probably *xhet+di*) is used as a negative existential with inanimate subjects. Examples are given in (265), showing the negative existential fronted in its only allowed position.

(265) a. *Ruti bejn lo nezyuj.*
not.exist people face street
"There aren't any people on the street."

b. *Xheti guii roliză.*
not.exist flowers house
"There aren't any flowers in the house."

Assuming that *rut* and *xhet* have the category D^0 allows a comprehensive account of their use as negative indefinite pronouns, negative quantifiers, and negative existentials. In the case of the negative pronouns, they are simply determiners which do not take a complement (see Postal 1969). As negative quantifiers they also fill the head of DP position, as do all other quantifiers in Zapotec, taking an NP complement. The requirement that the quantifier and NP must agree in humanness is accounted for by the head D^0 selecting the appropriate complement. The negative existentials *ruti* and *xheti* could also be included under this unitary analysis if we break them down into their component parts of *rut+di* and *zhet+di*. We would then assume a derivation

for the examples in (265) parallel to (262), where *-di* is in Neg^0 and the head D^0 does not take a complement but does have a subject.[20] Looking at this case alone, the movement could either move $D^0_{[+neg]}$ to Neg^0 via head movement or move the $DP_{[+neg]}$ to the specifier of NegP. The second option proves the most viable overall, since we will see in section 11.2 that head movement is only assumed for clauses with [+V] predicates. The required agreement in humanness between the head D^0 and its S-structure subject is accounted for through Specifier-head agreement.[21]

9.2.2.3 The Interpretation of Constituent Negation as Clausal Negation

We still need to consider how the instances of constituent negation are interpreted, especially where a negative quantifier takes an NP complement. If the arguments in Ladusaw (1992, 1993) and the analysis presented here are correct, then all the clauses in Mitla and QZ which have any negative word at all count as clausal negation. Since there is a NegP projection, clausal negation is expressed.

What, then, is the difference in interpretation between clauses with negation only expressed on the head Neg^0 or negation expressed by a free negative word versus the cases where there is a negative indefinite pronoun or a full negative DP in the specifier of NegP? As Ladusaw (1993) suggests, the difference is simply that in the case where a negative DP occupies the specifier of NegP position, that DP forms the restriction for the negative operator, whereas with only negative words or heads there is no restriction on the negative operator (at least none that is codified by the

[20]It would also be possible to assume that *rut* and *xhet* are unaccusative heads in that they select only a Theme θ-role and no Agent θ-role. As such, they would select a complement but no subject, with movement to the subject position in the specifier of D^{max} subsequently occurring. From that point, the derivation could follow similarly to (262).

[21]Mitla also has a negative existential verb, *yu'-di*, which is very similar to the QZ form *yët*. In the Mitla case it is clear that *-di* is the negative clitic because *yu'* is found alone when the negative clitic has attached to the constituent in the specifier of NegP. (See example (267c) in the next section.) Further, *yu'* can be used as an existential in non-negative contexts, as shown in (i).

(i) *Yu' xob nen rojb.*
exist corn in container
"There is corn in the container."

sentence structure). To illustrate this, the interpretation for an example of each type of sentence (repeated from earlier) is shown in (266).

(266) a. *Rut bi-ääd-di lo guejdx.* (=253a)
nobody C-come-NEG to village
"Nobody came to the village."
Interpretation: $(\forall x{:}body'(x)) \neg [came.to.village'(x)]$

b. *Di Juan ch-ää Lua.* (=255a)
no Juan P-go Oaxaca
"Juan will not go to Oaxaca."
Interpretation: $\neg$ [*go.to.Oaxaca'(Juan)*]

We could still question whether the fact that the negative marker *-di* attaches to the fronted constituent rather than to the verb indicates a difference in the scope of the negation.[22] Some relevant examples are given in (267), showing that we do get a sense of negation of the fronted constituent only, since negation is not marked on the verb.[23]

(267) a. *Et ro'c-di s-ää-ni.* (=261a)
not there-NEG C-go-3RD
"It wasn't there that he went."

b. *Xhet bisia-yas-di bi-dxäjl.* (=264b)
none bean-black-NEG C-be.found
"No black beans were found."

[22]Relevant to the issue of the scope of negation is the fact that Isthmus Zapotec also has a negative marker *kadi* that is used to negate a constituent. It is described as narrow scope negation. *Kadi* does not cooccur with *ke*, and both *kadi* and the constituent it is negating must be fronted to the specifier of NegP, as shown in (i).

(i) *Kadi n-ga b-išni-be.*
not it-Dem C-do-3h
"It wasn't **that** that s/he did." or "S/he didn't do **that**."

Kadi is also used to signify narrow scope in contrastive situations, either where the contrast is included in the sentence or known by context.

(ii) *Kadi yannaçi b-eda-be sinuke nege.*
not today C-come-3h but.rather yesterday
"S/he didn't come today, but rather yesterday."

The interpretation given should fit these examples, too.

[23](267a) with *et* carries the presupposition that he went somewhere, whereas (267b) does not presuppose that something was found (Carol Stubblefield (p.c.)). I do not have an account for this difference.

c. *Xhet-lii-di* *yu'* *roguidoo.*
nothing-absolutely-NEG exist plaza
"There is absolutely nothing in the plaza."

However, the same interpretation strategy seems to give the correct readings for these sentences. (267a) would mean: restricting yourself to considering 'there', it is not the case that he went 'there'. Similarly, in (267b–c) the fact that the clitic *-di* is attached to the fronted constituent rather than to the verb does not change the interpretation; (267b) still means:

$$(\forall x{:}bean'(x) \wedge black'(x)) \neg [be.found'(x)]$$

The fact that the negative clitic attaches to the fronted constituent rather than to the verb might instead be a prosodic phenomenon. The negative clitic may be a combination of clitic types (Klavans 1985): it normally attaches to the raised verbal head unless the constituent in its specifier position contains "enough material" (e.g. a branching structure). In this case, it attaches to the end of the second constituent (=the end of the phrase in the specifier of NegP).

Therefore, constituent negation is equivalent to clausal negation in these languages where fronting to the specifier of NegP is required.[24] The interpretation that negation is a semantic operator with the familiar tripartite structure, where the XP in the specifier of NegP fills the restriction of the operator and the complement of Neg^0 is the nuclear scope, accounts for the various configurations (Ladusaw 1993).

We have seen, then, that the Zapotecan languages are Negative Concord languages, expressing only a single instance of negation within a clause. This is accounted for by positing a NegP projection in the clause structure above IP but below CP. The negative clitic is analyzed as the head Neg^0 (with the negative existential verb *yët* or the negative adverbial *gart* alternatively occupying the head position in

[24]This fronting of negative phrases is distinct from the normal focus movement which was the topic of Chapter 7. A negative phrase may not contain the focus marker. Further delineation of the interaction between negative fronting, focus movement, and *wh*-movement can be found in Chapter 10.

QZ). The negative indefinite pronouns are required to move to the specifier of NegP by S-structure by the Negative Criterion, fashioned after the *Wh*-Criterion (May 1985, Rizzi 1991). This analysis was shown to account for the limited negation system available in QZ and easily extended to the more complete system of Mitla Zapotec.

9.3 The Negation Constructions and Verb Movement versus Subject Adjunction

The clause structure analysis of the negative constructions presented in the previous section assumed the movement of V^0-to-I^0-to-Neg^0 in cases where the negative clitic is overt. We saw that this coherently accounted for both the fronting of the negative phrases and the fact that negation is normally marked on the verb (especially in QZ). This head movement of the verb provides important evidence for the choice between the Verb Movement and Subject Adjunction proposals for obtaining VSO word order. The next subsections will clarify the Verb Movement account of the negation constructions and then contrast it with the account necessary under the Subject Adjunction hypothesis.

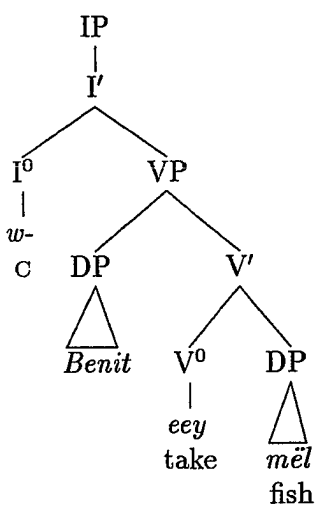
We saw in Chapter 6 that the two proposals for obtaining VSO word order are distinct in terms of both the clause structure and the movement that is proposed. We will see here that the main difference empirically between the proposals is how they account for both the Aspect marking and negation surfacing on the verb.

9.3.1 The Verb Movement Account

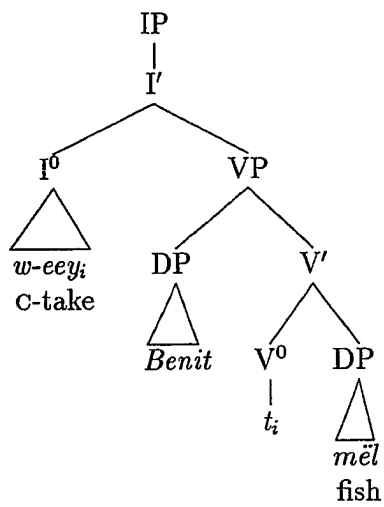
The Verb Movement proposal for VSO clause structure assumes that the subject occupies the (left) specifier of VP, and head movement of V^0-to-I^0 occurs over the subject to produce the correct surface order. The fact that the Aspect marking surfaces on the verb is accounted for via this syntactic head movement as well. (269) illustrates this account of the simple sentence in (268).

(268) *W-eey Benit mël.* BENIT 4
C-take Benito fish
"Benito took a fish."

(269) D-structure



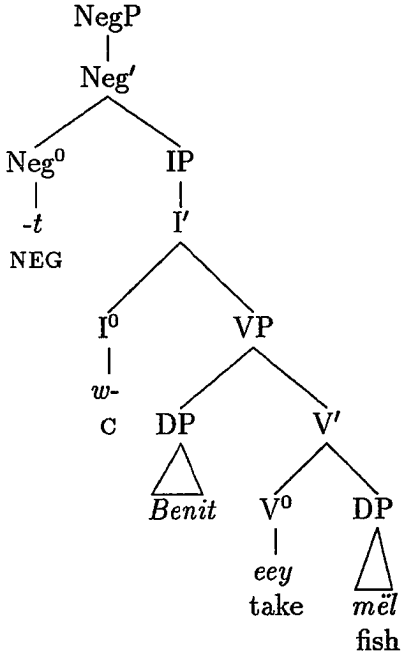
S-structure



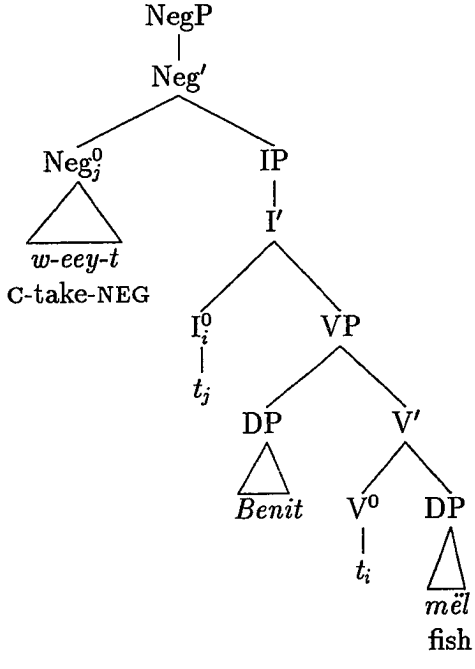
In a simple negated clause, as in (270), we only need to assume that the negative clitic heads its own projection above IP (as in the account given in the last section), and that head movement occurs one step higher. This movement from V^0-to-I^0-to-Neg^0 also accounts for the negative marker surfacing on the verb, as shown in (271).

(270) *W-eey-t* *Benit* *mël.*
C-take-NEG Benito fish
"Benito didn't take a fish."

(271) D-structure



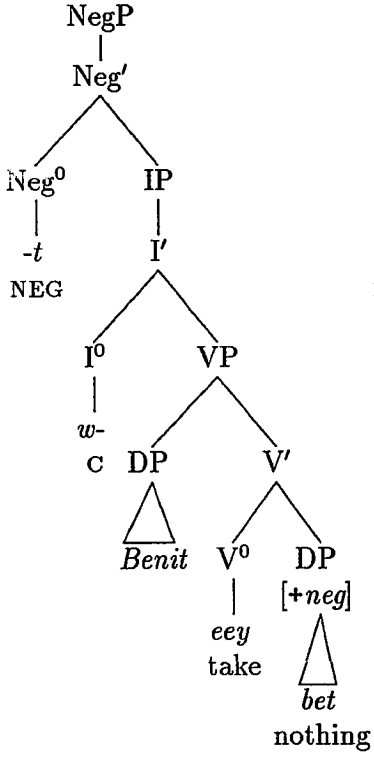
S-structure



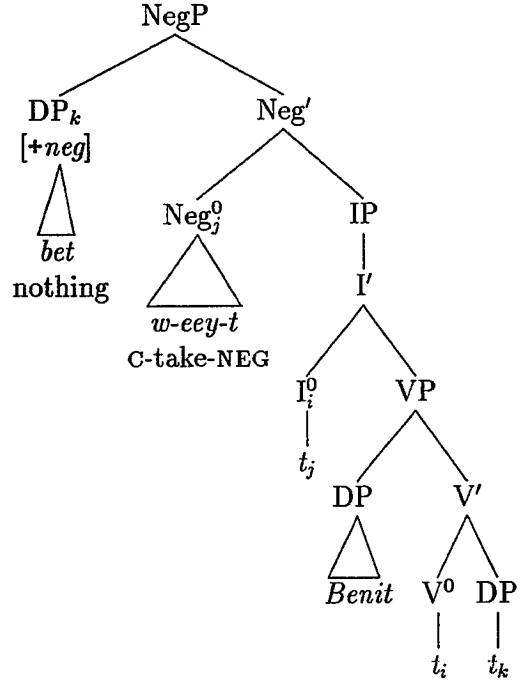
We saw that this NegP projection accounts for the licensing and cooccurrence restrictions between the various negative elements. For example, the same head movement of the verb through Infl to Neg^0 occurs when a negative indefinite pronoun fronts to the specifier of NegP to meet the requirements of the Negative Criterion, as shown in (273) for example (272).

(272) *Bet* *w-eey-t* *Benit* __.
nothing C-take-NEG Benito
"Benito didn't take anything."

(273) D-structure



S-structure



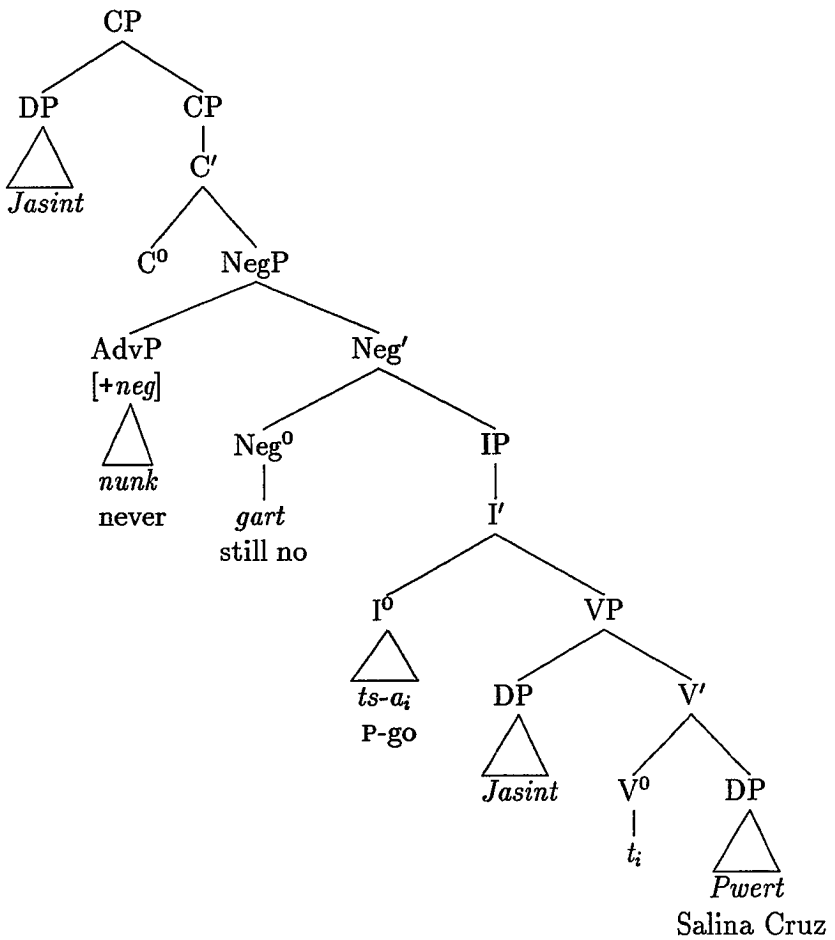
The Verb Movement account thus provides a coherent account for both negative and affirmative clauses. Head movement of the verb to each of the functional heads that surface attached to the verb is both motivated by the attachment[25] and accounts

[25]See section 6.2.1 for more detailed discussion of the motivation for Verb Movement.

for the surface form. Such head movement does not take place when it is not needed to host a morphologically dependent form (Rizzi & Roberts 1989). For example, the verb moves only to I^0 and not on to Neg^0 when Neg^0 is filled by *gart* "still.no", as in (274). (This must also be the case when there is a null Neg^0 in Mitla, or the wrong surface order would be obtained.) The S-structure for (274) is given in (275), showing that only V^0-to-I^0 movement occurs; *gart* is base generated in Neg^0 and *nunk* is base generated in the specifier of NegP. The initial *Jasint* is a topic phrase.

(274) *Jasint nunk gart ts-a Jasint Pwert.* BENIT 29
Jacinto never still.no P-go Jacinto Salina.Cruz
"As for Jacinto, he had never gone to Salina Cruz."

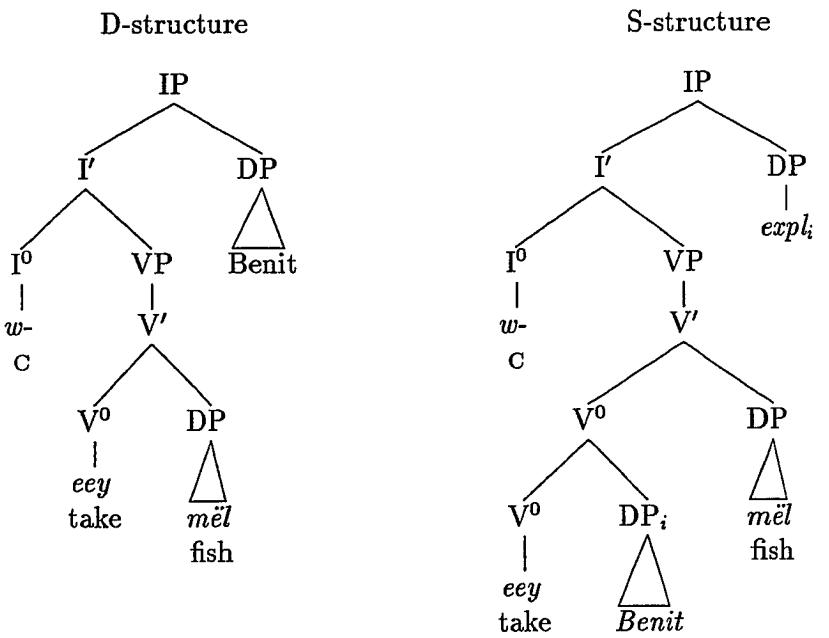
(275)



9.3.2 The Subject Adjunction Account

What is necessary under the Subject Adjunction proposal to account for the same facts? The Subject Adjunction proposal for VSO clause structure assumes that the subject begins in the specifier of IP and then right-adjoins to the verb to produce the correct surface order, leaving behind a coindexed expletive *pro*. This is illustrated in (276) for the simple declarative sentence in (268).

(276)

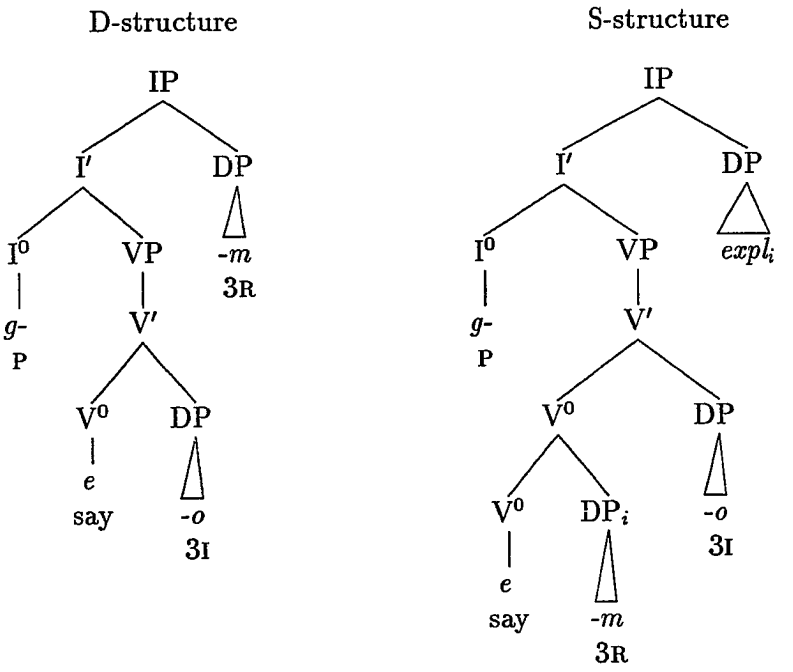


Recall that the main difference between the two proposals is in how Aspect marking and negation end up being realized on the verb. In a simple clause like that diagrammed in (276), we could appeal to the clitic nature of the Aspect markers to explain the fact that they surface attached to the predicate. Such an analysis is attractive (and is adopted in this work) to account for the distribution of the clitic pronouns which fill their appropriate syntactic argument position, as do the free pronouns, but simply attach to whatever is in front of them due to their dependent

phonological status (see section 3.3). Thus, a sentence like (277), which surfaces as a single word, would have the syntactic structure shown in (278) under the Subject Adjunction hypothesis, with the attachment being left to the phonology.

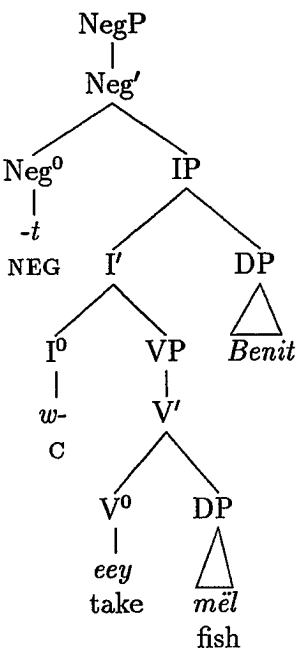
(277) *G-e-m-o.*
P-say-3R-3I
"One says it."

(278)

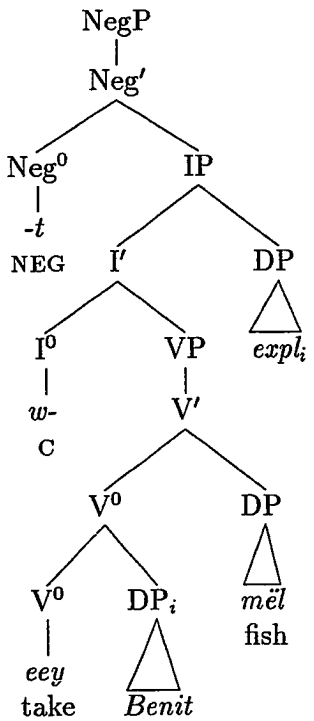


In a negative clause, however, we cannot rely on phonological attachment to account for the surface position of the negative marker. In order to maintain the basic analysis of a NegP projection above IP with the obligatory fronting accounted for by the Specifier-head agreement required by the Negative Criterion, the negative marker *-t* would have to be in Neg^0 at S-structure. Subsequent lowering of at least the negative marker (and perhaps also the Aspect marker) onto V^0, via Affix Hopping would be required, as shown in (279) for the simple negative clause in (270).

(279) D-structure

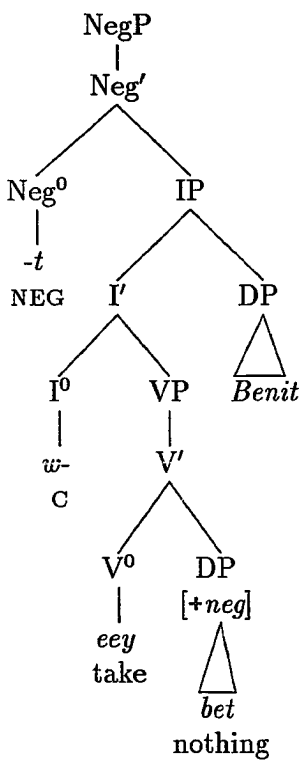


S-structure before lowering

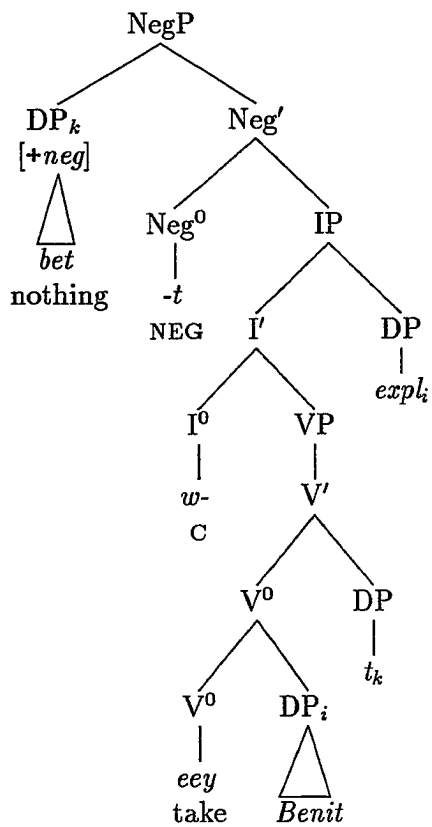


We saw that the NegP projection was especially needed to account for the obligatory fronting of negative indefinite pronouns via Specifier-head agreement with the negative marker in Neg^0. The Subject Adjunction account of example (272) is given in (280), showing that lowering of the negative marker to surface attached to the right of the verb is again necessary.

(280) D-structure



S-structure before lowering



Thus, in addition to the lowering of the subject to adjoin to the verb, lowering of the negative marker to surface on the verb is also required under the Subject Adjunction proposal. This adds further unattractiveness to the use of the Subject Adjunction proposal for QZ, since lowering is in general disfavored. I do not seriously consider

the possibility of applying Subject Adjunction and then using Verb Movement rather than Affix Hopping to account for the Aspect marking and negation surfacing on the verb. Though this would apparently be workable[26], it offers no advantages over the simpler and theoretically superior account of Verb Movement alone.

At this point, I adopt the Verb Movement proposal for obtaining VSO word order in QZ. The overall clause structure will be further investigated and modified in the next chapter. Part III then turns explicitly to the structure of nominals and other phrase level constituents. Though Chapters 10, 11, and 12 present some further challenges to the Verb Movement proposal, alternative accounts are found for the problematic constructions. The Verb Movement proposal thus proves to be workable for QZ, and most likely also for the other Zapotecan languages.

[26]To make such a proposal workable, only the verb itself, and not the adjoined structure of verb and subject, would have to undergo head movement to I^0 and then to Neg^0. This is shown by the fact that the negative marker surfaces on the verb and not after the subject in regular clauses (as in (270)). In contrast, in incorporation structures where the object has incorporated into the verb (and is assumed to be adjoined to the verb via head movement following Baker 1988), the negative marker surfaces after the object, as shown in (i).

(i) *G-ix-nii-t de lo pis.* BATHROOM 18
P-put-foot-NEG 2 face floor
"Don't step on the floor."

In the incorporation structures, then, the verb+object constituent would undergo head movement to I^0 and then to Neg^0. This contrast falls out naturally under the Verb Movement proposal alone, but an account for this contrast would be needed under a proposal which combined Subject Adjunction plus Verb Movement.

Chapter 10

Interaction Between the Various Ā-Constructions

We have seen in Chapters 7–9 that focus phrases, *wh*-phrases, and negative phrases are fronted in QZ. This chapter looks at the interaction between these constructions to determine the relative positions of the fronted phrases and the cooccurrence restrictions between them. This information is crucial to determining the correct overall clause structure, since it allows us to pinpoint exactly how many functional projections are needed and the relative ordering between them.

In section 10.1 we discover that questions and focus constructions may not cooccur in a single clause. This leads to the proposal that fronted *wh*-phrases and focus phrases occupy the same position. I assume that this shared position is simply adjoined directly below C^0 rather than being the specifier of a Focus phrase. The crucial relationship is with the C^0 which minimally governs the *wh*-phrase or focus phrase, not with any following head. In contrast, section 10.2 shows that questions may cooccur with the fronting of negative phrases. The question word is always first, demonstrating that the projection containing the negative phrase must be below the adjoined position for the *wh*-phrase. The same ordering is shown to hold between focus phrases and negative phrases in section 10.3, confirming the analysis that fronted *wh*-phrases and focus phrases occupy the same position above the negative projection.

Section 10.4 looks at the interaction between clausal coordination and negation. I conclude that it is preferable to propose the presence of a Polarity Phrase in every case, rather than allowing coordination between IP and NegP. The overall clause structure proposal, which is the culmination of this part of the dissertation, is then summarized in section 10.5.

10.1 Questions and Focus Constructions May Not Cooccur in a Clause

There are no examples in the QZ texts (Regnier 1989a) of questions which contain a separate focused phrase. (281)–(282) show the results of checking with my language consultant whether *wh*-questions and focus constructions can interact in matrix or embedded clauses. The (a) examples are the text questions without a separate focused phrase and the remaining examples demonstrate that a focus phrase may not occur either before or after the *wh*-phrase. Note that (282) shows that the presence or absence of the focus marker makes no difference.

(281) a. *Pa go r-laa de.* GRING 34
what thing H-do 2
"What are you doing?"

b. **Pa go de r-laa.*
what thing 2 H-do
(What are you doing?)

c. **De pa go r-laa.*
2 what thing H-do
(What are you doing?)

(282) a. *N-an-t men pa nëz z-a Biki.* AGOSTO 59
S-know-NEG 3RD what road PR-go Virginia
"They don't know which way Virginia is going."

b. **N-an-t men pa nëz la Biki z-a.*
S-know-NEG 3RD what road FM Virginia PR-go
(They don't know which way Virginia is going.)

c. **N-an-t men pa nëz Biki z-a.*
S-know-NEG 3RD what road Virginia PR-go
(They don't know which way Virginia is going.)

d. **N-an-t men la Biki pa nëz z-a.*
S-know-NEG 3RD FM Virginia what road PR-go
(They don't know which way Virginia is going.)

e. **N-an-t men Biki pa nëz z-a.*
S-know-NEG 3RD Virginia what road PR-go
(They don't know which way Virginia is going.)

It might be reasoned that the lack of cooccurrence between a focus phrase and a *wh*-phrase is due to the semantic fact that the *wh*-phrase is in focus in a question. This does not give a complete account, however, since fronting of a focus phrase may not occur even in a Yes/No question, where there is no fronted *wh*-phrase. This is demonstrated in (283)–(286), where again the (a) example is the text question. Different types of nominal phrases are attempted to be focused, but cooccurrence is not allowed in any case between a question and a separate focused phrase.

(283) a. *R-e Javyer: Pe w-u maa nii de.* SAMUEL 28
H-say Javier Q C-eat 3A foot 2
"Javier asked, 'Did the snake eat your foot?'"

b. **R-e Javyer: Pe maa w-u nii de.*
H-say Javier Q 3A C-eat foot 2
(Javier asked, 'Did the snake eat your foot?')

c. **R-e Javyer: Maa pe w-u nii de.*
H-say Javier 3A Q C-eat foot 2
(Javier asked, 'Did the snake eat your foot?')

d. **R-e Javyer: Pe y-rup nii de w-u maa.*
H-say Javier Q P-two foot 2 C-eat 3A
(Javier asked, 'Your two feet did the snake eat?')

e. **R-e Javyer: Y-rup nii de pe w-u maa.*
H-say Javier P-two foot 2 Q C-eat 3A
(Javier asked, 'Your two feet did the snake eat?')

(284) a. *Pe r-laan de s-aa de ts-a-b Estados Unidos.* HORTENS 16
Q H-want 2 F-walk 2 P-go-1I States United
"Do you want to go together to the United States?"

b. **Pe Estados Unidos r-laan de s-aa de ts-a-b.*
Q States United H-want 2 F-walk 2 P-go-1I
(To the United States do you want to go together?)

c. **Estados Unidos pe r-laan de s-aa de ts-a-b.*
States United Q H-want 2 F-walk 2 P-go-1I
(To the United States do you want to go together?)

(285) a. *N-a men g-an pe r-laan-t noo* HORTENS 3
S-say 3RD P-know Q H-want-NEG 1EX
"She asked if I didn't want
ts-a noo y-laa noo dxiin Estados Unidos.
P-go 1EX P-do 1EX work States United
to go and work in the United States."

b. **N-a men g-an pe noo r-laan-t ...*
S-say 3RD P-know Q 1EX H-want-NEG
(She asked if I didn't want ...)

c. **N-a men g-an noo pe r-laan-t ...*
S-say 3RD P-know 1EX Q H-want-NEG
(She asked if I didn't want ...)

(286) a. *G-an pe s-na Susan g-aa Susan lyu* TRIPTOQ 8A
P-know Q F-want Susan P-lie.down Susan land
"We'll see if Susan wants to lie down on the ground
o g-aa Susan lo daa.
or P-lie.down Susan face petate
or lie down on a petate."

b. **G-an pe la Susan s-na g-aa Susan lyu ...*
P-know Q FM Susan F-want P-lie.down Susan land
(We'll see if Susan wants to lie down on the ground ...)

c. **G-an pe Susan s-na g-aa Susan lyu ...*
P-know Q Susan F-want P-lie.down Susan land
(We'll see if Susan wants to lie down on the ground ...)

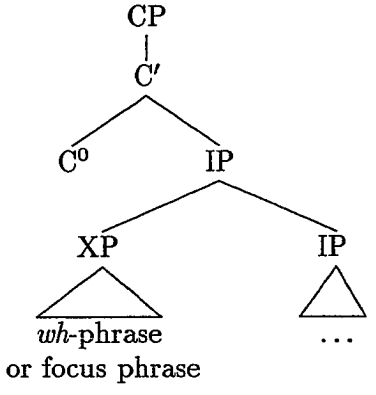
d. **G-an la Susan pe s-na g-aa Susan lyu ...*
P-know FM Susan Q F-want P-lie.down Susan land
(We'll see if Susan wants to lie down on the ground ...)

c. **G-an Susan pe s-na g-aa Susan lyu ...*
P-know Susan Q F-want P-lie.down Susan land
(We'll see if Susan wants to lie down on the ground ...)

This data reveals that a focus phrase cannot be present in any type of question. If we posit that *wh*-phrases and focus phrases occupy the same position, we have an account for their lack of cooccurrence in *wh*-questions. We saw in Chapter 7 that the position for focused phrases is directly after the complementizer in embedded clauses (see (168c), section 7.2.1). Since Chapter 8 gave evidence that the Yes/No question marker, *pe*, acts as a complementizer in embedded clauses and that the

wh-phrases which cooccur with *pe* in *wh*-questions must directly follow it, we can conclude that the position for both focus phrases and *wh*-phrases is directly below the complementizer C^0. Further, we have seen no evidence leading to the positing of a full projection below C^0 for either the *wh*-phrases or the focus phrases to reside. The focus marker was shown to be a type of determiner which precedes a Discourse-linked phrase. It is not a complementizer nor is it the head of a Focus phrase. Similarly, the *wh*-word *zh* seems to be best analyzed as a Discourse-linked *wh*-demonstrative. If a Focus phrase were posited, the head Foc^0 would always be null. Further, the crucial relationship in these constructions is a minimal government relationship between the C^0 and the fronted phrase, not a Specifier-head relationship. I therefore assume that the fronted phrase is simply adjoined to IP (or whatever phrase is immediately below CP in the clause), as shown in (287).

(287)



To restrict the occurrence of focus phrases in Yes/No questions we can appeal to the fact that the focus phrase must be in a minimal government relationship with a C^0 that agrees with it in its question feature and its focus feature (i.e. [$-q$,$+foc$]).

Further, though Chapter 4 showed that both long distance focusing and long distance *wh*-movement are possible (with an example of each type given in (288)), it is not possible to focus out of an embedded question (289a), nor to move a *wh*-phrase out of an embedded focus structure (289b).

(288) a. *Lo Jose, r-e Mblid y-dee men/Mblid liber* __.
face Jose H-say Mary P-give 3RD/Mary book
"To Jose, Mary said she will give the book."

b. *Txu n-a Jose wii noo* __.
who S-say Jose C/see 1EX
"Who does Jose say that I saw?"

(289) a. **La Biki, n-an men pa nëz z-a* __ __.
FM Virginia S-know 3RD what road PR-go
(Virginia, they know which way she is going.)

b. **Pa nëz zhe n-a xe-mgyeey noo*
what road WH N-say POS-man 1EX
(What road did my husband say
xuz Dolf y-nëëz __ __ *ne ts-a men den.*
father Rodolfo P-take that P-go 3RD ranch
Rodolfo's father should take to go to the ranch?)

The ungrammaticality of these examples confirms that focus phrases and *wh*-phrases occupy the same position in the clause. These examples also provide evidence that long-distance focus movement and *wh*-movement must apply cyclically. This requirement for cyclic movement reduces to the antecedent government required by the ECP. In (289a), the *wh*-phrase counts as a closer antecedent governor for the trace of the focus phrase. Thus, by Relativized Minimality (Rizzi 1990), antecedent government of the trace of the focus phrase is blocked. Similar reasoning holds for the trace of the *wh*-phrase in (289b).

This cooccurrence restriction between focus phrases and questions does not apply to topics. A topic phrase may be present in the matrix clause of a question, as shown in (290), where the argument which is coreferent with the topic maintains its normal place in the clause. This is predicted by the analysis that topics are adjoined to a

matrix CP; the C^0 in this case may be [+*q*,±*wh*] allowing either a Yes/No question or a *wh*-question following the topic phrase.

(290) *Re Jasint: Laa de naa,* BENIT 23
H-say Jacinto FM 2 DEM
"Jacinto said, 'And you,
pe r-laan de y-laa de dxiin nee.
Q H-want 2 P-do 2 work here
do you want to work here?'"

10.2 Relative Positions of *Wh*-Phrases and Negative Phrases

Unlike the cooccurrence restriction between questions and focus constructions, negative constructions, including the fronting of negative indefinite pronouns, freely occur in questions. The relative order of the two types of fronted phrases is fixed, however, showing that the NegP projection must be below the adjoined position occupied by *wh*-phrases.

This fixed ordering is demonstrated in (291)–(292) for Yes/No questions. (291a) shows a text example containing a simple Yes/No question. As expected, the negative counterpart is formed by simply adding the negative marker to the verb, as shown in (291b). Likewise, (292a) is a negative declarative containing a fronted negative indefinite pronoun. (292b–c) demonstrate that such a negative declarative can be turned into a negative Yes/No question just by adding the question complementizer *pe* to the front of the sentence. In all cases, the negative constituent is below *pe*.

(291) a. *R-e Javyer: Pe w-u maa nii de.* SAMUEL 28
H-say Javier Q C-eat 3A foot 2
"Javier asked, 'Did the snake eat your foot?'"

b. *R-e Javyer: Pe w-u-t maa nii de.*
H-say Javier Q C-eat-NEG 3A foot 2
"Javier asked, 'Didn't the snake eat your foot?'"

(292) a. *Bet wii-t Jose.*
nothing C/see-NEG Jose
"Jose saw nothing." or "Jose didn't see anything."

b. *Pe bet wii-t Jose.*
Q nothing C/see-NEG Jose
"Didn't Jose see anything?"

c. **Bet pe wii-t Jose.*
nothing Q C/see-NEG Jose
(Didn't Jose see anything?)

(293)–(295) demonstrate the interaction between the fronting of negative indefinite pronouns and *wh*-phrases in matrix clauses. (293a–b) and (294a) and (295a) exemplify the individual constructions before combining them. The remaining examples reiterate the facts that both types of phrases are required to front and that the *wh*-phrase must be before (or above) the negative indefinite pronoun.

(293) a. *Txu wii naree.*
who C/see that
"Who saw that?"

b. *Rut wii-t naree.*
nobody C/see-NEG that
"Nobody saw that."

(294) a. *Pa gos wii men.*
what thing C/see 3rd
"What thing did they see?"

b. *Pa gos rut wii-t.*
what thing nobody C/see-NEG
"What thing did nobody see?"

c. **Pa gos wii-t rut.*
what thing C/see-NEG nobody
(What thing did nobody see?)

d. **Rut wii-t pa gos.*
nobody C/see-NEG what thing
(What thing did nobody see?)

e. **Rut pa gos wii-t.*
nobody what thing C/see-NEG
(What thing did nobody see?)

(295) a. *Bet wii-t men.*
nothing C-see-NEG 3rd
"They saw nothing."

b. *Txu bet wii-t.*
who nothing C/see-NEG
"Who saw nothing?"

c. **Txu wii-t bet.*
who C/see-NEG nothing
(Who saw nothing?)

d. **Bet wii-t txu.*
nothing C/see-NEG who
(Who saw nothing?)

e. **Bet txu wii-t.*
nothing who C/see-NEG
(Who saw nothing?)

In sentences with embedded clauses, exemplified below in (297)–(299), we see the expected interactions between negation and *wh*-questions. (296) first reiterates that negative indefinite pronouns must front to be in the proper relationship with a Neg^0. This requires long-distance fronting (with pied-piping and inversion) in some cases. *Wh*-phrases must also front to be in the proper relationship with a $C^0_{[+wh]}$, but no higher.

(296) a. *??Rut wii-t Jose w-gwet Susan kart lo __.*
nobody C/see-NEG Jose C-give Susan letter face
(Jose didn't see Susan give the letter to anybody.)

b. **Lo rut wii-t Jose w-gwet Susan kart __.*
face nobody C/see-NEG Jose C-give Susan letter
(Jose didn't see Susan give the letter to anybody.)

c. *Rut lo wii-t Jose w-gwet Susan kart __.*
nobody face C/see-NEG Jose C-give Susan letter
"Jose didn't see Susan give the letter to anybody."

d. **Wii-t Jose rut lo w-gwet Susan kart __.*
C/see-NEG Jose nobody face C-give Susan letter
(Jose didn't see Susan give the letter to anybody.)

e. *Wii Jose ne rut lo w-gwed-et Susan kart* __.
C/see Jose that nobody face C-give-NEG Susan letter
"Jose saw that Susan didn't give the letter to anybody."

(297)–(299) show the attested interactions between *wh*-questions and negative constructions. (297a) shows that a *wh*-phrase can be fronted out of an embedded negative clause and (297b) demonstrates that a negative indefinite pronoun can be fronted out of an embedded question. This contrasts directly with the inability to focus out of an embedded question, and can be accounted for by the fact that the *wh*-phrase and the negative indefinite pronoun occupy different positions in the clause. Successive cyclic movement is possible in this case.[1] Again this reduces to the ECP requirement for antecedent government filtered by Relativized Minimality (Rizzi 1990). We can assume that adjoined antecedents can interfere with one another, and that Ā-specifiers can interfere with one another, but that an Ā-specifier cannot count as a closer antecedent governor than an adjoined XP (or vice versa). Specifically, focus phrases and *wh*-phrases would get in each other's way (as we saw in (289), but either would be transparent to the negated element in the specifier of NegP (as seen here in (297)).[2]

(297) a. *Pa nëz zhe n-a xe-mgyeey noo*
what road WH S-say POS-man 1EX
"What road did my husband say
rut y-nëëz-t __ __ *ne ts-a men den.*
nobody P-take that P-go 3RD ranch
that nobody should take to go to the ranch?"

b. *Rut lo wii-t Jose g-an txu w-gwet* __ *kart* __.
nobody face C/see-NEG Jose P-know who C-give letter
"Jose didn't see who gave the letter to anybody."

[1]Recall that I am following the segment theory of adjunction (May 1985), whereby the second instance of the maximal projection created by adjunction is not a separate projection, but merely another segment of that projection. This view of adjunction is crucial to enable the negative PP *rut lo* to move out of an embedded NegP to which a *wh*-phrase has adjoined. Under this segment theory of adjunction the NegP created by the adjunction does not constitute a barrier.

[2]This distinction could not be made if the focus phrases and *wh*-phrases were analyzed as occupying the specifier of FocP, since then all the fronted phrases would be in Ā-specifiers.

The examples in (298)–(299) verify that both the licensing requirements for a fronted phrase and the correct ordering between fronted phrases must be met for a sentence to be grammatical. As in matrix clauses, when both a *wh*-phrase and a negative indefinite pronoun are fronted within an embedded clause (299d–e), the *wh*-phrase is first.

(298) a. *Txu wii __ ne rut lo w-gwet-et Susan kart __.*
who C/see that nobody face C-give Susan letter
"Who saw that Susan didn't give the letter to anybody."

b. *Txu rut lo wii-t __ w-gwet Susan kart __.*
who nobody face C/see-NEG C-give Susan letter
"Who didn't see Susan give the letter to anybody."

(299) a. *Rut wii-t __ g-an pa gos r-laa Susan __.*
nobody C/see-NEG P-know what thing H-do Susan
"Nobody saw what Susan did."

b. **Pa gos rut wii-t __ g-an r-laa Susan __.*
what thing nobody C/see-NEG P-know H-do Susan
(Nobody saw what Susan did.)

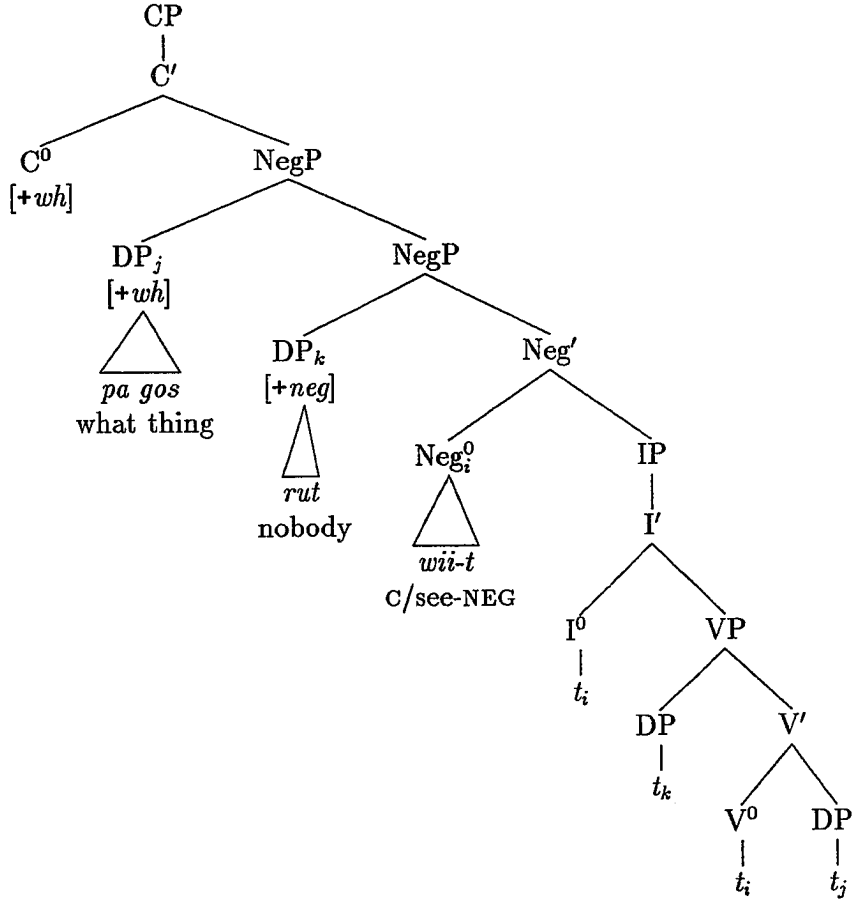
c. **Rut pa gos wii-t __ g-an r-laa Susan __.*
nobody what thing C/see-NEG P-know H-do Susan
(Nobody saw what Susan did.)

d. *Rut wii-t __ g-an txu bet r-laa-t __ __.*
nobody C/see-NEG P-know who nothing H-do-NEG
"Nobody saw who did nothing/anything."

e. **Rut wii-t __ g-an bet txu r-laa-t __ __.*
nobody C/see-NEG P-know nothing who H-do-NEG
(Nobody saw who did nothing/anything.)

The observed interaction between questions and negation can be accounted for by positing that the projection which houses the negative marker and the negative indefinite pronouns at S-structure (NegP here) is below both C^0 and the adjoined position for *wh*-phrases. The S-structure for example (293g) is given here as an illustration. (V^0-to-I^0-to-Neg^0 movement is also shown.)

(300)



10.3 Relative Positions of Focus Phrases and Negative Phrases

In section 10.1 I posited that the position for *wh*-phrases and focus phrases is the same to account for their lack of cooccurrence. Given this, then, the interaction between focus constructions and negation constructions should yield the same results as seen for questions and negation. The available evidence shows that this is indeed the case, though semantic factors clearly limit the contexts where negation and focus may interact in a single clause. Focus constructions may cooccur with negative constructions where the negation is simply marked on the verb, as shown in (301). As expected, the focus phrase occurs before the negative-marked verb. Due to the tendency for scope relations to be read directly from S-structure in Zapotec, examples like (301) would only be used when the focus takes scope over the negation. In this case, the focus is clearly contrastive, giving a reading of 'the soldiers didn't take **Jose**, but they did take others' in (301a).[3] Similarly, (301b) would only be used to express the reading that '**the deer** didn't leave through the door, as the lions did' and (301c) emphasizes that 'the deer didn't leave through **the door**, but escaped through the window.' The normal case where negation has wide scope requires that all non-negative arguments remain in situ with no phrase receiving particular focus.[4]

(301) a. *Le Jose w-eey-t soldad.* SOLDADOS 32A
FM Jose C-take-NEG soldier
"Jose, the soldiers didn't take."

[3]The focus marker is thus more likely to occur in such examples, but it is not required. Its use in (301a) indicates that the others that were taken were previously mentioned by name. In (301c), the alternative route of escape has not been previously noted; instead, the next sentence in the story explains how the deer got out.

[4]We saw in section 9.2.2 that some of the free negative words in Mitla Zapotec require the subject to move to the position immediately following the negative word, in front of the verb. At first glance this movement appears to be a type of focus movement where the negation has scope over the focus phrase. Since it is only the subject that can and must move to this position, however, I analyzed this as A-movement of the subject from the specifier of VP to the specifier of IP position. As such it is not associated with the semantic operator of focus and has no effect on scope relations; since NegP is above IP, negation has wide scope when the subject is in the specifier of IP just as it does when the subject remains in the specifier of VP.

b. *Le mdxin nunk w-ruu-t por ru yuu.* RYENEGU 38A
FM deer never C-leave-NEG by mouth house
"The deer never left through the door."

c. *Por ru yuu nunk w-ruu-t mdxin.* RYENEGU 38B
by mouth house never C-leave-NEG deer
"Through the door the deer never left."

As noted above, the correct context is crucial for examples like those in (301) to be acceptable. Checking with my language consultant whether a focus phrase and a negative indefinite pronoun may both be present yielded the judgements shown in (302). (302a) shows the normal construction without focus. (302b–c) are grammatical but they would not be used in normal situations; such constructions may only be used to signal contrastive emphasis in the proper context. (302d–e) are ungrammatical in any context because the focus phrase cannot appear between the negative indefinite pronoun and the negative-marked verb. The ungrammaticality of (302d–e) is predicted by the analysis that the negative verbal complex is in Neg^0 and the negative indefinite pronoun is in the specifier of NegP at S-structure.

(302) a. *Bet r-laa-t Jose.*
nothing H-do-NEG Jose
"Jose does nothing."

b. *Jose bet r-laa-t.*
Jose nothing H-do-NEG
"**Jose** does nothing."

c. *Le Jose bet r-laa-t.*
FM Jose nothing H-do-NEG
"**Jose** does nothing."

d. **Bet Jose r-laa-t.*
nothing Jose H-do-NEG
(Jose does nothing.)

e. **Bet le Jose r-laa-t.*
nothing FM Jose H-do-NEG
(Jose does nothing.)

As we saw with questions, it is possible to focus out of a negative clause (303a) and to move a negative indefinite pronoun out of a clause containing a focused phrase (303b).

(303) a. *Lo Jose, r-e Mblid bet y-dee-t men/Mblid* __ __.
face Jose H-say Mary nothing P-give-NEG 3RD/Mary
"To Jose, Mary said she will not give anything."

b. *Rut lo wii-t Jose ne Susan w-gwet* __ *kart* __.
nobody face C/see-NEG Jose that Susan C-give letter
"Jose didn't see Susan give the letter to anybody."

All the available data are thus consistent with the analysis that focus phrases move to an adjoined position directly below C^0 and above NegP, just as *wh*-phrases do.

It should also be noted here that topic phrases may occur on negative clauses quite freely, without requiring any special contrastive context. (304) gives some text examples. This is expected by the analysis that topic phrases are simply adjoined to a matrix clause.

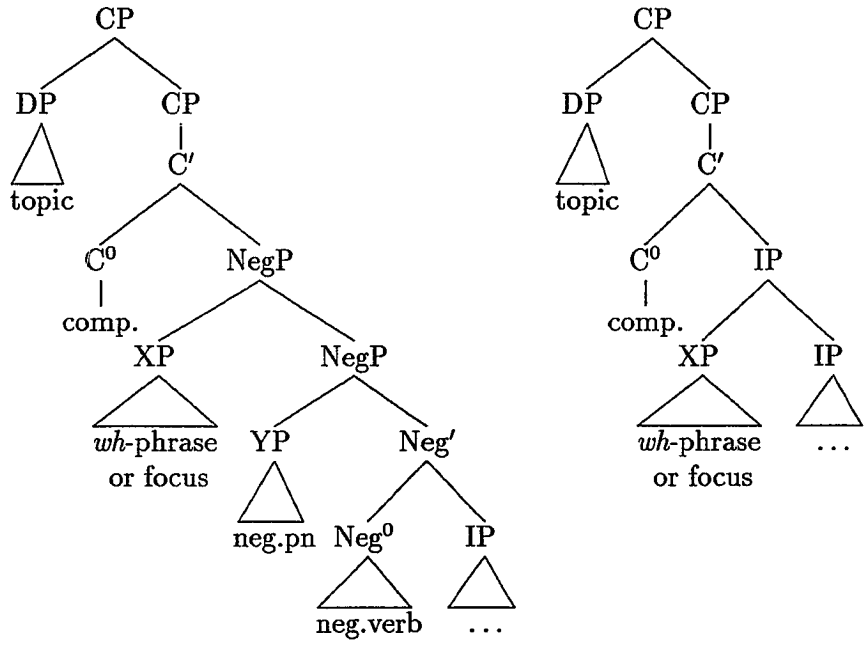
(304) a. *Per noo w-la-leedx-t noo-w.* SNAKHAIR 11
but 1EX C-call-liver-NEG 1EX-3I
"But as for me, I hadn't believed it."

b. *Per men r-on-t men diiz.* SOLDADOS 4
but 3RD H-hear-NEG 3RD word
"But as for the men, they didn't understand Zapotec."

10.4 Polarity Phrase Needed to Account for Clausal Coordination

Up to this point, we have determined that the structure of a negative clause is as shown in (305a) whereas an assertive clause has the simpler structure shown in (305b). I have noted the types of phrases that may occupy each position at S-structure.

(305) a. Negative clause or b. Assertive clause



We now need to evaluate the use of the two different clause structures by considering how they interact under coordination.

QZ has the overt conjunctions *no* "and" and *o* "or". Coordination is attested at many levels. We will only deal with coordination of IP and above here. (See Chapters 11 and 12 for discussion of the possibilities for Across the Board Extraction and examples of lower-level coordination.) In each example in this section the conjuncts are bracketed and the conjunction, if overt, is underlined.

The normal higher-level coordination is between coordinate IPs, as the examples in (306) show. Note that in (306c-d) the coordination is between embedded IPs.

(306) a. *Che-bel r-laan de gaz de, [sob de]* BATHROOM 8
when-if H-want 2 P-bathe 2 F/sit 2
"When you want to bathe, sit
o [*su-li de*].
or F/stand-straight 2
or stand."

b. [*Gu-g-eey ngob y-kaa men gyët*], CWENT 21
IMP-P-take masa P-do 3RD tortilla
"Take masa, so they can make tortillas,
no [*gu-g-eey ngwaan*].
and IMP-P-take poison
and take poison."

c. *S-ak* [*ts-a de lo lbanyil*] BENIT 57
F-become P-go 2 face builder
"It could be that you can go to the builders
o [*ts-a de y-chux de mëlbyuu*].
or P-go 2 P-peel 2 shrimp
or go to peel shrimp."

d. *G-an pe s-na de* [*g-aa de lyu*] TRIPTOQ 8
P-know Q F-want 2 P-lie.down 2 land
"We'll see if you will want to lie down on the ground
o [*g-aa de lo daa*].
or P-lie.down 2 face mat
or on a mat."

Example (307) shows that coordination may also be at the CP level, if the clause meaning "if you bring your car" is analyzed as either being in the specifier of CP position or adjoined to CP in the second conjunct, as I assume is the normal position for adverbial phrases.[5] Coordination of two matrix questions, as shown in (308), is clearly coordination at the CP-level.

(307) [*Ts-a de nii de*] *o* [*bel ts-a-no de koch,* TRIPTOQ 82
P-go 2 foot 2 or if P-go-take 2 car
"You can walk, or if you bring your car,
ts-a de y-deb koch de].
P-go 2 P-one car 2
you can go in your car."

(308) [*Pe-zee w-u maa nii de*] *no* [*pa or w-u maa-w*].
Q-how C-eat 3A foot 2 and what hour C-eat 3A-3I
"How did the snake eat your foot and when did he do it?"

The situation gets more complex when negation is added to one of the conjuncts. The only text example of this is given in (309) (though in the course of the story this particular construction is repeated three times.)

(309) *Laa de y-na pe* [*s-u noo men*] MANSNAKE 43
FM 2 P-say Q F-eat 1EX 3RD
"You say whether I should eat him
o [*g-u-t noo men*].
or P-eat-NEG 1EX 3RD
or I should not eat him."

Example (309) seems to be a clear case of coordination under the embedded complementizer *pe*. The key issue is what category is being coordinated. Under the assumption (illustrated in (305)) that the NegP projection is present only in negative clauses, example (309) is a case of coordination of unlike categories: IP and NegP.

There seem to be three possible solutions to this dilemma. First, we could simply allow coordination of IP and NegP by stipulation. Or, we could question whether there is any difference between IP and NegP and attempt to collapse them back into

[5]Alternatively, assuming that the *if* clause is left-adjoined to IP would allow this example to also be analyzed as IP coordination.

one projection. The third possibility is to posit that there is always a projection present in all clauses, such as a Polarity Phrase (similar to the proposal in Laka 1990), that would encompass NegP and allow the coordination in (309) to be at the Polarity Phrase level. Each of these alternatives will be considered in turn.

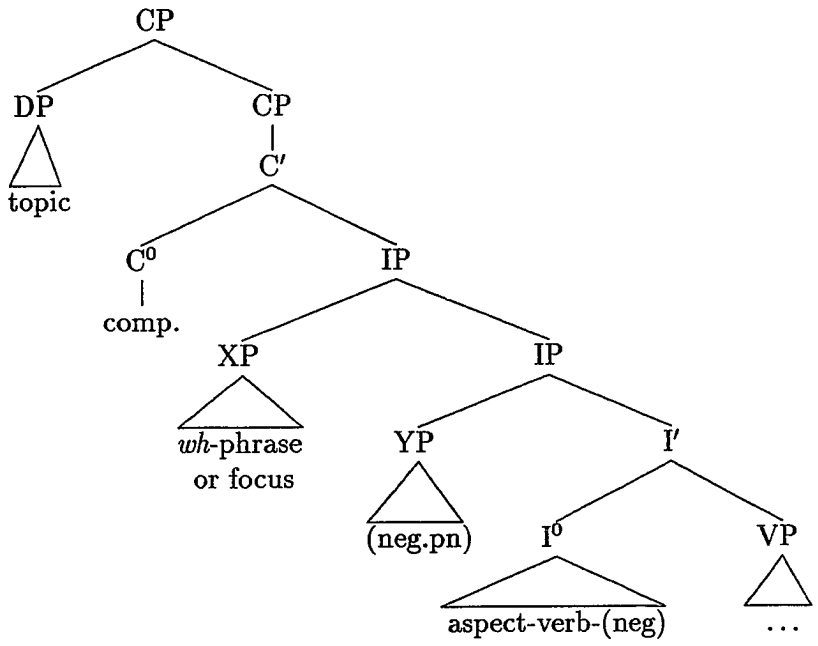
The first solution of simply stipulating that IP and NegP can coordinate is the least satisfactory theoretically.[6] Though there are known cases of coordination of unlike categories, the strong generalization is that only like categories coordinate. I therefore reject this option in search of a more principled proposal.

The second alternative is much more interesting for the theorist. Prior to work by Pollock (1989), negation was simply assumed to be part of Infl, and many linguists still hold the view that IP is projected from a single functional head (as opposed to a nested sequence of functional heads). Thus, example (309) would simply be a case of IP coordination, with the second conjunct carrying the feature [+*neg*].

This option needs to be seriously considered for QZ, especially since there is no normal use for the specifier of IP. If we assume that the S-structure position for the negative clitic (along with the rest of the verbal complex) is I^0 rather than Neg^0, the Negative Criterion could simply be restated to require Specifier-head agreement within IP based on the [+*neg*] feature. The negative indefinite pronouns would move to the specifier of IP rather than the specifier of NegP, and the two clause structures shown in (305) could be collapsed into one, as illustrated in (310).

[6]This might be a reasonable approach if we allowed coordination to be restricted by semantic type as opposed to syntactic category.

(310)



The clause structure in (310) has several clear advantages over the two clause structures in (305). The unified analysis of clause structure is very favorable and the problem of coordination of unlike categories disappears. Further, the specifier of IP now has a specific use and one less functional projection is needed.

In QZ, the only empirical reason to reject the proposed clause structure in (310) is found in sentences containing the negative adverbial *gart*, as in (311).

(311) *Jasint nunk gart ts-a Jasint Pwert.* BENIT 29
Jacinto never still.no P-go Jacinto Salina.Cruz
"As for Jacinto, he had never gone to Salina Cruz."

In order to achieve the required Specifier-head relationship between the head *gart* and the negative indefinite pronoun *nunk*, *gart* would have to occupy I^0 in the configuration in (310). There would then be no position available for the Potential Mood marker, and the normal V^0-to-I^0 movement could not occur.

A further problem arises if we broaden the task to analyzing Zapotec in general. Recall from Chapter 9 that the same analysis given for negation in QZ was straightforwardly extendable to Mitla Zapotec. For Mitla, we made use of the specifier of

IP position as an A-position to which the subject moves in a clause which is negated by one of the free negative words. These negative words were assumed to be base generated in the specifier of NegP. (See section 9.2.2.1, example (258a) (repeated in (312a) below) and tree (260).) In order to preserve the same basic analysis, if there is no NegP projection then the free negative word must be base generated in the specifier of IP. This leaves no position available for the subject to surface in front of the verb, which has moved to I^0 to obtain the Aspect marking. We could possibly say that the subject moves to adjoin directly to the free negative word in the specifier of IP, but then we have lost the account for why the subject may not precede the verb when the negative clitic is overtly present on the verb. The crucial examples are repeated in (312), and the S-structure for (312a), under the hypothesis that the subject adjoins to the free negative words, is given in (313).

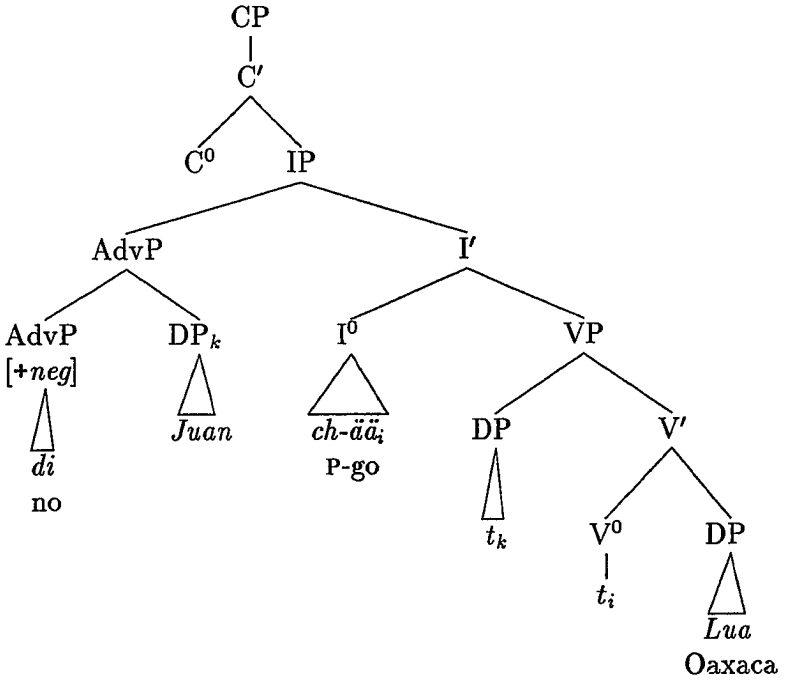
(312) a. *Di Juan ch-ää Lua.*
no Juan P-go Oaxaca
"Juan will not go to Oaxaca."

b. **Di ch-ää Juan Lua.*
no P-go Juan Oaxaca
(Juan will not go to Oaxaca.)

c. **Di Juan ch-ää-di Lua.*
no Juan P-go-NEG Oaxaca
(Juan will not go to Oaxaca.)

d. *Di ch-ää-di Juan Lua.*
no P-go-NEG Juan Oaxaca
"Juan will not go to Oaxaca."

(313) S-structure



This adjunction seems somewhat strange and hard to motivate, especially since it would have to be stipulated that it occurs only when a free negative word occupies the specifier of IP and the negative clitic is not present in I^0.

The third hypothesis unifies the two clause structures in (305) by expanding the structure of the assertive clauses. I propose that there is a Polarity Phrase (PolP) between CP and IP in every clause. When the polarity of the clause is negative, PolP is headed by the negative clitic *-t* (or *gart* "still no" or the negative existential verb *yët*), and the negative indefinite pronouns surface in the specifier of PolP. Positive polarity seems to be completely unmarked, so each position within PolP is null in such a case.[7]

[7]This might seem inconsistent with my rejection of a FocP projection because Foc^0 is never overtly realized. In that case, however, the focus phrases and especially the *wh*-phrases that would occupy the specifier position bear a crucial relationship with C^0 rather than Foc^0. It is also quite possible that there are morphemes associated with positive polarity or emphatic affirmation in other Zapotecan languages. I do not know of any in QZ.

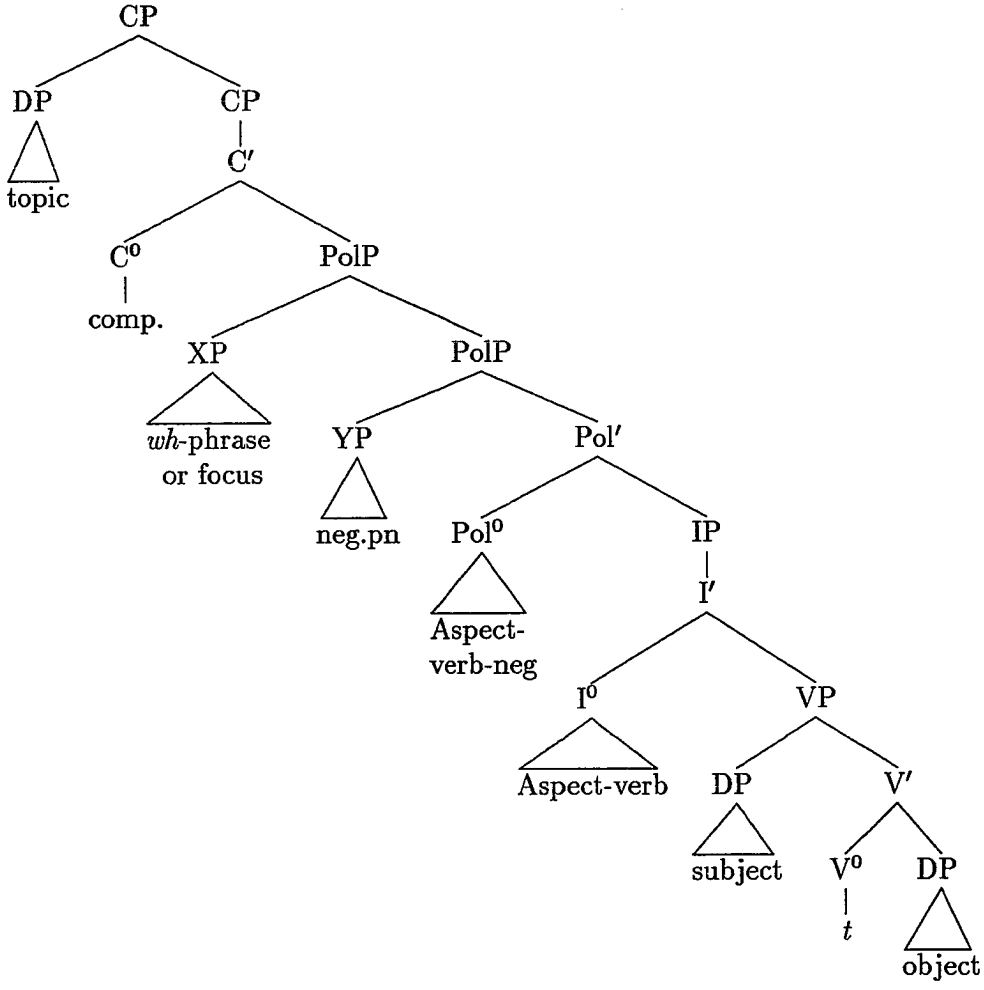
Laka (1990:Chapter 2) proposes a functional projection which she calls ΣP (following a suggestion by Pesetsky) to encompass the Speech Acts of affirmation and denial. Laka claims that at least some natural languages have overt morphemes or special processes to express emphatic affirmation (such as **do** and **so** in English) that can be seen as the counterpart to negation. My proposal of a Polarity Phrase is distinct from Laka's ΣP. I propose that every clause, including embedded clauses, has a Polarity Phrase while Laka does not claim that there is any such projection for regular declarative sentences and it is unclear whether or not ΣP is a property of matrix clauses only. It may well be that the items that Laka claims are part of ΣP could be incorporated into the Polarity Phrase I am proposing. The declarative sentences could still be the unmarked case and negative constructions would still mark negative polarity. Strong affirmation could simply be a marked case of positive polarity.

The benefits of adopting the Polarity Phrase for both negative and assertive clauses are that the analysis of negative fronting can be maintained for Mitla Zapotec as well as all negative clauses in QZ and the problem of coordination between NegP and IP is eliminated. The coordination seen in (309) is now simply coordination of embedded Polarity Phrases. It should also be theoretically interesting to see how such a proposal will bear up after more data and language types are considered. Whether or not the proposal of such a phrase is needed in a particular language is dependent upon the analysis chosen for the position and category of negation, the word order, and the interaction between negation and other aspects of the grammar. For example, Chung & McCloskey (1987) and McCloskey (1991) analyze negation as always being realized in C^0 in Irish (also a VSO language). Such an analysis allows an example like (309) to simply be coordination at the CP level, making the Polarity Phrase unnecessary. Negation in C^0 is not an option in QZ since negative elements occur after an overt complementizer.

10.5 Proposed Clause Structure for QZ

To reiterate, the clause structure I am proposing for QZ is given in (314), showing the number of projections and the S-structure positions of the various types of phrases. This clause structure accounts for the lack of cooccurrence between *wh*-phrases and focus phrases and for the relative ordering required between complementizers, *wh*-phrases or focus phrases, and negative elements. The Polarity Phrase unifies assertive and negative clauses and allows for attested coordination at the PolP-level.[8]

(314)



[8]The verbal complex moves to Pol^0 from I^0 only if the negative clitic is present.

Some guiding principles recurred throughout the investigation into the constructions involving Ā-movement. We saw that all three constructions (focus, question formation, and negation) require the relevant element to be fronted. This fronting achieves the result that scope relations are determined at S-structure, with only very limited LF-movement being allowed.

I posited (following Rizzi 1991, Haegeman & Zanuttini 1990, and Zanuttini 1991) that such fronting was motivated not only by the desire for scope relations to be readable at S-structure, but also by the adjacency requirements between an affective operator and a head bearing that particular feature. For QZ, only the negation constructions follow the usual Specifier-head relationship; both *wh*-phrases and focus phrases must be governed by the appropriate head (C^0) and must be strictly adjacent to it.

Strict adjacency was also seen to hold between a verb and its subject and other arguments. This required adjacency still holds even when the verb has moved to I^0 and to Pol^0 (in the case of negation) and serves to effectively limit the possible adjunction sites. For example, adverbials may not be left-adjoined to either VP or IP, since this would violate the adjacency required between the verb and its subject. (315) shows that a free adverbial such as *yzhe* "tomorrow" may not occur between the verb and the subject nor between the subject and the other complements; only the sentence-initial or clause-final positions are allowed.

(315) a. *Yzhe ts-a noo Mejiko.*
tomorrow P-go 1EX Mexico
"Tomorrow I will go to Mexico City."

b. **Ts-a yzhe noo Mejiko.*
P-go tomorrow 1EX Mexico
(I will go tomorrow to Mexico City.)

c. **Ts-a noo yzhe Mejiko.*
P-go 1EX tomorrow Mexico
(I will go tomorrow to Mexico City.)

d. *Ts-a noo Mejiko yzhe.*
P-go 1EX Mexico tomorrow
"I will go to Mexico City tomorrow."

e. *Mejiko ts-a noo yzhe.*
Mexico P-go 1EX tomorrow
"To Mexico City I will go tomorrow."

(316) verifies that a similar adjacency requirement between the verb and its subject (and other complements) holds even when the verb is negated. This means that left-adjunction to both VP and IP is disallowed.

(316) a. *Nak w-a-t noo Mejiko.*
yesterday C-go-NEG 1EX Mexico
"Yesterday I did not go to Mexico City."

b. **W-a-t nak noo Mejiko.*
C-go-NEG yesterday 1EX Mexico
(I did not go yesterday to Mexico City.)

c. **W-a-t noo nak Mejiko.*
C-go-NEG 1EX yesterday Mexico
(I did not go yesterday to Mexico City.)

d. *W-a-t noo Mejiko nak.*
C-go-NEG 1EX Mexico yesterday
"I did not go to Mexico City yesterday."

e. *Mejiko w-a-t noo nak.*
Mexico C-go-NEG 1EX yesterday
"To Mexico City I did not go yesterday."

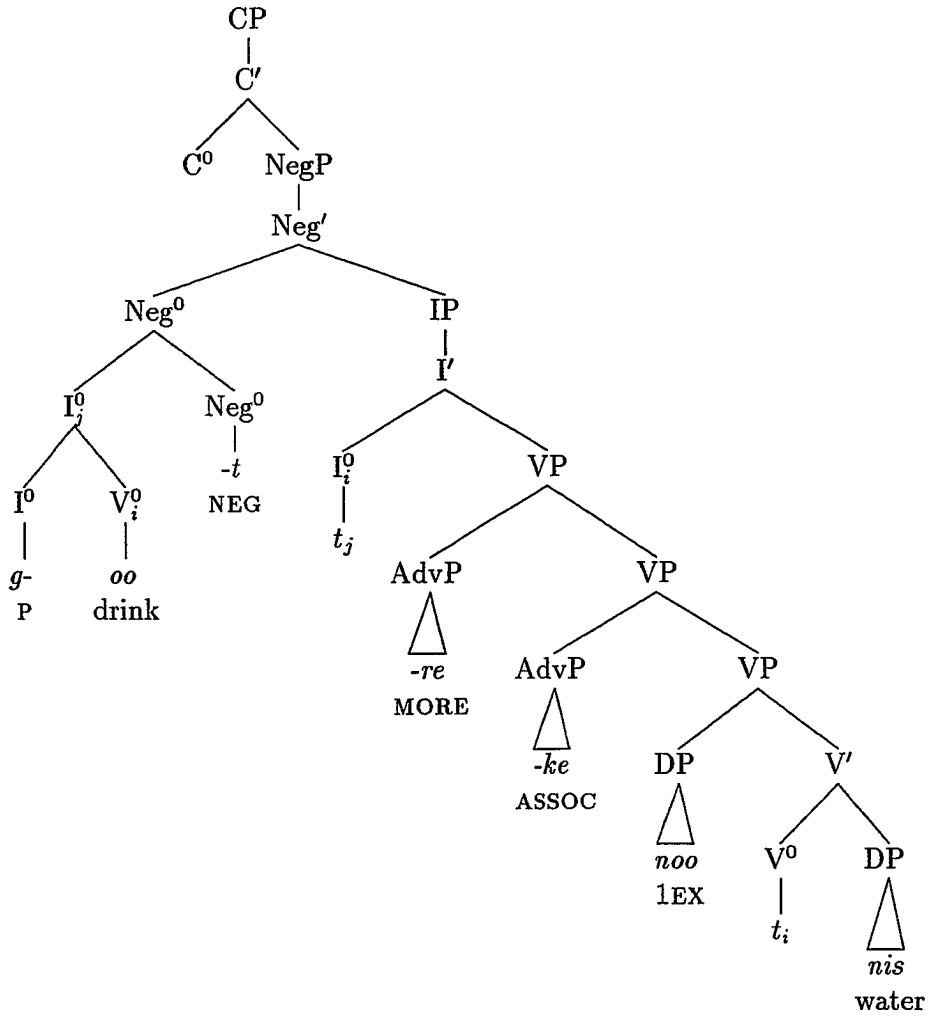
McCloskey (1991) explores similar restrictions in Irish. He concludes that they are due to the strong adjacency requirement between the verb and subject imposed by Case assignment taking place under government. Just as a verb and its object normally require adjacency in SVO languages, the same holds true between a verb and its subject in VSO languages.

This restriction against left-adjunction to VP brings up a potential problem for the Verb Movement proposal for VSO clause structure that was adopted for QZ. Recall from Chapter 9 that the Verb Movement proposal accounts for the fact that both Aspect marking and the negation marker surface on the verb via head movement. We need to consider this account more closely with respect to a fully affixed verb, as in (317), where the negative marker appears inside of the two adverbial suffixes.

(317) *G-oo-t-re-ke* *noo nis.*
P-drink-NEG-MORE-ASSOC 1EX water
"I will not drink more water either."

Under the account proposed in section 9.2.1, the negative marker *-t* is in Neg^0, and V^0-to-I^0-to-Neg^0 movement causes the negation to be realized on the inflected verb. This means that the adverbial suffixes must be left-adjoined to VP, since they must precede the subject in the specifier of VP and, as is clear when there is no negation and hence only V^0-to-I^0 movement takes place, follow I^0. We must also assume that their dependent phonological status is responsible for their attachment to V^0. The S-structure for (317) under this account is given in (318).

(318) S-structure

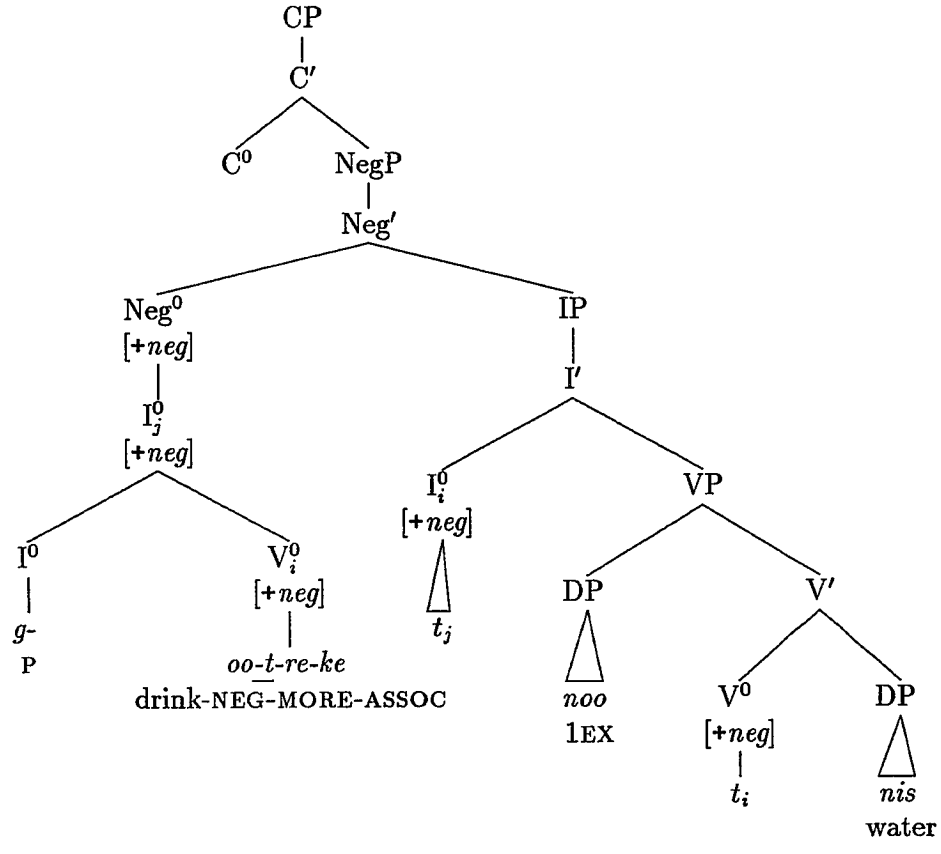


The structure in (318) is problematic for two reasons. First, if the adverbials are simply adjoined to VP, we have no account for the fact that *-re* "MORE" and *-ke* "ASSOC" must be realized in that order only. The second and more crucial problem is that the two adverbial "phrases" intervene between the inflected verb and its subject. We saw above that this position is not allowed for free adverbials.

These two problems with the structure in (318) lead to the alternative proposal that the adverbial suffixes *-re* "MORE" and *-ke* "ASSOC" are simply verbal suffixes, thus part of V^0 syntactically. I appeal to the affixal nature of the suffixes to distinguish them from the free adverbials. This appeal to the morphology makes it necessary to treat the QZ negative marker *-t* as a verbal suffix and thus also part of V^0 syntactically, since the adverbial suffixes occur outside of the negative marker.[9] This V^0 complex would bear the feature [+*neg*] when the negative marker is present and therefore would be required to move to Neg^0 by S-structure by Clause B of the Negative Criterion (250). This alternative derivation for (317), shown in (319), eliminates the two problems noted with the configuration in (318) while maintaining the rest of the analysis. (For instance, the obligatory fronting of a negative indefinite pronoun would be accounted for exactly as before.) This type of featural checking under syntactic head movement, based upon the morphology, is legitimized in the "minimalist program" (Chomsky 1993). The alternative analysis allows us to resolve the apparent complication and maintain the Verb Movement proposal. At the same time, treating the negative marker *-t* simply as a verbal suffix, rather than a separate syntactic head, represents a significant weakening of the hypothesis that each inflectional affix transparently reflects a syntactic head (both in hierarchical structure and in linear order).

[9]In Mitla Zapotec, the negative marker is clearly a clitic rather than simply a verbal suffix, since it appears at the end of V^0 or at the end of a fronted constituent which is marked with a negative quantifier. For Mitla, then, we can retain the analysis that the negative clitic *-di* is in Neg^0 at D-structure.

(319) S-structure



Returning to the issue of the possible positions for adverbials, we saw that the two most common positions are clause-initial and clause-final. Neither of these are problematic for any of the adjacency requirements. The only other position where adverbials can surface is after a focus phrase or *wh*-phrase but before the verb, as shown in (320). I analyze this as left-adjunction to PolP, since (320c) verifies that the adverbial occurs above the negated verb.

(320) a. *Laad x-unaa Rodolf dxe zu nga.* HORTENS 37
FM POS-woman Rodolfo already PR/stand there
"Rodolfo's wife was already standing there."

b. *Txu dxe zu nga.* HORTENS 37A
who already PR/stand there
"Who was already standing there?"

c. *Pe rsil w-u-t maa nii de.* SAMUEL 28A
Q morning C-eat-NEG 3A foot 2
"Didn't the snake eat your foot this morning?"

Left-adjunction to PolP below the focus phrase or *wh*-phrase is allowed since it does not violate any adjacency requirement. The focus or *wh*-phrase is strictly adjacent to C^0 and the adjacency requirement for negation is met inside the minimal PolP in the specifier position.

In many respects, all three types of Ā-movement are similar, yet the negative constructions are also distinct from the other two in crucial ways. First, we saw that the fact that negation is marked on the verb coupled with the required fronting of negative indefinite pronouns was very important in the choice between the two proposals for obtaining VSO word order. The Verb Movement proposal easily accounts for the surface position of negative elements and was thus chosen over the Subject Adjunction proposal. Further, the ordering between the head and operator phrase is different for negative constructions than for the other two. For questions and focus constructions we needed to posit an adjoined position below C^0, but the negative constructions exhibit the more normal Specifier-head relationship within a single projection. I have no explanation for this distinction, though it is somewhat satisfying that only a single adjoined position was needed and that that position was at the top of the clause structure, immediately below CP, with all lower phrases following the regular pattern.

Appendix
A Parametric Account of Question Formation

In this appendix, I seek to expand the treatment of *wh*-questions given in Chapter 8. The analysis given here serves to bring together the various accounts of facets of *wh*-question formation given by May (1985), Rizzi (1991), Rudin (1988), and McDaniel (1989). At the same time, it verifies that QZ fits squarely within the boundaries of the cross-linguistic variation attested. I use the *Wh*-Criterion as a starting point for this exploration. We see that parameterization of the level of representation at which each clause of the *Wh*-Criterion applies is not sufficient to account for the full distribution of question formation cross-linguistically. Instead, I propose a parameterization of the positions available for *wh*-movement at each level of representation, coupled with a well-formedness principle for *wh*-constructions. This account is then extended to encompass the partial *wh*-movement constructions in German and Romani (McDaniel 1989) by rewording the principle in terms of *wh*-chains.

The *Wh*-Criterion Alone is Not Sufficient

As seen in Chapter 8, the *Wh*-Criterion is a general well-formedness condition on *wh*-constructions. The *Wh*-Criterion was originally proposed by May (1985) and updated to conform with the theory of COMP in Chomsky (1986) by Rizzi (1991). It is repeated in (321) in Rizzi's version.

(321) The *Wh*-Criterion
- A. A *wh*-operator must be in a Spec-head configuration with an $X^0_{[+wh]}$.
- B. An $X^0_{[+wh]}$ must be in a Spec-head configuration with a *wh*-operator.

May (1985) allowed for parameterization of the level at which each clause of the *Wh*-Criterion must hold to account for a large portion of the cross-linguistic variation. For example, May assumed that Clause B of the *Wh*-Criterion is required at S-structure in English to assure the fronting of one *wh*-phrase, but that Clause A holds only at LF, thus allowing one or more *wh*-phrases to remain in situ in multiple *wh*-questions. We can extrapolate from this example to the general case and see that the following implications hold:

(322) a. No visible fronting $\Longrightarrow$ Clause B holds at LF
b. One or more fronted $\Longrightarrow$ Clause B holds at SS
c. None may be in situ $\Longrightarrow$ Clause A holds at SS
d. One or more in situ $\Longrightarrow$ Clause A holds at LF

Of course, the world's languages display much more variation in their patterns of question formation than just the difference between the English and the QZ patterns. We can differentiate five distinct patterns or types of languages, each of which will be exemplified here.

First, we look at languages which allow fronting of multiple *wh*-phrases. These languages further divide into two types. There are languages like Bulgarian and Romanian, which require all *wh*-phrases to be fronted; none may remain in situ. (323) demonstrates this with both single clause and multiple clause constructions in Bulgarian (taken from Rudin 1988:449–450).

(323) a. *Koj kogo vižda?*
who whom sees
"Who sees whom?"

b. **Koj vižda kogo?*
who sees whom
(Who sees whom?)

c. *Koj kŭde misliš* [*če e otišŭl* __ __]?
who where think-2s that has gone
"Who do you think (that) went where?"

d. *Koj misliš [če e otišŭl __ kŭde]?
who think-2S that has gone where
(Who do you think (that) went where?)

e. *Koj misliš [kŭde (če) e otišŭl __ __]?
who think-2S where that has gone
(Who do you think (that) went where?)

Directly contrasting with Bulgarian and Romanian are languages like Serbo-Croatian, Polish, and Czech, in which multiple fronting is allowed in single clause questions but (for most speakers) a second *wh*-phrase cannot be fronted out of an embedded clause. (324) gives examples from Serbo Croatian (taken from Rudin 1988:449, 453–454). (324a) shows multiple fronting in a matrix question. The remaining examples show cases of multiple questions in an embedded clause, where multiple fronting cannot occur. In Serbo-Croatian, the 'in-situ' *wh*-word is normally placed to the left of the verb, which is the focus position, as exemplified in (324b–c). It is not possible to front two *wh*-phrases to the matrix clause, as shown in (324d–e). It is also ungrammatical to front one *wh*-phrase to the matrix clause and place the second *wh*-phrase in the specifier of the lower $CP_{[-wh]}$, as (324f–g) verify.

(324) a. Ko koga vidi?
who whom sees
"Who sees whom?"

b. Ko želite [da vam šta kupi __]?
who want-2P to you what buy-3S
"Who do you want to buy you what?"

c. Šta želite [da vam ko kupi __]?
what want-2P to you who buy-3S
"What do you want who to buy you?"

d. *Ko šta želite [da vam kupi __ __]?
who what want-2P to you buy-3S
(Who do you want to buy you what?)

e. *Šta ko želite [da vam kupi __ __]?
what who want-2P to you buy-3S
(What do you want who to buy you?)

f. *Ko želite [šta da vam kupi __ __]?
who want-2P what to you buy-3S
(Who do you want to buy you what?)

g. *Šta želite [ko da vam kupi __ __]?
what want-2P who to you buy-3S
(What do you want who to buy you?)

The second major group of languages to consider are those which require the fronting of a single *wh*-phrase. Again, this group divides into two types: those which allow other *wh*-phrases to remain in situ and those which do not. The latter do not allow multiple *wh*-questions at all. We saw that QZ is an example of the type that requires fronting of a single *wh*-phrase (and only one), but does not allow any others to remain in situ. Other languages of this type are Italian, Irish, and Tzotzil. Some representative QZ examples are given in (325).

(325) a. *Pa go r-laa de.* GRING 34
what thing H-do 2
"What are you doing?"

b. *R-laa de pa go.
H-do 2 what thing
(You are doing what?)

c. *Pe r-laa de pa go.
Q H-do 2 what thing
(You are doing what?)

d. *Pa go r-laa de lo txu.
what thing H-do 2 face who
(What are you doing to who?)

e. *Pa go txu lo r-laa de.
what thing who face H-do 2
(What are you doing to who?)

f. *R-laa de pa go lo txu.
H-do 2 what thing face who
(What are you doing to who?)

The QZ pattern directly contrasts with that of English, which allows multiple *wh*-questions as long as one and only one *wh*-phrase is fronted. English also allows

questions with the *wh*-phrase in situ, but only if accompanied by the question intonation pattern and contrastive stress is placed on the *wh*-phrase.

(326) a. What are you doing?

b. You are doing **what**?

c. *You are doing what?

d. What are you doing to who?

e. *What who are you doing __ to __?

f. *You are doing what to who?

West Flemish is another language which patterns like English with respect to question formation.

French has the option of fronting one *wh*-phrase or leaving them all in situ, as shown in (327) (taken from Rudin 1988:445).

(327) a. *Qu' as-tu donné à qui?*
what have-you given to whom
"What have you given to whom?"

b. *Tu as donne quoi à qui?*
you have given what to whom
"What have you given to whom?"

Thus, French can pattern like English, or it may pattern like Chinese, Japanese, and the other languages which do not front *wh*-phrases at all. This is the third major group of languages: multiple *wh*-questions are allowed but all the *wh*-phrases must remain in situ. Chinese examples (taken from Huang 1982) are given in (328).

(328) a. *Ni xiang-zhidao Lisi weisheme mai-le sheme?*
you wonder Lisi why bought what
"What do you wonder why Lisi bought (it)?"

b. **Sheme ni xiang-zhidao Lisi weisheme mai-le __?*
what you wonder Lisi why bought
(What do you wonder why Lisi bought (it)?)

b. **Sheme weisheme ni xiang-zhidao Lisi __ mai-le __?*
what why you wonder Lisi bought
(What do you wonder why Lisi bought (it)?)

The chart in (329) summarizes these facts and shows the range of attested types of languages that we need to account for. Based upon the implications given in (322), the level at which the two clauses of the *Wh*-Criterion must apply is shown in the final column for each language type.

(329)

Type	Fronting	In Situ	Languages	*Wh*-Criterion
I	multiple	none	Bulgarian Romanian	B at SS A at SS
II	multiple	OK	Serbo-Croatian Polish Czech	B at SS A at LF
III	single	none	QZ Italian Irish Tzotzil	B at SS A at SS
IV	single	OK	English West Flemish French (opt.)	B at SS A at LF
V	none	none	**Unattested**	B at LF A at SS
VI	none	OK	Chinese Japanese French (opt.)	B at LF A at LF

The fact that type V is unattested should not be surprising; a language which did not allow fronting of a *wh*-phrase and did not allow any to remain in situ could not form *wh*-questions at all. I assume it is a universal that all languages have the ability to ask content questions. Given this, all four logical combinations allowing for the two clauses of the *Wh*-Criterion to apply at either S-structure or LF are accounted for, since the other three possibilities are attested.

As should be clear from chart (329), however, these distinctions in the level of application for each part of the criterion are not sufficient to distinguish between languages of types I and III, nor between types II and IV. Languages which allow multiple fronting and languages which require only one *wh*-phrase to be fronted cannot

be distinguished via distinctions in the level at which the *Wh*-Criterion applies; the only distinction made is whether or not it is possible to have *wh*-phrases remain in situ. Clearly, something more is needed to correctly separate all four of these types of languages.

A second problem exits for languages like Chinese which do not allow fronting of any *wh*-phrases at S-structure. The requirement that Clause B holds at S-structure forces the fronting of at least one *wh*-phrase for languages of types I–IV. Since the mappings in (322) are one-way implications rather than *iff* statements, however, simply stating that Clause B is not required to hold until LF does not prohibit fronting earlier than LF in a language like Chinese. These two problems point out the need for further parameterization.

Parameterization of the *Wh*-Scope Positions

Rudin (1988) provides a partial answer to the first problem by differentiating between languages that allow more than one *wh*-phrase to be in the specifier of CP position at S-structure from those that allow multiply-filled specifiers of CP only at LF. Rudin follows Adams (1984) in using a filter called the Condition on Comp (or SpecCP) Adjunction which is parameterized according to the level of representation at which it applies. Under this view, type I languages would be distinguished from type III languages by the fact that type I allows the specifier of CP to be multiply filled at both S-structure and LF, whereas type III languages never allow it. Likewise, type II languages allow a multiply-filled specifier of CP at both S-structure and LF, but type IV languages only allow it at LF.

Rudin shows that the picture is actually more complex than this. She carefully establishes that the multiple fronting languages (types I and II) differ in several ways which can be straightforwardly explained if only Bulgarian and Romanian truly allow more than one *wh*-phrase to be in the specifier of CP at S-structure. In contrast, Polish, Czech, and Serbo-Croatian have only a single *wh*-phrase in the specifier of CP

position, while all other fronted *wh*-phrases are adjoined to IP.

This possible adjunction to IP opens the door to an account of the canonical position of fronted *wh*-phrases in QZ. Recall that some *wh*-phrases in QZ must cooccur with the question marker, *pe*, used in Yes/No questions, as shown in (330). Since the position of the fronted *wh*-phrase in these constructions is always after the question marker, which occupies C^0, the *wh*-scope position for QZ is analyzed as adjunction to the immediately following phrase, usually IP.[1]

(330) a. *Pe-zee n-ak no.* BENIT 32
Q-how S-become there
"How is it there?"

b. **Zee n-ak no.*
how S-become there
(How is it there?)

c. **Zee pe n-ak no.*
how Q S-become there
(How is it there?)

Thus, adjunction to IP seems to be needed to account for the empirical facts in some languages, providing evidence for overruling the stipulation in Chomsky (1986) that *wh*-phrases may not adjoin to IP.

In addition, we are close to a solution for the second problem noted above: what prevents visible (i.e. S-structure) fronting of *wh*-phrases in a language like Chinese? To fully account for the cross-linguistic variation seen, we need to parameterize not only the level of representation at which *wh*-movement applies, but also the positions available for such movement. Also, rather than distinguishing only between singly-filled and multiply-filled positions, we must be able to mark a particular position as completely unavailable for *wh*-movement. For instance, we would say that English has a single specifier of CP position available at S-structure, but allows adjunction

[1] I assumed the presence of a Polarity Phrase (PolP) in Chapter 10 to account for the coordination between clauses of different polarity. Under that analysis the *wh*-scope position is adjoined to PolP which is above IP. Here I abstract away from that distinction so that the two positions of specifier of CP and adjoined to IP can be discussed in more general terms cross-linguistically.

to the specifier of CP at LF. Adjunction to IP is disallowed for *wh*-phrases at both levels in English. In contrast, QZ has a single IP-adjoined position available at S-structure, with no further adjunction and no specifier of CP position available at either S-structure or LF. Early *wh*-movement (i.e. by S-structure) in Chinese is ruled out by the lack of an available position for such movement: neither the specifier of CP position nor an IP-adjoined position is available at S-structure in Chinese.

Thus, languages would be able to specify the parameters shown in (331).[2]

(331)

	wh-scope position	Number of positions	Level
Possible values	Specifier of CP Adjoined to IP	none one multiple	SS, SS* LF (PF)

The specific parameters needed to account for each of the language types from (329) are detailed in (332).

[2]SS* is used notationally to indicate that a particular configuration holds at S-structure and also at all following levels. It expresses the conservativity of LF which preserves the relationships determined at S-structure. In contrast, the languages allowing changes at LF are those which procrastinate.

Rudin (1988) claims that allowing for a distinction in the number of positions available at PF will also account for the differences in whether or not *wh*-island violations are allowed and whether more than one overt element is allowed in CP. I will not deal with the PF level further here.

Two problems with this parameterization remain to be worked out. First, as given the parameters would allow a language to specify that only two *wh*-phrases could be fronted, since one specifier of CP and one adjoined position could be chosen. This seems highly unlikely. In general, languages choose either the specifier of CP or adjunction to IP as their *wh*-scope position. Serbo-Croatian, Polish, and Czech, as analyzed by Rudin (1988) are exceptions. These languages do not specify fronting of only two phrases, however; instead the analysis is that there is a single specifier of CP position while multiple adjunction to IP is allowed. A second problem is that it is not clear theoretically what it means for an adjoined position to be "available" for movement.

(332)

Type	Fronting	In Situ	Languages	*Wh*-Crit.	*wh*-scope positions
I	multiple	none	Bulgarian Romanian	B at SS A at SS	mult-spec CP-SS* none-adj. IP-SS*
II	multiple	OK	Serbo-Croatian Polish Czech	B at SS A at LF	one–spec CP-SS* mult-adj. IP-SS*
IIIa	single	none	QZ	B at SS A at SS	one–adj. IP-SS* none-spec CP-SS*
IIIb	single	none	Italian Irish Tzotzil	B at SS A at SS	one–spec CP-SS* none-adj. IP-SS*
IV	single	OK	English West Flemish French (opt.)	B at SS A at LF	one–spec CP-SS mult-spec CP-LF none-adj. IP-SS*
V	none	none	**Unattested**	B at LF A at SS	**Unattested**
VI	none	OK	Chinese Japanese French (opt.)	B at LF A at LF	none-spec CP-SS none-adj. IP-SS* mult-spec CP-LF

This parameterization of the scope positions available at the different levels of representation, coupled with the *Wh*-Criterion (which is also parameterized by level for each clause), correctly differentiates between types I through IV and prevents early *wh*-movement in type VI languages. However, questions of redundancy arise. Is it really necessary to have two different parameters relating to the level of representation? To answer this question, we need to take a closer look at what each parameter is meant to accomplish.

We just determined that it was necessary to parameterize what scope positions are available at each level of representation to restrict the number and positions of the moved *wh*-phrases at that level. In essence, parameterizing the scope positions available sets the upper limit, preventing too early *wh*-movement from occurring (either for multiple *wh*-phrases where only a single phrase may be fronted at S-structure or for languages where no *wh*-movement is allowed in the syntax). This

is exactly why the parameterization was proposed: the parameterization of levels of representation at which the two clauses of the *Wh*-Criterion apply could not prevent this early movement. On the other hand, simply having scope positions available does not mean movement must take place. Motivating such movement was the purpose of the *Wh*-Criterion.

It does seem that it should no longer be necessary to parameterize the levels of representation at which the *Wh*-Criterion applies, however. The basic generalization is that a *wh*-operator moves at the earliest level allowed by the availability of a *wh*-scope position, in order to achieve the desired configuration (or relationship) with an $X^0_{[+wh]}$. If the *wh*-scope position is the specifier of CP, then the *wh*-operator will be in the normal Specifier-head relationship with a $C^0_{[+wh]}$. In the case where the *wh*-scope position is adjoined to IP, the desired configuration will be a minimal government relationship where a $C^0_{[+wh]}$ directly governs the *wh*-operator. I will refer to these as licensed *wh*-configurations. The *Wh*-Criterion could therefore be replaced by the general *Wh* Well-formedness Principle given in (333).

(333) *Wh* Well-formedness Principle

A *wh*-operator must be in a licensed *wh*-configuration with an $X^0_{[+wh]}$ at the earliest level of representation at which a *wh*-scope position is available.

This principle coupled with the parameterization of the *wh*-scope positions available at each level of representation (shown specifically in the last column of (332) and more generally in (331)) should account for the full distribution of *wh*-movement noted in (329) or (332). The principle in (333) provides a lower limit for *wh*-movement by 'forcing' the movement to apply as soon as possible, while the language-specific parameters detailing the available *wh*-scope positions serve as the upper limit.[3]

[3]To account for the optionality of *wh*-movement in the syntax seen in French, I assume that the optionality is included in the parameter. I.e. the correct parameters of available *wh*-scope positions for French are: one or none–Spec CP at SS; multiple–Spec CP at LF; and none–adjoined to IP at SS*. If the option is chosen for one specifier of CP position to be available for *wh*-movement at S-structure, then one *wh*-phrase must move to meet the well-formedness principle. When no specifier of CP position is available at S-structure, all *wh*-phrases will remain in situ until LF.

Wh-Chains Account for Partial *Wh*-movement

McDaniel (1989) describes a construction in German and Romani which he calls partial *wh*-movement. In this construction, a *wh*-phrase moves to the specifier of a CP lower than the CP over which the *wh*-phrase takes scope. The lower CP is [-*wh*]. The normal scope position, the specifier of the $CP_{[+wh]}$, is filled either by a "scope-marker" or by another *wh*-phrase. Examples of partial *wh*-movement where the specifier of $CP_{[+wh]}$ is filled with a scope-marker (=*was* "WHAT" in German and *so* "WHAT" in Romani) are given in (334b) for German and in (335b) for Romani, taken from McDaniel (1989:569). The (a) examples give the synonymous full *wh*-movement constructions for each language.

(334) a. [*Mit wem*]$_i$ *glaubt* [$_{IP}$ *Hans* [$_{CP}$ t_i *dass* [$_{IP}$ *Jakob jetzt* t_i *spricht*]]]?
"With whom does Hans think that Jakob is now talking?"

b. *Was*$_i$ *glaubt* [$_{IP}$ *Hans* [$_{CP}$ [*mit wem*]$_i$ [$_{IP}$ *Jakob jetzt* t_i *spricht*]]]?
"WHAT does Hans believe with whom Jakob is now talking?"

(335) a. *Kas*$_i$ [$_{IP}$ *o Demìri mislinol* [$_{CP}$ t_i *so* [$_{IP}$ *i Arìfa dikhl̆a* t_i]]]?
"Whom does Demir think that Arifa saw?"

b. *So*$_i$ [$_{IP}$ *o Demìri mislinol* [$_{CP}$ *kas*$_i$ [$_{IP}$ *i Arìfa dikhl̆a* t_i]]]?
"WHAT does Demir think whom Arifa saw?"

Following McDaniel, the scope-markers are coindexed with the *wh*-phrase whose scope they indicate. He assumes that the scope-markers are base-generated in the specifier of $CP_{[+wh]}$ and that they are linked with a moved *wh*-phrase. The scope-markers can be thought of as *wh*-expletives, indicating that the moved *wh*-phrase is out of place. McDaniel further notes that if there are more than two clauses, the *wh*-phrase may move to an intermediate specifier of CP, as well as to the lowest or the highest one. (See McDaniel 1989 for the full range of data.)

McDaniel shows that partial *wh*-movement obeys the same subjacency restrictions with respect to island violations as does regular *wh*-movement. He therefore claims that partial *wh*-movement can be subsumed under the same constraints and filters as full *wh*-movement, if they are restated in terms of chains. Given the definition of

wh-chain in (336),[4] McDaniel (1989:582) restates the S-structure constraint of Lasnik & Saito (1984) (which is basically equivalent to the *Wh*-Criterion) as shown in (337).

(336) A chain C=(a_1,a_2, ... ,a_n) is a *wh*-chain iff:
- a. $\forall a_i$, $1 \leq i < n$, a_i locally Ā-binds a_{i+1},
- b. $\forall a_i$, $1 \leq i < n$, a_i is a *wh*-element,
- c. a_n is a variable in IP-internal position, and
- d. for any scope-marker a_i, $1 \leq i < n$, (a_{i+1}, ... ,a_{n-1}) contains a true *wh*-phrase.

(337) If a language has syntactic *wh*-movement, then, for every Cspec x of a [+*wh*] CP, there must be a *wh*-chain such that its head is in x; and for every *wh*-phrase y in Ā-position, there must be a *wh*-chain which contains y and whose head is in the Cspec from which y takes scope.

The condition in (337) still allows regular *wh*-movement and McDaniel suggests that the difference between languages which allow partial *wh*-movement and those that do not is due to the presence of an Ā-expletive in the lexicon and Absorption applying in the syntax of the former type of language, but not in the latter.

We need to consider how to extend the parameterized account given above for full *wh*-movement to allow for these partial *wh*-movement constructions. I follow McDaniel in assuming that the ability to have partial *wh*-movement constructions stems from the presence of overt scope-markers in the lexicon. Further, I will utilize the notion of *wh*-chains. If the head of the *wh*-chain must be overt, then only languages with overt scope-markers can have partial *wh*-movement.[5] In all other cases, the head of the chain will be the true *wh*-phrase, since traces must be c-commanded by their antecedents. Without changing the parameters regarding the scope positions available at each level of representation, I believe a simple rewording of the well-formedness

[4]In (336)–(337), only regular, moved *wh*-phrases are "true *wh*-phrases". True *wh*-phrases and scope-markers are called "*wh*-phrases". The term "*wh*-element" encompasses true *wh*-phrases, scope-markers, and *wh*-traces.

[5]As McDaniel (1989) notes, this restriction to overt scope-markers may not hold universally. Positing of non-overt scope-markers may be necessary to account for the partial *wh*-movement allowed in Ancash Quechua (Cole 1983), Belauan (Georgopoulos 1984) and possibly also in Iraqi Arabic.

principle from (333) will correctly allow partial *wh*-movement, as shown in (338).[6]

(338) *Wh* Well-formedness Principle (Chain Version)

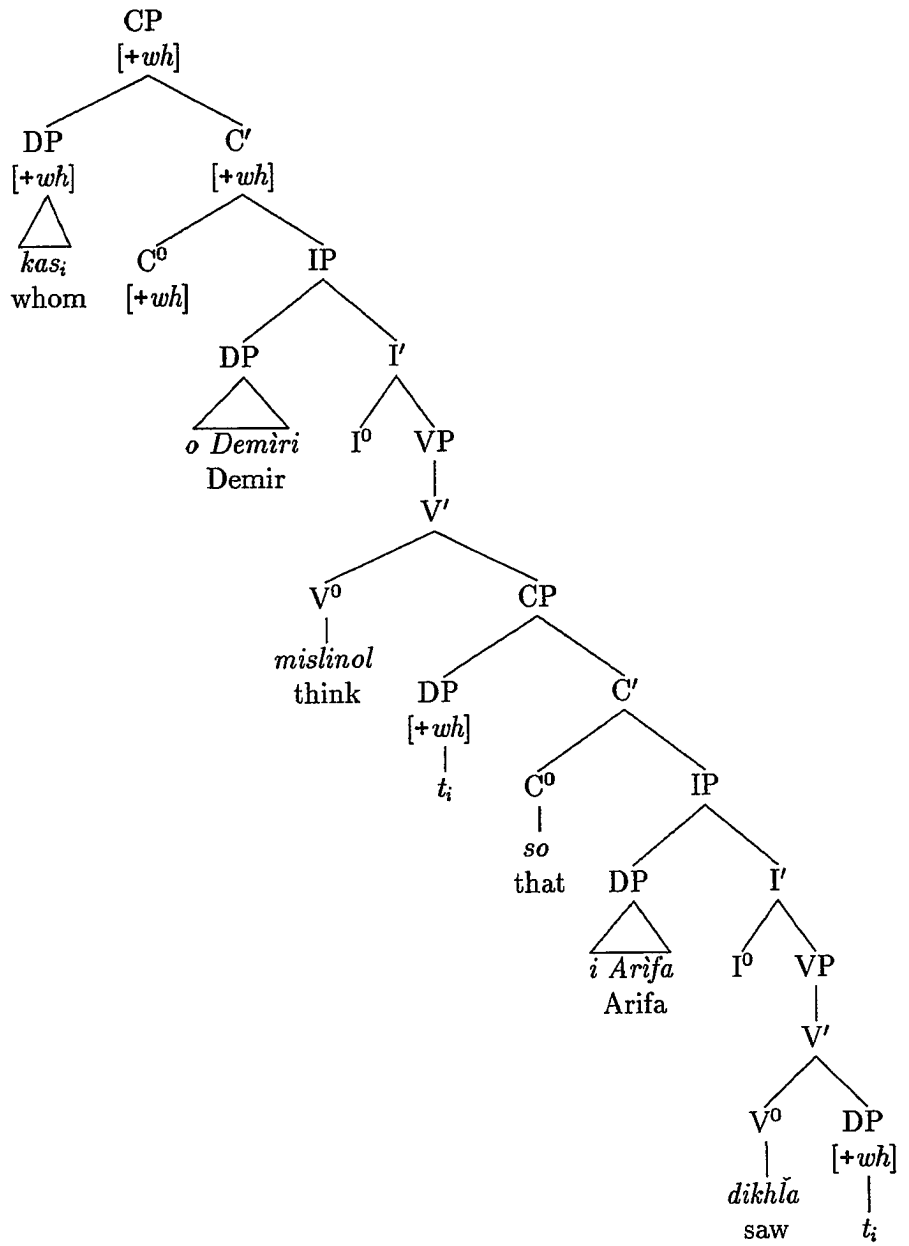
The head of a *wh*-chain must be in a licensed *wh*-configuration with an $X^0_{[+wh]}$ at the earliest level of representation at which a *wh*-scope position is available. Further, a *wh*-phrase in an Ā-position must be part of a *wh*-chain whose head is in a *wh*-scope position.

Thus a *wh*-phrase must still move as soon as possible, subject to the availability of a *wh*-scope position. This movement is directly to the licensed *wh*-configuration in the case of full *wh*-movement. Partial *wh*-movement is allowed only if there is a scope-marker in the licensed *wh*-configuration to head the *wh*-chain.

We can see how this principle allows both full and partial *wh*-movement by comparing the S-structures for examples (335a) and (335b). (339) shows the S-structure for the full *wh*-movement construction (335a), where the *wh*-phrase, *kas*, has moved to the specifier of the matrix $CP_{[+wh]}$, heading a chain with its trace in the lower specifier of CP and its trace in the original argument position. Both traces are legitimate since the head of the chain is in a licensed *wh*-configuration with an $X^0_{[+wh]}$, even though one of the traces is in the specifier of a $CP_{[-wh]}$.

[6]As given, the *Wh* Well-formedness Principle is only the equivalent of, or replacement for, Clause A of the *Wh*-Criterion. That is, we are only requiring *wh*-phrases to move to the proper position to be in a licensed *wh*-relationship with an $X^0_{[+wh]}$, not requiring any movement of the $X^0_{[+wh]}$. This is because I am basically assuming that the $X^0_{[+wh]}$ is really $C^0_{[+wh]}$ and that it is base generated there. (The *Wh*-Criterion also used Clause B to motivate movement of the *wh*-phrase, but this has been replaced in the current proposal by the statement requiring *wh*-movement to take place at the earliest level at which a *wh*-scope position is available.) It is interesting to note, however, that an extension of Clause B of the *Wh*-Criterion using chains can be used to account for the distribution of Subject-Aux Inversion in English. See Rizzi (1991) for this proposal.

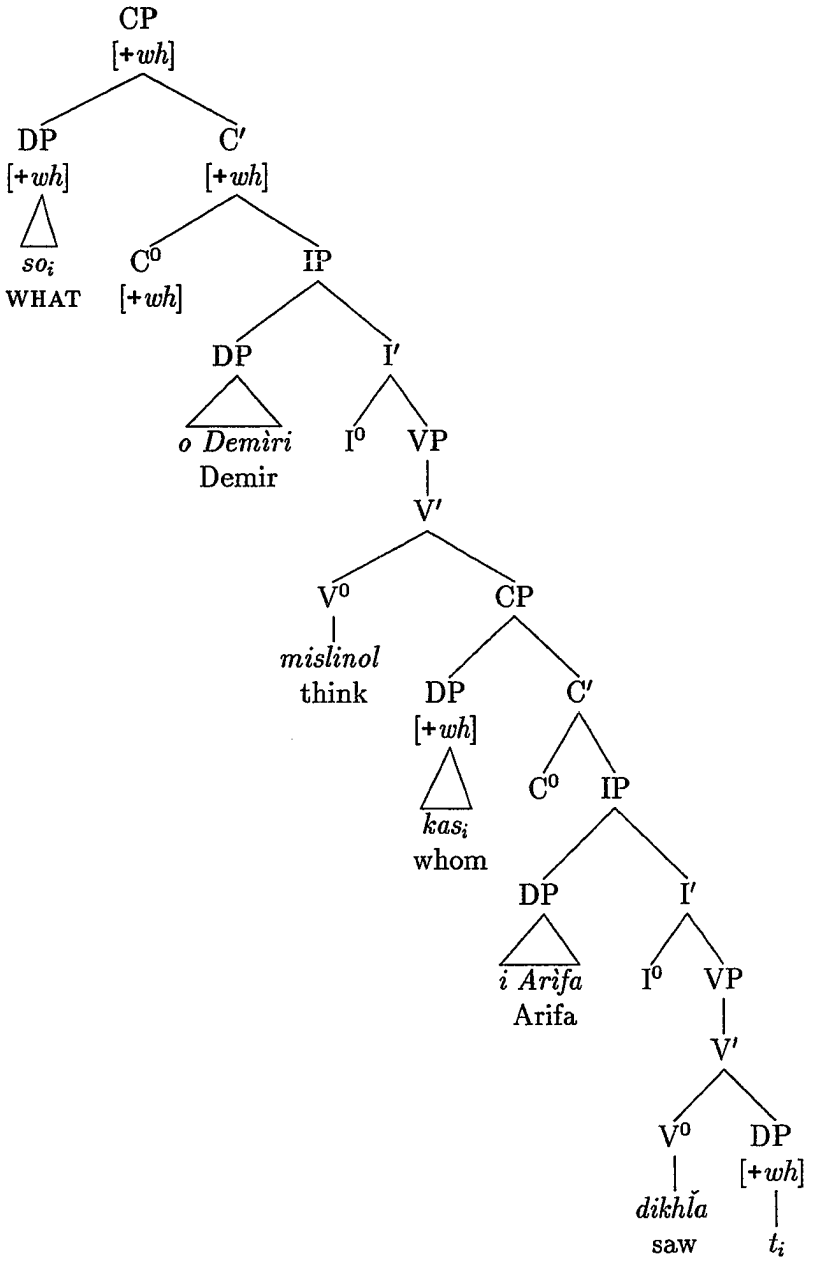
(339)



The S-structure tree, given in (340), for the partial *wh*-movement example (335b) is very similar. Instead of the true *wh*-phrase, *kas*, moving all the way to the specifier of the matrix $CP_{[+wh]}$, it has stopped in the lower CP. This is legitimized by the presence of the scope-marker, *so*, in the specifier of the top CP. Since *so* serves as

the head of the *wh*-chain and it is in a licensed *wh*-configuration with an $X^0_{[+wh]}$, *kas* may surface in the specifier of a $CP_{[-wh]}$.

(340)



We have seen, then, that parameterization of the level of representation at which each clause of the *Wh*-Criterion applies is not sufficient to fully differentiate between the attested types of *wh*-movement. Neither does it restrict *wh*-movement from occurring too early in languages that have some or all of their *wh*-movement occur at LF. Instead, I proposed that parameterization of the number and location of *wh*-scope positions is needed at each level of representation. This parameterization, coupled with the well-formedness principle that *wh*-movement to a licensed configuration occurs as soon as possible (i.e. subject to the availability of a *wh*-scope position), both motivates (forces) *wh*-movement and fully differentiates between the attested language types. A simple extension of the principle to include *wh*-chains accounts for the partial *wh*-movement allowed in some languages.

A similar distribution in the number of negative phrases allowed to be fronted at S-structure was seen in Chapter 9. The parameterized analysis given here for question formation can be straightforwardly extended to that case (and possibly to other semantic operators, such as focus, if the need arises).

Part III
Phrase Structure and Constituent Constructions

In this part of the dissertation, we turn to the analysis of constituents smaller than full clauses.

Chapter 11 begins by looking closely at the internal structure of verb phrases. Evidence from auxiliary constructions supports the SVO internal structure of the VP proposed under the Verb Movement hypothesis. The data involving apparent VP coordination is problematic for the Verb Movement analysis, however, though it falls out nicely under the Subject Adjunction proposal. This merits a closer look at the data. I conclude, due to the limitations on the construction, that true, productive VP coordination with unlike verbs is not allowed, thus remaining consistent with the Verb Movement proposal.

The structure of clauses with non-verbal predicates is then examined. The Verb Movement analysis extends nicely to the predicates with a [+V] head, but not to clauses with [-V] predicates. This dichotomy between [±V] predicates is a characteristic of VSO languages in general. Chapter 12 presents a proposal for the structure of nominal phrases which is parallel to the structure needed for [-V] predicates.

Chapter 13 describes and analyzes the constructions used to mark number, perhaps the most unique aspect of QZ syntax. The analysis builds upon most of the previous chapters, since the constructions are a type of comitative coordination involving a head and a clausal adjunct. Thus, both the Verb Movement proposal for obtaining VSO word order and the proposed DP structure are crucial to the analysis, as is the information on the attested coordination constructions, the formation of focus constructions, and the allowed separation of relative clauses.

Chapter 11

Structure of Verb Phrases and Non-Verbal Predicates

Since the Verb Movement proposal provides the best account of the sentences involving negation, we need to see what is necessary to extend that account to the structure of the predicate phrase. We look first at verbal predicates in section 11.1 and see additional support for the choice of the Verb Movement proposal for QZ in the ordering restrictions in the VP complements of the auxiliary constructions, presented in section 11.1.1. On the other hand, the greatest challenge to the viability of the Verb Movement proposal comes from the apparent examples of VP coordination shown in section 11.1.2. Such examples are shown to be impossible to generate under the Verb Movement analysis, while falling out straightforwardly under the Subject Adjunction hypothesis. I offer an alternative analysis that salvages the Verb Movement proposal for QZ: the few problematic examples are simply cases of the null third person pronoun that may occur when the antecedent is a full DP (discussed earlier in section 5.2.2).

Section 11.2 then looks at clauses with non-verbal predicates. The structure of these clauses seems to split along the lines of the [±V] feature. In general, the [+V] projections pattern just like the clauses with verbal predicates in their predicate-specifier-complement order, while the clauses headed by [-V] predicates have their subject or specifier rightmost, coming after any complements, possessors, and adjoined elements like adjectives. (The related internal structure of argument DPs is treated in Chapter 12.)

It should be noted that this lack of parallelism with respect to [±V] predicates is not peculiar to QZ, but seems to be a more general property of VSO languages.

The clause structure proposal by Doherty (1992) for copular clauses in Modern Irish is given as one alternative for this discrepancy from the Verb Movement hypothesis. The simpler alternative under the Subject Adjunction hypothesis, proposed by Chung (1990) for Chamorro, is that Subject Adjunction simply does not apply in clauses with [-V] predicates. My proposal utilizes facets of both of these analyses by incorporating the distinction between [±V] predicates into the structure of the predicate phrase itself, as well as stipulating that Verb Movement does not apply in [-V] predicates.

11.1 The Structure of VP

The Verb Movement proposal for clause structure includes the assumption that the subject occupies the specifier of VP (or V^{max}), and that this specifier is on the left. We have been assuming this structure for the clauses shown in Part II without encountering problems. The next section presents evidence from auxiliary constructions that supports the assumed structure. Section 11.1.2 then successfully faces the challenge posed by apparent VP coordination constructions by providing a feasible alternative analysis which is consistent with the Verb Movement proposal.

11.1.1 Auxiliary Constructions with VP Complements

QZ does not have any auxiliary verbs of the type found in English or the European languages, such as modals or *have*.[1] There are two closed classes of verbs, however, that can be considered auxiliaries. The first set is composed of five intransitive verbs of motion: *zob* "sit", *zu* "stand", *a* "go to non-base", *ya* "go to base", and *dxiid* "come". These motion auxiliaries can either be compounded with the participle form of another verb or they can take a small clause VP complement. Also, the loan marker *un* acts as an auxiliary which is used with all the borrowed Spanish verb forms. The

[1]Some Zapotecan languages, such as Mitla, have a modal verb meaning "can". (See (255b) in section 9.2.2). This verb acts just like the verb *laan* "want" in QZ in that it takes an IP complement, with Aspect marking on the selected verb, rather than only a VP complement. The modal is therefore treated simply as a full verb. Each of the motion auxiliaries discussed in this section may also select an IP complement and assign their own external argument, thus being full verbs as well as auxiliaries.

loan marker can also be analyzed as taking a small clause VP complement. The structure of these VP complements deserves a closer look.

A few examples of the motion auxiliary *a* "go to non-base" are given in (341). In each case the subject immediately follows the auxiliary (unless it is focused as in (341c)), which in turn is followed by the base form of another verb and its complements.

(341) a. *Ts-a noo wii gyoow roo.* TRIPTOQ 49
P-go 1EX see river big
"I'll go see the big river."

b. *Lex w-a noo wii led-ne n-ak te gyëël.* MTLEMON 43
later C-go 1EX see body-that S-become one lake
"Later we went to see where there is a lake."

c. *Laad mee-bzaan noo w-a ye x-yuz.* OLDMAN 23
FM boy-sibling.opp.sex 1EX C-go search POS-cattle
"My brother went to look for his cows."

The same construction is seen with the loan marker. In QZ whenever a Spanish verb is used, a loan marker *un* is also present. The loan marker, which appears first, carries the aspect marking. The subject immediately follows the loan marker, followed by the Spanish verb and any complements. The form of the Spanish verb used is closely related to the Spanish infinitive form. Examples showing this construction are given in (342). Note that the negative suffix is also carried by the loan marker.

(342) a. *R-un-t men gan ndal med.* GRANDMA3 15
H-LM-NEG 3RD able lots money
"They were not able to earn much money."

b. *R-un-t noo gan y-tsaa noo leter.* ESCUELA 30
IH-LM-NEG 1EX able P-write 1EX letter
"I didn't know how to write a letter."

c. *R-un men inbitar y-ra x-kompanyer men.* LIFEINUS 51
H-LM 3RD invite P-all POS-companion 3RD
"They invite all their companions [over]."

d. *Bel r-laan de g-un de konoser y-ra men ne n-uu nëz-ro,* TRIPTOQ 87
if H-want 2 P-LM 2 know P-all 3RD that S-be road-this
"If you want to get to know everyone on this road,
y-dxiin yner ts-a-b.
P-arrive January P-go-1I
when January comes, we'll go."

e. *Per bel-ne g-un-t de gan, y-niiz-t noo nzeb lo de.* CWENT 8
but if-that P-LM-NEG 2 able P-give-NEG 1EX girl face 2
"But if you can't, I will not give the girl to you."

The pattern seen above with the lower verb preceding its complements is the normal case. Several examples have been found, however, where the object of the Spanish loan verb directly follows the subject, preceding the Spanish loan verb. These are shown in (343). In each case, the Spanish loan verb is *inbitar* "invite". The difference seems to be that the object in each case in (343) is a pronoun, whereas in (342c), where the object is a full quantified nominal phrase, the usual pattern is observed, even though the same Spanish verb is used in both cases. The object pronoun is underlined in each example.

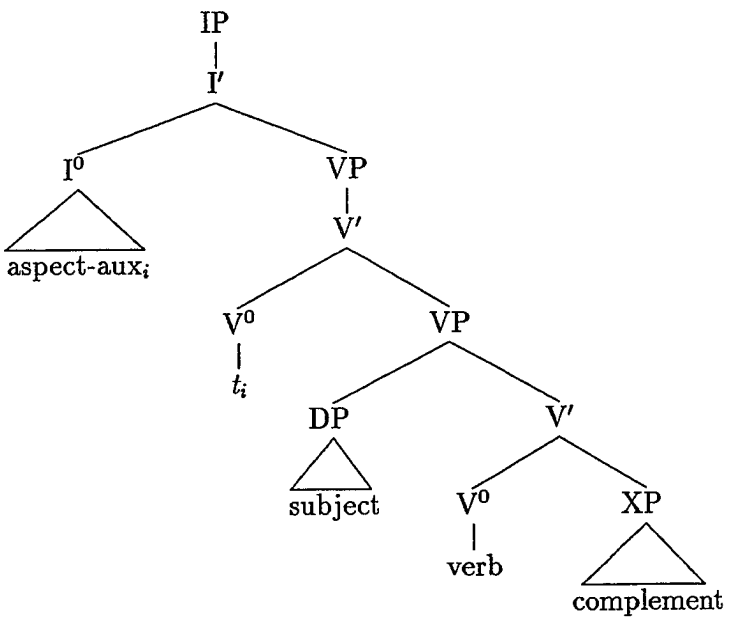
(343) a. *W-un te x-mig x-patron noo noo inbitar* MTLEMON 2
C-LM one POS-friend POS-patron 1EX 1EX invite
"My patron's friend invited me
w-a noo teb gyëël.
C-go 1EX one night
to spend the night."

b. *R-e meedx lo mdxin: G-un noo de inbitar* RYENEGU 7
H-say lion face deer P-LM 1EX 2 invite
"The lion said to the deer, 'I invite you
ts-a-b ru x-yuu noo.
P-go-1I mouth POS-house 1EX
to go to my house.' "

c. *G-un noo de inbitar porke na dxe-ree* RYENEGU 12
P-LM 1EX 2 invite because which day-this
"I invite you because today
n-ak xa-lni noo.
S-become POS-party 1EX
is my birthday party."

We can analyze the six auxiliary-type verbs as selecting VP complements. This immediately accounts for the fact that the second verb exhibits no Aspect marking (=I^0). If we assume that the auxiliary verbs do not assign an external argument themselves, then the upper subject position will simply be empty under the Verb Movement approach. (Recall from section 4.3 that there is only very limited A-movement and no 'raising' in QZ.) Since the Verb Movement proposal makes use of the Internal Subject Hypothesis, the VP complement includes the subject or external argument assigned by the lower verb. Assuming head movement of the auxiliary to I^0 (and on to Pol^0 when it is [+neg]) allows the surface order to be obtained effortlessly, as shown in (344).

(344) S-structure

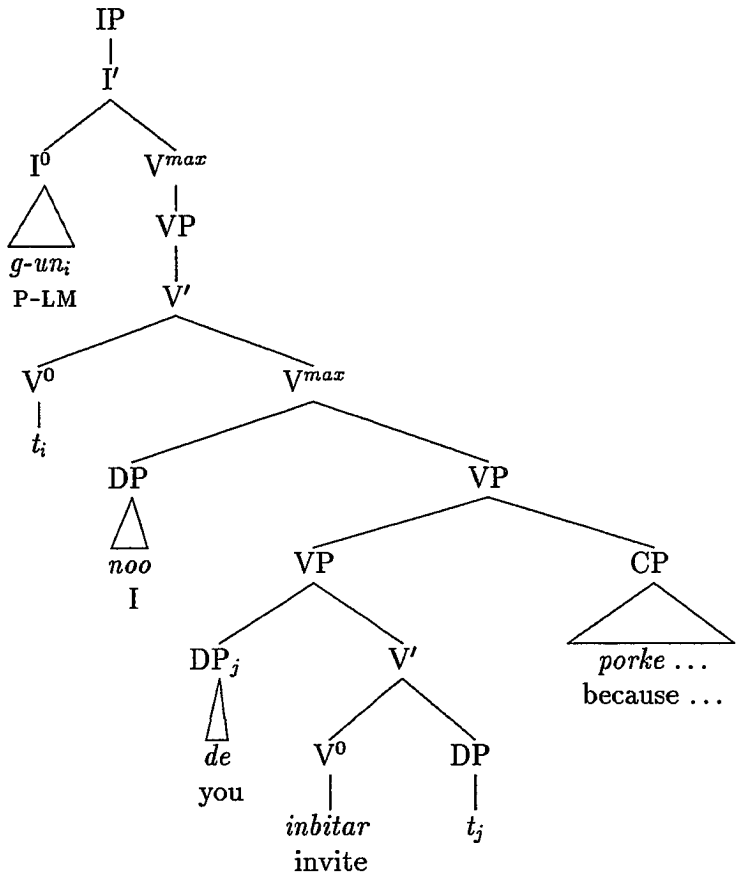


The underlying SVO order for verb phrases (McCloskey 1983) is justified by these examples, confirming the choice of the Verb Movement proposal for QZ.

Further, we can account for the examples in (343) where an object pronoun occurs between the subject and the lower verb as A-movement of the pronominal object to the specifier of VP (=sister of V′). Koopman & Sportiche (1991:239–244) give

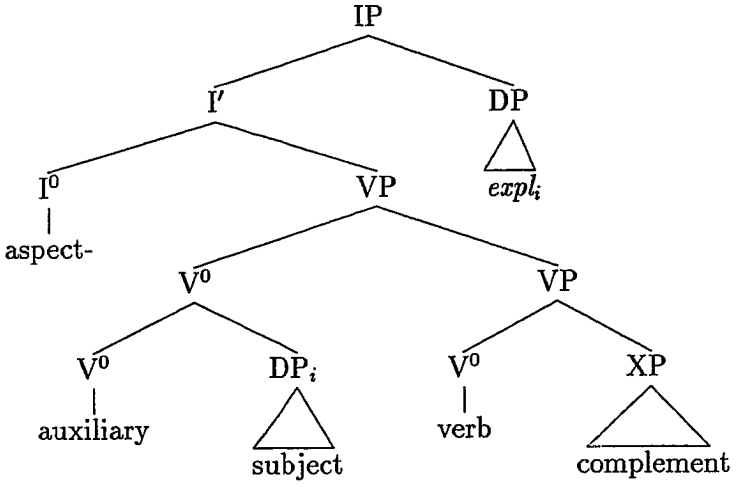
examples from Bambara, Dutch, and French participles to show that direct objects can appear in the specifier of VP. This, they argue, means that subjects are not in the specifier of VP, but of V^{max}. We already saw that such a move was needed to give a satisfying account of the possibility of moving the DP except for the subject in a negative construction (see example (261b) and trees (262)–(263) in section 9.2.2.2). Making this move for VPs allows the structure in (345) for example (343c). Note that all the specifiers of V^0 are on the left.

(345) S-structure



As we found with the negation constructions, these auxiliary constructions are more difficult to deal with under the Subject Adjunction proposal. Since this proposal places the subject in the specifier of IP, we must either assume that the auxiliaries select an external argument themselves (with the requirement that the verb they subcategorize for has the same external argument), or that they do not select an external argument but the one selected by the lower verb occupies the (single) specifier of IP. This subject must then right-adjoin to the auxiliary, as shown in (346)[2], necessitating a requirement that the subject must adjoin to the leftmost (or highest in terms of hierarchichal structure) V^0 for QZ. Such a stipulation is unnecessary in Chamorro, a language where the Subject Adjunction proposal seems correct (Chung 1990).

(346) S-structure



[2]The cases in (343) where the pronominal object has moved in front of the verb could also be conceivably analyzed as movement to the specifier of the lower VP, since this would still obtain the correct surface order under the Subject Adjunction hypothesis.

11.1.2 Analysis of the Apparent VP Coordination Constructions

The constructions involving apparent VP or I′ coordination pose the greatest challenge to the Verb Movement proposal for QZ. These constructions are easily accounted for under the Subject Adjunction hypothesis, since the subject begins in the specifier of IP which is outside the coordinated structure. In contrast, they are problematic for the Verb Movement proposal for two reasons. First, the subject is internal to the VP; and second, the proposed movement of the verb up to I^0 violates the Coordinate Structure Constraint (Ross 1967). I show that, even if the subject is posited to be in the specifier of IP position and thus outside the coordinate structure, Verb Movement is still problematic. However, a closer look at the data reveals that true VP coordination is not attested in QZ. Instead, the problematic examples are simply cases of the appearance of the null third person pronoun. This analysis enables the Verb Movement proposal to be maintained in fully general form.

We saw in section 10.4 that the normal higher-level coordination is between coordinate IPs,[3] as exemplified in (347) for both matrix and embedded IP coordination.

[3]In the Mixtec branch of the Otomanguean language family, IP coordination is the **only** attested type of coordination. This is illustrated here for Ayutla Mixtec, taken from Hills (1990:225–227). (i) shows a normal sentential coordination, while (ii)–(iv) illustrate how normal DP list coordination is expressed using IP coordination. In (ii) the listed items serve as the subject of the sentence. When the items in the list serve as the object (iii) the verb and subject precede each item. (iv) shows that the verb, subject, and object are repeated in each conjunct when the listed items serve as the indirect object.

(i) [*Sachūūnh yūhu*] *te* [*sachūūnh tu yōhó.*
P:work 1sg:EMPH and P:work also 2sg:EMPH
"**I** will work and **you** will also work."

(ii) [*Ni shīta shīnih*] *te* [*ni shīta īchi*] *te* [*ni shīta yātah*].
C C:be.lost hat and C C:be.lost machete and C C:be.lost hand.hoe
"The hat, machete, and hoe were lost."

(iii) [*Sātah ra nduchīh*] *te* [*sātah ra ūnh*] *te* [*sātah ra nūnih*].
H:buy he bean and H:buy he salt and H:buy he corn
"He is buying beans, salt, and corn."

(iv) [*Tashi ra shuhūnh ndahāh ikwān*] *te* [*tashi ra shuhūnh ndahāh pēgrū*]
P:give he money hand John and P:give he money hand Peter
"He will give the money to John, Peter,

(347) a. *Che-bel r-laan de gaz de, [sob de]* BATHROOM 8
when-if H-want 2 P-bathe 2 F/sit 2
"When you want to bathe, sit
o [su-li de].
or F/stand-straight 2
or stand."

b. *G-an pe s-na de [g-aa de lyu]* TRIPTOQ 3
P-know Q F-want 2 P-lie.down 2 land
"We'll see if you will want to lie down on the ground
o [g-aa de lo daa].
or P-lie.down 2 face mat
or on a mat."

Alongside these clausal coordination examples, there are also examples like those given in (348) which appear to be examples of VP or I′ coordination. The key difference between the examples in (348) and those in (347) is that the subject does not appear after the second verb in (348). The presence of a single subject for two or more VPs leads to the assumption that coordination of some category lower than IP is at work in these examples.

(348) a. *Dxe w-luzh w-az maa, [w-zob maa lo ngbis]* MARTRIST 20
already C-finish C-bathe 3A C-sit 3A face sun
"When he had finished bathing, he sat in the sun
[bwich led maa].
C/dry body 3A
and dried his body."

b. *Lux lo [g-aa noo lër] [zoob-ke noo niz]* LIFEINQ 16
finish face P-wash 1EX clothes F/shell-also 1EX corn
"After that, I will wash the clothes and also shell the corn
[g-eey nil s-te ne y-kaa gyët yzhe].
P-cook corn.meal F-one that P-do tortilla tomorrow
and cook more corn meal that will make tortillas tomorrow."

---

te [tashi ra shuhūnh ndahāh bētō]
and P:give he money hand Bob
and Bob."

c. *La xnaa noo* [*r-yaan x-kuch*] [*r-yaan x-kyed*]. LIFEINQ 14-15
FM mother 1EX H-feed POS-pigs H-feed POS-chickens
"My mother feeds the pigs and the chickens."

d. [*Bweree x-yag men*], [*w-nii lo xuz nzaap gin* CWENT 6
C/return nephew 3RD C-speak face father girl this
"His nephew$_i$ returned and said to this girl's father$_k$
ne y-ka men xsaap men].
that P-buy 3RD daughter 3RD
that he$_i$ would marry his$_k$ daughter."

e. *Chene* [*w-yab te mër gos*], [*r-e lo maa*]: MARTRIST 2
when C-fall one pigeon female H-say face 3A
"When a female pigeon landed and said to him,"

The examples in (348) deserve a closer look to determine whether there are obvious reasons which can account for the missing subject in the second conjunct. Therefore, each example will be discussed in turn.

(348a) is actually not a clear example of VP coordination, since there are two very plausible alternative explanations for why the subject of the second conjunct is 'missing'. The best explanation is that no external argument is assigned by the verb, so the subject is not really 'missing' at all. *Bich*[4] "dry" is an unaccusative verb, so no argument involving an Agent θ-role is selected, as discussed in section 4.3. The conjunct simply reads "his body dried". The sun, not the pigeon, did the actual drying. Alternatively, if there were an Agent argument present, it could be covert since it would be coreferent with the possessor of the object. Throughout most of the Zapotecan languages, a subject may be unexpressed if it is coreferent with the possessor of the object of the same verb. See sections 5.1 and 13.2.1.1 for further discussion of this phenomenon.

[4]The Completive Aspect *w-* and the initial *b* of the verb root metathesize.

(348b) likewise has two plausible alternative explanations for the 'missing' subject after the verb *g-eey* "P-cook". This verb is also unaccusative, so no Agent θ-role is selected. Strictly speaking, (348b) is noncommittal about who will do the cooking. As discussed in section 4.3, the Agent or Cook θ-role associated with the verb *eey* "cook" is only expressed when the Causative morpheme is added, as shown in (349).

(349) *Chene r-beree noo, lët me dxe w-gw-eey kafe.* LIFEINQ 4
when H-return 1EX FM 3R already C-CAUS-cook coffee
"When I returned, she (my mother) had made the coffee."

The other alternative in this case would be to assume that (348b) is a control construction with *PRO* as the subject of *g-eey* "P-cook", since the Potential Mood marker can signal a non-finite construction.

Both (348a&b) can therefore be analyzed instead as cases of IP coordination. These alternate analyses are not available in examples (348c–e), however. We do not have any unaccusative verbs in the VPs in (348c–e), the 'missing' subject cannot be understood as coreferent with the possessor of the object, nor is the Potential marker used to allow the possibility of a control construction. Further, QZ is not a *pro*-drop language so we cannot assume the subject of the second conjunct is *pro* (Van Valin 1986, Godard 1989).

In (348c) a focused phrase is the subject of two VPs which are headed by the same verb and have the same Habitual Aspect marking.[5] In (348d) the subject is in its normal place following the first verb, but it is interpreted as the subject of the second VP as well. In this example there are two distinct verbs but both are in the Completive Aspect. Example (348e) has both distinct verbs and distinct Aspect marking, again with the subject of both VPs appearing only after the first verb. These constructions thus appear to involve VP and/or I′ coordination. We consider next how each of the proposals for clause structure can account for such constructions.

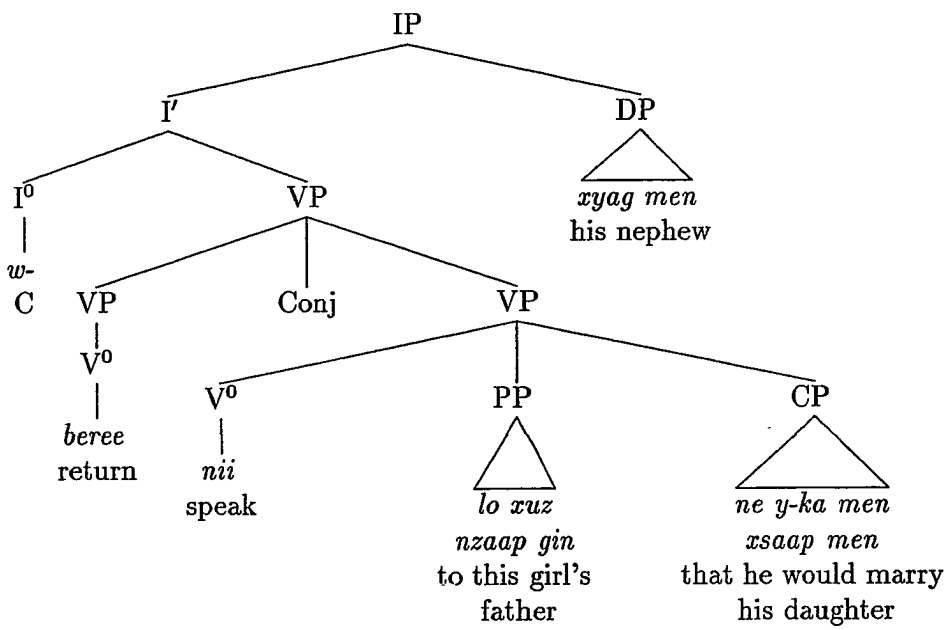
[5]Example (348c) can be analyzed under either proposal by Across the Board Extraction (Williams 1978). The example would consist of coordinate IPs, with Across the Board Extraction of the subjects to the focus position. This is shown in (352) for the Verb Movement proposal and is also clearly unproblematic for the Subject Adjunction account.

11.1.2.1 The Subject Adjunction Account

Chung (1990) argues for the Subject Adjunction proposal for Chamorro based primarily on the attested VP coordination constructions, which are quite a bit more robust in Chamorro than in QZ. No movement out of the coordinate VP or I′ structure is required under this proposal, and lowering of the subject to adjoin to the verb in the first conjunct will account for the surface word order.[6]

Chung (1990) shows that the Subject Adjunction hypothesis provides an account of all the variation in the VP coordination structures attested in Chamorro. Such a hypothesis can also account quite well for the QZ examples (348c–e) by treating them as cases of either VP or I′ coordination. For example, (348d) could be analyzed as having coordinate VPs with the D-structure shown in (350). The subject then right-adjoins to the leftmost verb, producing the correct surface order.

(350) D-structure

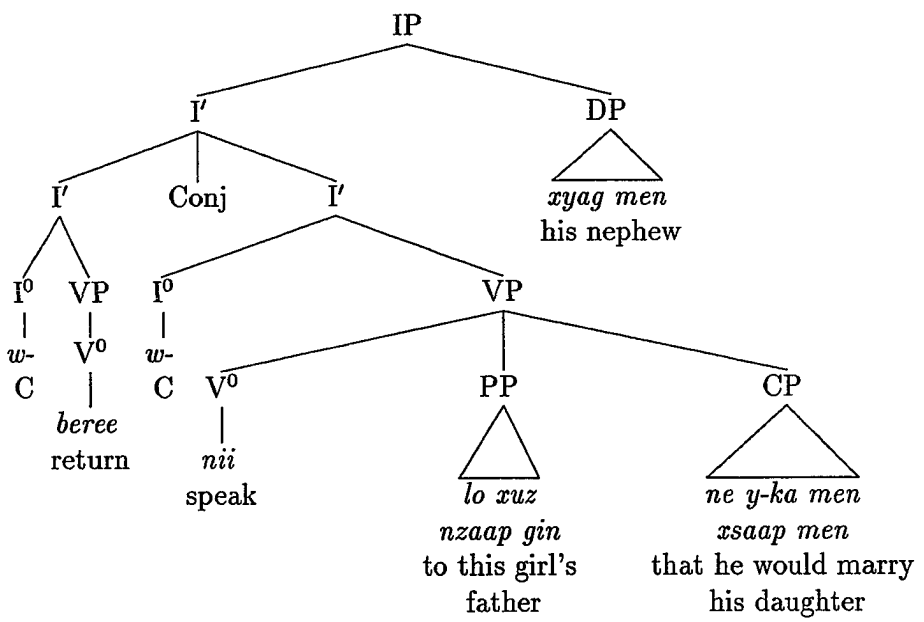


[6]Here again as in the auxiliary constructions, QZ requires the stipulation that the subject may only adjoin to the first or leftmost verb. In contrast, Chamorro allows the subject to adjoin to any projection of V^0 in either conjunct.

In order to claim that (348d) is correctly analyzed as having coordinate VPs, some explanation must be given to account for the Aspect marking appearing on both verbs in the conjoined structure. Such an account would require the inflection feature to pass to the head(s) of its complement and be overtly realized there. I claim that an analysis of the Aspect markers as morphological and syntactic words but as phonological clitics would be more correct for QZ overall, however, making the Aspect markers parallel to the phonologically dependent pronouns. This means that the Aspect marker would simply occupy I^0 in the syntax, with the phonological component determining which parts join together to be realized as single words.

Under this analysis of the Aspect markers, (348d) would be analyzed as coordinate I's instead. Further, the coordinate I' structure will allow for cases where the Aspect is different on the two verbs in the conjoined structure (as in (348e)). The analysis of sentence (348d) as coordinate I's can also be easily accounted for under the Subject Adjunction proposal, since the subject also originates above I'. In this case the D-structure would be as shown in (351).

(351) D-structure

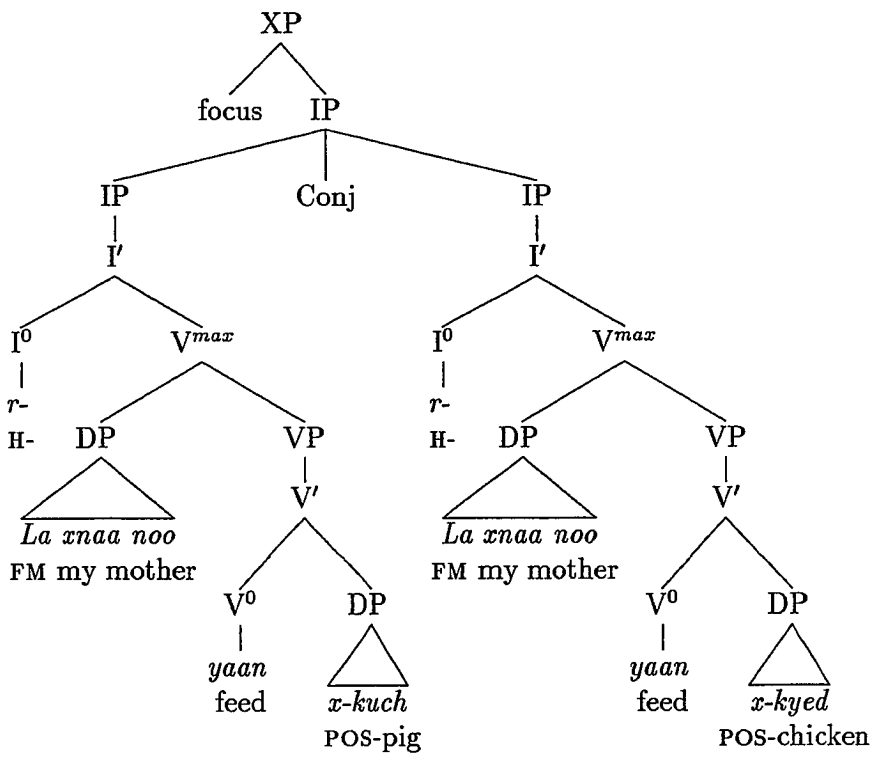


The subject still right-adjoins to the leftmost verb, and the correct surface order is obtained, showing that the Subject Adjunction proposal can account quite nicely for these coordination constructions.

11.1.2.2 The Verb Movement Dilemma

On the other hand, VP or I′ coordination is quite problematic for the Verb Movement proposal. Of the three crucial examples, only (348c) can be accounted for under the Verb Movement hypothesis. This is because it can be analyzed as coordinate IPs where the subject has been focused via Across the Board Extraction (Williams 1978). The D-structure for (348c) under this analysis is shown in (352).

(352) D-structure



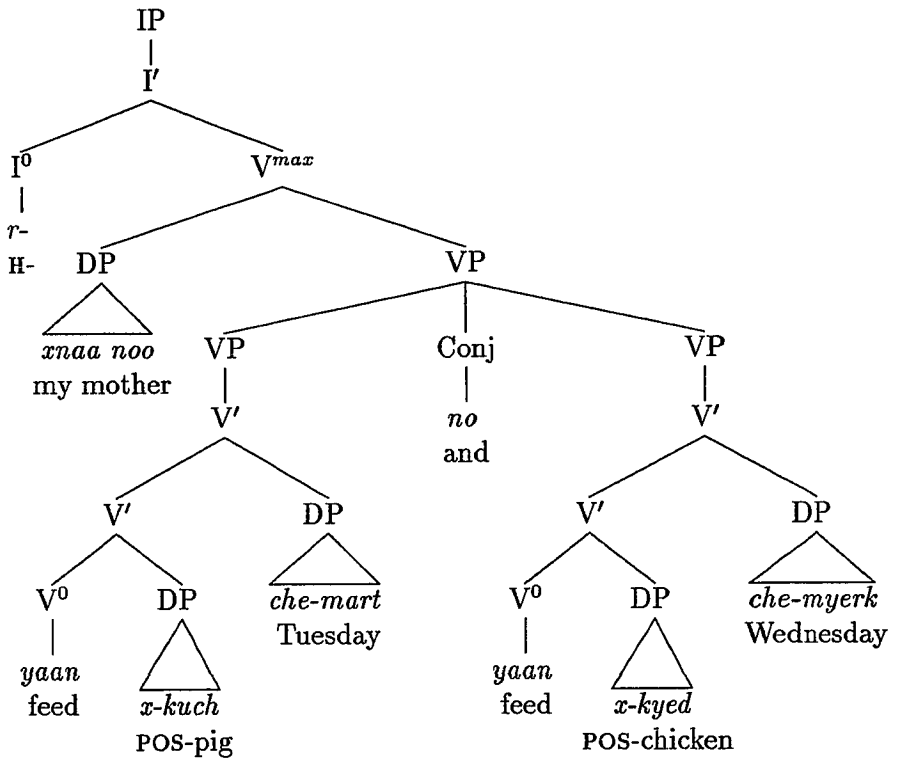
From this D-structure, V^0-to-I^0 movement within each conjunct and Across the Board Extraction of both subjects to the focus position will give the correct surface order.

McCloskey (1991) shows that the Verb Movement proposal can also account for coordination examples which have the same verb heading each conjunct, as in example (353), since the V^0-to-I^0 movement can apply as an Across the Board Extraction.[7]

(353) [*R-yaan xnaa noo x-kuch che-mart*] *no* [*x-kyed che-myerk*].
H-feed mother 1EX POS-pig day-Tuesday and POS-chicken day-Wednesday
"My mother feeds her pigs on Tuesday and her chickens on Wednesday."

The D-structure assumed for (353) is given in (354), where the coordination is at the VP level within V^{max}.

(354) D-structure



V^0-to-I^0 movement can apply from this D-structure as an Across the Board Extraction from the coordinate structure to produce the surface order given in (353). Such

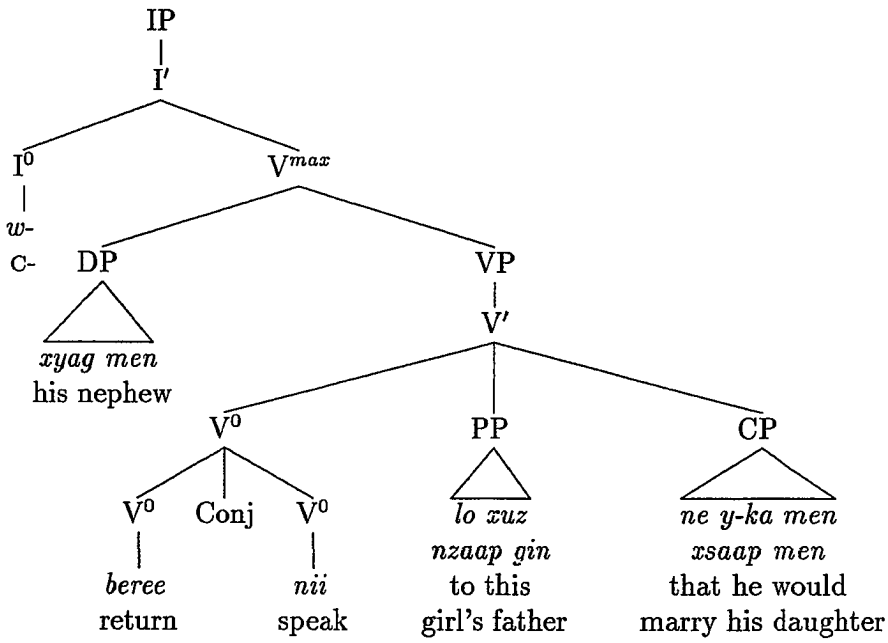
[7]Though (353) is possible in QZ, full clausal coordination with the verb repeated in each conjunct is preferred. This example might also be assumed to be an instance of Gapping. Section 11.1.2.3 shows that the only types of constructions analyzable as Gapping that are attested in QZ are those that can be accounted for via Across the Board Extraction of the verb to Infl, as in (353).

movement is not possible when the two verbs are distinct, though.[8] McCloskey (1991) shows that this is the correct prediction for Irish, since examples such as (348d) are ungrammatical in that language.

Examples (348d–e) are grammatical in QZ, however, so the correct analysis must have an account for them. We can explore a few more options under the Verb Movement approach with different levels of coordination before abandoning a straight coordinate structure account for these problematic examples.

Since the Verb Movement proposal has the subject starting and remaining internal to VP, one analysis is to posit that (348d) simply has coordinate verbs at D-structure,[9] as shown in tree (355).

(355) D-structure



[8]Similar results hold for coordination of IP under negation; both the verbs and the Aspect marking must be identical for V^0-to-I^0-to-Pol^0 movement to occur as an Across the Board Extraction. Even in this case, coordination of PolP, with repetition of the negated verb in both clauses, is preferred.

[9](348d) is also grammatical with the overt conjunction *no* "and" between the conjuncts (i.e. after the subject), casting further doubt on the credibility of a coordinate verb analysis.

The proposed movement of the coordinate verb structure to right-adjoin to Infl will not produce the correct surface order, however. Instead, only the order given in (356) would obtain, which is ungrammatical. The subject must follow the first verb in a non-participle construction.[10]

(356) **Bwere-nii xyag men lo xuz nzaap gin*
C-return-speak nephew 3RD face father girl this
(His nephew returned speaking to this girl's father
ne y-ka men xsaap men.
that P-buy 3RD daughter 3RD
that he would marry his daughter.)

Further, the Verb Movement proposal provides no way to account for the different Aspects marked on the two verbs in (348e). To allow for the differing Aspects, this coordination must be at either the I′ or IP level. But this means each conjunct has its own VP complement, which again requires that there be two overt subjects. (357) shows the resulting S-structure tree after Verb Movement has applied to a coordinate I′ structure, but this only generates a version of (348e) in which each predicate has its own overt subject (as in the normal case of IP coordination).

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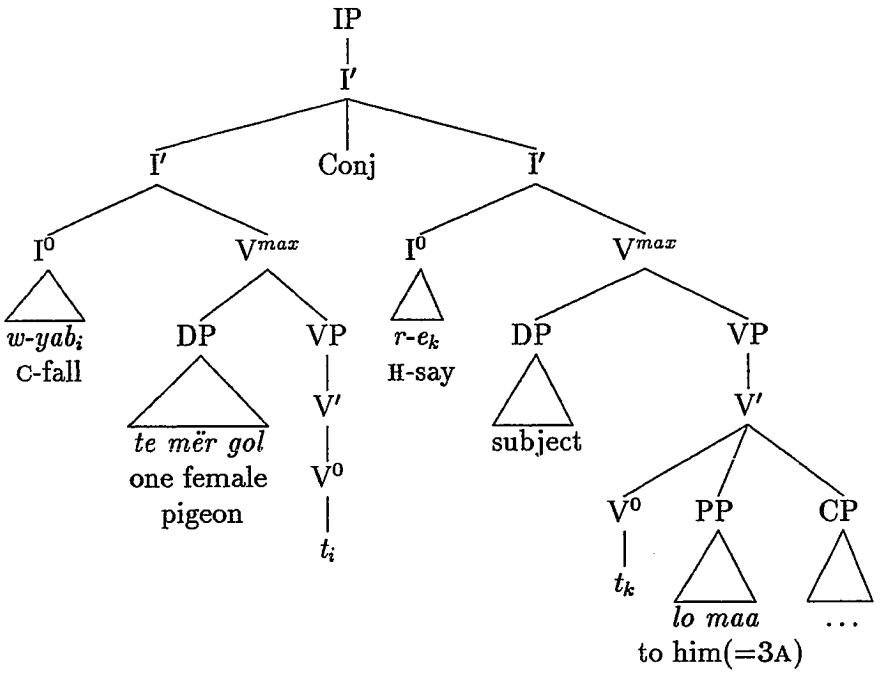
[10]The five motion verbs which may take a participle complement are the same five verbs discussed in the last section which may act as auxiliaries. Examples of this participle construction are given in (i)–(ii). The participle marker *y-*, shown in (i), only appears before vowel-initial verb roots.

(i) *R-a-y-aan noo x-kuch xnaa noo.* ESCUELA 19
H-go-PRT-feed 1EX POS-pig mother 1EX
"I go feed my mother's pigs."

(ii) *W-on men w-zob-tsaa te maa.* MANSNAKE 2
C-hear 3RD C-sit-shout one 3A
"He heard an animal sitting shouting."

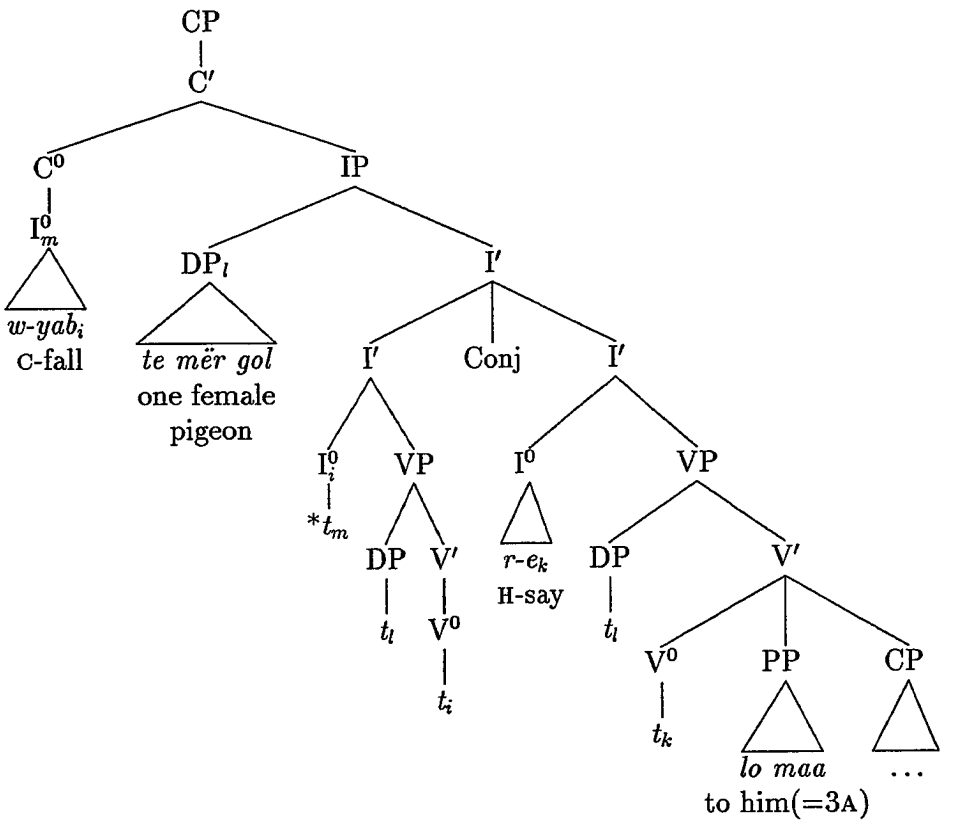
Beree "return" is not attested in participle constructions.

(357) S-structure



The problem with deriving examples like (348d–e) is not simply that the subject begins inside the coordinate structure. Even if the subject occupies the specifier of IP position above a coordinate I′ structure (as in (358) for (348e)), either by being base generated there or by being extracted Across the Board from the coordinate structure, it is still impossible to obtain the attested surface order under the Verb Movement hypothesis. The crucial problem is still the needed movement of the first verb out of the coordinate structure to precede the subject, violating the Coordinate Structure Constraint (Ross 1967), which QZ otherwise follows.

(358) * S-structure



The Verb Movement proposal simply cannot account for examples like (348d–e) as coordination structures. If it is truly the correct proposal for QZ, there must be some alternative account of the problematic examples.

11.1.2.3 Possible Alternative Analyses

The first alternative that comes to mind is a deletion analysis, such as Gapping or Stripping. Examples like (359a) cannot be accounted for by a level of coordination below the sentence level. In this sense, (359a) is parallel to the problematic QZ examples (348d–e).

(359) a. Greg hit the ball to Jeff and Bill to Sam.

b. Greg hit the ball to Jeff and Bill hit the ball to Sam.

A deletion analysis, commonly referred to as Gapping, is proposed for these cases by Ross (1970), Jackendoff (1971), Hankamer (1973, 1979), Neijt (1979) and others. We need to take a closer look at the characteristics of Gapping constructions, to see if the QZ constructions can be analyzed as Gapping.

The basic properties of Gapping are given in (360),[11] with illustrative examples following in (361).[12]

(360) Basic Properties of Gapping:

a. The coordinate structure must involve direct coordination; neither coordinate may be embedded (361b). Only 'and' and 'or' can be the conjunctions.
b. The conjuncts must have parallel structure (361l).
c. Coreferent elements are deleted from the nonleftmost conjuncts, usually leaving behind only two constituents (361a,c,g–h,j). The verb is usually deleted; if it is, all auxiliaries and preverbal adverbs must also be deleted (361c–e,g–h).
d. Island constraints are obeyed (361k–l).

(361) a. Bob likes salmon and Bill roast beef.

b. *Bob likes salmon and Sue said Bill roast beef.

c. Bob really likes salmon and Bill roast beef.

d. *Bob really likes salmon and Bill really roast beef.

e. *Bob really likes salmon and Bill sort of roast beef.

f. *Beth ate yogurt and Norma at midnight.

g. I lent Harvey a nickel and Sue a dime.

h. I might lend Harvey a nickel and Sue a dime.

i. *I might lend Harvey a nickel and should Sue a dime.

j. I lent Harvey a nickel last week and Sue a dime on Tuesday.

k. *That Alfonse ate the rice is fantastic and Harry the beans.

l. *Alan discussed the question of which rice we would eat
and Harry which beans.

[11] I am indebted to Jorge Hankamer for discussion of the information on Gapping and Stripping. Some of it is also found in Hankamer (1979:Chapter 4).

[12] (361f) is taken from Goodall (1987:79) and (361k–l) are from Neijt (1979:24).

Stripping is very similar to Gapping, except that it only strands one maximal projection. Stripping constructions are most frequently found in the elliptical responses to questions, thus extending beyond the sentence level. The close adjacency required in these question-answer pairs is parallel to the direct coordination requirement for Gapping.

(362) a. Where did you go yesterday?

b. To the beach.

c. What did you do there?

d. Dug for sand crabs.

Gapping and Stripping constructions are unique in that they seem to care more about what type of constituent is left behind than about what is deleted. This is in contrast to constructions such as VP-deletion, Sluicing, and N′-deletion in possessed noun phrases, and to gaps in relative clauses and comparative clauses.[13] Identity is still required for deletion.

The Gapping rule is basically "Delete under identity in parallel coordinate structures, leaving behind only maximal projections." (See Hankamer (1979) and Neijt (1979) for alternative formulations.) If, as Neijt argues, there is no limitation to exactly two constituents left behind, then Stripping in parallel coordinate structures can also be subsumed under this rule. The QZ examples (repeated in (363) in bracketed form) do not really have parallel structure, however, making a Subject Gapping account seem rather dubious. In each case, the structure is V S V __ IO CP.

[13]It is possible to assume that the gaps in VP-deletion, Sluicing, and N′- deletion in possessed noun phrases are a type of null pronominal within GB theory, and that the gaps in relative clauses and comparative clauses are a type of null anaphor such as a trace (Jorge Hankamer, p.c.). The missing elements in the Gapping and Stripping constructions are more problematic, however, since they need not form a constituent and they do not pattern with any other known type of gap. I know of no analysis of Gapping or Stripping constructions within the GB theoretical realm.

(363) a. [*Bweree* [*x-yag men*]] (*no*) [*w-nii* _ [*lo xuz nzaap gin*]
C/return nephew 3RD (and) C-speak face father girl this
"His nephew$_i$ returned and said to this girl's father$_k$
[*ne y-ka men xsaap men*]].
that P-buy 3RD daughter 3RD
that he$_i$ would marry his$_k$ daughter."

b. *Chene* [*w-yab* [*te mër gos*]], [*r-e* _ [*lo maa*] [CP...]]
when C-fall one pigeon female H-say face 3A ...
"When a female pigeon landed and said to him, ..."

I therefore reject a Subject Gapping analysis due to the lack of parallel structure in the problematic examples.[14]

[14]Rosenbaum (1974:21–37) claims that a wide range of Gapping constructions are possible in Valley Zapotec. A number of his examples are given here to illustrate the distribution. These sentences are supposed to be responses to questions like (i) "What do they have?", (ii) "What will they eat?", and (iii) "What did they make there?".

(i) a. *N-ap Xwain yuu, Abel mule, ne Marku yu.*
s-have Juan house Abel money and Marcos land
"Juan has a house, Abel money, and Marcos land."
VSO + SO + SO

b. **Xwain yuu, Abel mule, ne n-ap Marku yu.*
Juan house Abel money and s-have Marcos land
(Juan a house, Abel money, and Marcos has land.)
*SO + SO + VSO

(ii) a. *Ndoʔ g-o Xwain, bizaʔ Abel, ne garbanz Marku.*
mole P-eat Juan beans Abel and chickpeas Marcos
"Mole Juan will eat, beans Abel, and chickpeas Marcos."
OVS + OS + OS

b. *Ndoʔ Xwain, bizaʔ Abel, ne garbanz g-o Marku.*
mole Juan beans Abel and chickpeas P-eat Marcos
"Mole Juan, beans Abel, and chickpeas Marcos will eat."
OS + OS + OVS

(iii) a. *Jume been Xwain, bizie Abel, ne yuu Marku.*
basket C/make Juan well Abel and house Marcos
"A basket Juan made, a well Abel, and a house Marcos."
OVS + OS + OS

b. *Jume Xwain, bizie Abel, ne yuu been Marku.*
basket Juan well Abel and house C/make Marcos
"A basket Juan, a well Abel, and a house Marcos made."
OS + OS + OVS

c. *Xwain been jume, Abel bizie, ne Marku yuu.*
Juan C/make basket Abel well and Marcos house
"Juan made a basket, Abel a well, and Marcos a house."
SVO + SO + SO

As a second alternative, one might wonder whether the first verb must always be an intransitive verb of motion, as in the two problematic examples. Perhaps *beree* "return" and *yab* "fall" should be added to the motion auxiliaries listed in the last section. We saw there that in the auxiliary construction, the single subject appears directly after the first (auxiliary) verb, as it does in (363) (repeated from (348d–e)). Note, however, that the second verb in each example carries Aspect marking. Those examples therefore cannot be auxiliary constructions taking a VP complement. The fact that an overt conjunction is allowed before the second verb further rules out an auxiliary construction analysis.

The crucial fact to note is that VP/I′ coordination is not generally productive in QZ. Normally the subject must be repeated in each conjunct. The examples in (363) (repeated from (348d–e)) are the only text examples found without a repeated subject. What makes these examples special is that the subject is a full nominal phrase. Recall from Chapter 5 that there is a hierarchy of types of nominal phrases. Quantified nominal phrases are at the top and pronouns are at the bottom of this hierarchy, with modified or possessed nominals, proper names, and common nouns in the middle. Whereas pronouns must always be repeated, those nominals higher in the hierarchy may antecede a null third person pronoun. I believe this null third

d. *Xwain jume, Abel bizie, ne Marku been yuu.*
Juan basket Abel well and Marcos C/make house
"Juan a basket, Abel a well, and Marcos made a house."
SO + SO + SVO

e. *Xwain jume been, Abel bizie, ne Marku yuu.*
Juan basket C/make Abel well and Marcos house
"Juan a basket made, Abel a well, and Marcos a house."
SOV + SO + SO

f. *Xwain jume, Abel bizie, ne Marku yuu been.*
Juan basket Abel well and Marcos house C/make
"Juan a basket, Abel a well, and Marcos a house made."
SO + SO + SOV

Only the first of these patterns (i)(a) is somewhat possible in QZ, obtainable by Across The Board Extraction of V^0-to-I^0 as shown in (354). None of the other patterns are attested in QZ, as is predicted by the Verb Movement proposal for clause structure. Instead, the verb must be repeated in each conjunct, yielding clause-level coordination with focusing in each conjunct. (iii)(e–f) are not possible even then, since only one argument may be focused in front of the verb.

person pronoun is present in the two problematic examples.

This is illustrated in the following paradigm. (364a) again contains the text example, where the subject is missing in the second conjunct. (364b), with the full subject from the first conjunct repeated, is also acceptable, though my language consultant prefers using an overt pronoun, as in (364c) over both (364a) and (364b). If the subject in the first conjunct is instead a proper name, such as *Jose*, then it may either be 'missing' in the second conjunct (364d), or *Jose* may be repeated (364e), or an overt pronoun may be used (364f). In this case, my language consultant prefers repeating *Jose* to avoid conflict with an alternative reference for the pronoun. Finally, as predicted under this analysis, if the initial subject is a pronoun, it must be repeated (364g–h).

(364) a. [*Bweree x-yag men*], [*w-nii* __ *lo xuz nzaap gin* CWENT 6
C/return nephew 3RD C-speak face father girl this
"His nephew$_i$ returned and said to this girl's father$_k$
ne y-ka men xsaap men].
that P-buy 3RD daughter 3RD
that he$_i$ would marry his$_k$ daughter."

b. [*Bweree x-yag men*], [*w-nii x-yag men lo xuz nzaap gin*
C/return nephew 3RD C-speak nephew 3RD face father girl this
"His nephew$_i$ returned and his nephew$_i$ said to this girl's father$_k$
ne y-ka men xsaap men].
that P-buy 3RD daughter 3RD
that he$_i$ would marry his$_k$ daughter."

c. [*Bweree x-yag men*], [*w-nii men lo xuz nzaap gin*
C/return nephew 3RD C-speak 3RD face father girl this
"His nephew$_i$ returned and he$_i$ said to this girl's father$_k$
ne y-ka men xsaap men].
that P-buy 3RD daughter 3RD
that he$_i$ would marry his$_k$ daughter."

d. [*Bweree Jose*], [*w-nii* __ *lo xuz nzaap gin*
C/return Jose C-speak face father girl this
"Jose$_i$ returned and said to this girl's father$_k$
ne y-ka Jose xsaap men].
that P-buy Jose daughter 3RD
that he$_i$ would marry his$_k$ daughter."

e. [*Bweree* *Jose*], [*w-nii* *Jose* *lo* *xuz* *nzaap* *gin*
C/return Jose C-speak Jose face father girl this
"Jose$_i$ returned and Jose$_i$ said to this girl's father$_k$
ne *y-ka* *Jose* *xsaap* *men*].
that P-buy Jose daughter 3RD
that he$_i$ would marry his$_k$ daughter."

f. [*Bweree* *Jose*], [*w-nii* *men* *lo* *xuz* *nzaap* *gin*
C/return Jose C-speak 3RD face father girl this
"Jose$_i$ returned and he$_i$ said to this girl's father$_k$
ne *y-ka* *men* *xsaap* *men*].
that P-buy 3RD daughter 3RD
that he$_i$ would marry his$_k$ daughter."

g. *[*Bweree* *noo/men*], [*w-nii* __ *lo* *xuz* *nzaap* *gin*
C/return 1EX/3RD C-speak face father girl this
(I/he$_i$ returned and said to this girl's father$_k$
ne *y-ka* *noo/men* *xsaap* *men*].
that P-buy 1EX/3RD daughter 3RD
that I/he$_i$ would marry his$_k$ daughter.)

h. [*Bweree* *noo/men*], [*w-nii* *noo/men* *lo* *xuz* *nzaap* *gin*
C/return 1EX/3RD C-speak 1EX/3RD face father girl this
"I/he$_i$ returned and said to this girl's father$_k$
ne *y-ka* *noo/men* *xsaap* *men*].
that P-buy 1EX/3RD daughter 3RD
that I/he$_i$ would marry his$_k$ daughter."

A very similar distribution is seen with the other problematic example. Again, (365a) is the text example with the missing subject in the second clause.[15] (365b) verifies that the quantified nominal phrase may not be repeated, but without the quantifier, as in (365c), the rest of the phrase is fine as the subject. (365d) shows that a pronoun may also be used in the second clause, though it is somewhat confusing to have two pronouns in the clause with two different referents. Further, if the first subject is a pronoun, the second subject cannot be 'missing' (365e), but must be

[15]Note that under the analysis that the 'missing' subject is simply an instance of the null third person pronoun, example (365a) could instead be analyzed as consisting of an adverbial clause and a main clause, as in "When a female pigeon landed, she said to him ..." We saw in Chapter 5 that the null third person pronoun is not required to be c-commanded by its antecedent. This allows its presence in a coordinate structure as well as in the adverbial phrase, main clause alternative mentioned here.

overtly filled (365f). This follows from the analysis that the null third person pronoun requires a non-pronominal antecedent.

(365) a. *Chene* [*w-yab te mër gos*], [*r-e __ lo maa*]: MARTRIST 2
when C-fall one pigeon female H-say face 3A
"When a female pigeon landed and said to him,"

b. **Chene* [*w-yab te mër gos*], [*r-e te mër gos lo maa*]:
when C-fall one pigeon female H-say one pigeon female face 3A
(When a female pigeon landed and the female pigeon said to him,)

c. *Chene* [*w-yab te mër gos*], [*r-e mër gos lo maa*]:
when C-fall one pigeon female H-say pigeon female face 3A
"When a female pigeon landed and the female pigeon said to him,"

d. *Chene* [*w-yab te mër gos*], [*r-e maa lo maa*]:
when C-fall one pigeon female H-say 3A face 3A
"When a female pigeon landed and she said to him,"

e. **Chene* [*w-yab maa*], [*r-e __ lo mër*]:
when C-fall 3A H-say face pigeon
(When she/it landed and said to the pigeon,)

f. *Chene* [*w-yab maa*], [*r-e maa lo mër*]:
when C-fall 3A H-say 3A face pigeon
"When she/it landed and she/it said to the pigeon,"

With the analysis that the examples of apparent VP or I′ coordination are really cases of IP coordination with a null third person pronoun in the subject position in the second conjunct, we can maintain the Verb Movement proposal both for the overall clause structure and for the structure of VP. Further, the Verb Movement proposal correctly predicts that true, productive coordination of either VP or IP is impossible.

11.2 The Structure of Non-Verbal Predicates

When we look at the structure of other types of predicate phrases, it is clear that their ordering restrictions are dependent upon the category of the predicate. In copular clauses which do not contain one of the verbal copulas *uu* "be" or *ak* "become", the predicate may be an adjective which takes the Stative Aspect marker, as illustrated in

(366a–c), an adjective which does not take Aspect marking (366d),[16] a prepositional phrase (366e), or a nominal phrase (366f).

(366) a. *N-gaa den.* MEXICO 21
S-green ranch
"The ranch is green."

b. *N-dux xnaa noo lo noo.* SNAKHAIR 4
S-angry mother 1EX face 1EX
"My mother was angry with me."

c. *Kesentyent n-yag x-too gyeey gin.* LIFEINUS 68
much S-cold POS-head mountain this
"It was very cold on the mountain top."

d. *Te park win.* BENIT 51
one park small
"One park is small."

e. *Pwert gex-ndxoo ruu nis-too.* BENIT 40
Salina.Cruz near-very mouth water-head
"Salina Cruz is very near the ocean."

f. *Per x-bur noo maa.* BRU 27
but POS-burro 1EX 3A
"But it's my burro."

The word order restrictions clearly distinguish between the [+V] and the [-V] predicates. This can be illustrated by comparing (366b) with (366e). (366b) has the order adjective-subject-complement. Further, while the subject can be fronted by focusing, it cannot appear in final position, after the prepositional phrase complement. In contrast, (366e) has the subject, *Pwert*, before the prepositional predicate. The underlying order is with the subject final.[17] The subject cannot appear between the preposition and its complement. Therefore, focusing aside, the required word order in clauses with [-V] predicates is predicate-complement-subject, not predicate-subject-complement.

[16]The motivating factor behind this division among the adjectives is unclear.

[17]This sentence is much better with the subject fronted as given, since ambiguity arises if the subject is final. In that position, the reading could also be "very near the Salina Cruz Ocean" (i.e. the ocean named Salina Cruz).

Across the VSO languages it seems to be a consistent pattern that the word order of clauses with nominal predicates (at least) differs from the usual predicate-subject-complement order. In these clauses, the subject is always final. I begin here by examining the proposals that have been put forth to account for this order difference by Doherty (1992) for Modern Irish within the general Verb Movement hypothesis framework and by Chung (1990) for Chamorro within the Subject Adjunction proposal. We will then be able to propose an account for QZ based upon this theoretical background and the QZ-specific empirical facts.

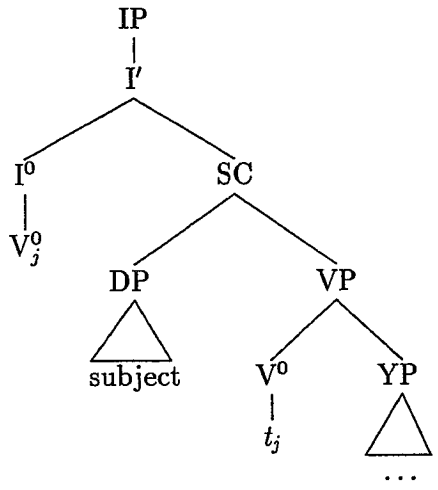
Doherty (1992) reports that Irish distinguishes between verbal clauses and copular clauses. He gives examples of the two copular elements in Irish to illustrate this distinction. The verbal copula *tá* "be" is shown in (367a), while the copula used with non-verbal predicates (glossed "COP") is shown in (367b).

(367) a. *Tá Seán ar meisce.*
be Seá drunk
"Seán is drunk."

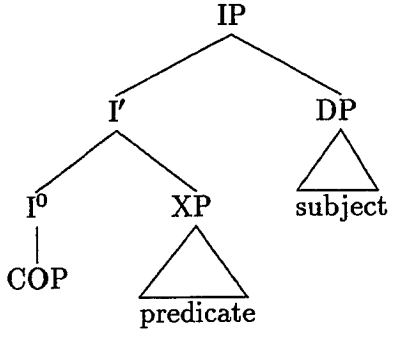
b. *Is dochtúir Seán.*
COP doctor Seán
"Seán is a doctor."

In the verbal clauses, the predicate is a substantive verb which begins in V^0 and undergoes Verb Movement to obtain the VSO order manifested, as shown in (368a) (taken from Doherty 1992:66 where he follows Chung & McCloskey 1987 in assuming that the complement of I^0 is a small clause (SC) containing the subject). In contrast, (368b) (also from Doherty 1992:66) illustrates that the copular clauses are headed by a copular element that Doherty claims is in I^0. This copula takes an XP predicate as its complement and the subject of the clause appears in the right-specifier of IP (368b) with no movement of the predicate (or the subject).

(368) a. Verbal Clauses



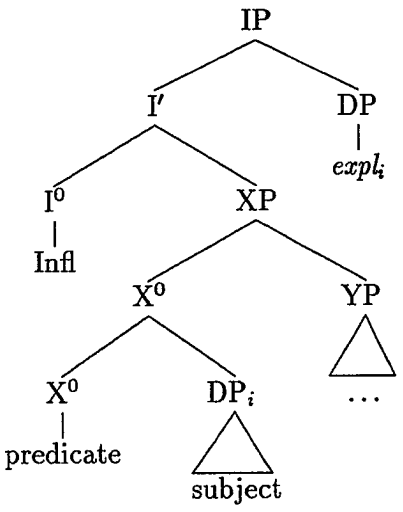
b. Copular Clauses



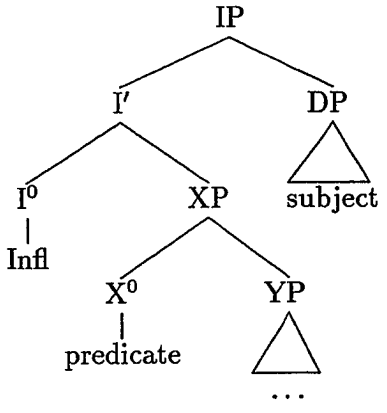
Doherty (1992) claims that the radically different clause structure proposed for copular clauses (368b) is rationalized by the fact that the copula only selects individual-level predicates. This fact then brings his analysis in line with work by Kratzer (1989), who argues that the subjects of individual-level predicates originate in the specifier of IP whereas the subjects of stage-level predicates originate as the specifier of the predicate itself.

The structure proposed for non-verbal predicates in Irish (368b) is almost identical to that proposed under the Subject Adjunction hypothesis by Chung (1990). Chung notes that predicates headed by both verbs and adjectives normally surface with (Infl) predicate-subject-complement order, though order variations are allowed in Chamorro. She analyzes this by allowing Subject Adjunction to adjoin the subject to any projection of the predicate X^0. In contrast, when the predicate is either a noun or a preposition, the required surface order is (Infl) predicate XP-subject, where the predicate XP includes all the complements and modifiers of the predicate. The only difference needed here is to state that Subject Adjunction may not apply in [-V] predicates; otherwise the clause structure is identical, as shown in (369).

(369) a. [+V] Clauses



b. [-V] Clauses



It seems that, theoretically, the Subject Adjunction proposal has a better account for the different word order attested in non-verbal predicates (both ±V) than the Verb Movement hypothesis does. However, since we have seen that the Verb Movement hypothesis provides the best account of the restrictions on negative constructions in Zapotec (Chapter 9), and of the ordering within VP complements (section 11.1.1), I will further explore here how to extend that account to the non-verbal predicates.

I show first that the account for QZ must be different from the account given for Irish by Doherty (1992) since there is no distinction in clause type based on the individual-level versus stage-level predicate distinction (Kratzer 1989). As we saw in Chapters 3–4, QZ has two copular verbs, *uu* "be" and *ak* "become". As the glosses indicate, *uu* is used mostly with individual-level predicates while *ak* is used mostly with stage-level predicates. This distinction is not always clear, however, as shown in the examples in (370)–(371).

(370) a. *N-uu gyët.* GRANDMA3 24
s-be tortilla
"There were tortillas."

b. *N-uu ndal yag bduu ru lgyëëz Santyoo.* TRIPTOQ 63
S-be lots tree banana mouth town Santiago
"There are lots of banana trees at the town of Santiago."

c. *Le mdxin n-uu len yuu.* RYENEGU 31
FM deer S-be inside house
"The deer is in the house."

d. *Barat n-uu zhob.* GRANDMA3 25
cheap S-be elote
"Elote was cheap."

e. *Kontent n-uu lextoo mër gol.* MARTRIST 40
content S-be liver pigeon male
"The male pigeon was content."

(371) a. *Ndal play n-ak ru nis.* BENIT 41
lots beach S-become mouth water
"There are many beaches at the shore of the water."

b. *Zhaandxe n-ak Estados Unidos.* LIFEINUS 4
pretty S-become States United
"The United States is pretty."

c. *G-ak men x-unaa de.* MARTRIST 29
P-become 3RD POS-woman 2
"She will become your wife."

d. *Pur mëël w-ak gits x-too noo.* SNAKHAIR 10
pure snake C-become hair POS-head 1EX
"My hair had become pure snakes."

Both *uu* "be" and *ak* "become" are clearly verbs. Clauses containing either copular verb surface with VSO order (unless focusing has fronted one constituent). This means that, under a Verb Movement account, the subject cannot originate in the specifier of IP, regardless of the individual-level or stage-level attributes of the predicate.

I propose to incorporate the distinction between [+V] and [-V] predicates into the Verb Movement hypothesis by positing a different structure for the predicate phrase itself, rather than for the clause structure. This means that all [+V] predicates will have left specifiers and $X^0_{[+V]}$-to-I^0 movement will apply. In the case of [-V]

predicates, however, all specifiers will be on the right.[18] (We shall see in Chapter 12 that all specifiers are also on the right in the structure for nominal phrases.)

Head movement of the [-V] predicate would appear to be vacuous, but there is one case which indicates that such head movement cannot apply. This case, involving a negation construction in Mitla Zapotec, was seen in section 9.2.2. The crucial example is repeated here.

(372) [*Et xten-ä*]*-di-ni.* (=261b)
not belongs.to-1EX-NEG-3RD
"It isn't mine."

Recall that the account of this example involved movement of the $DP_{[+neg]}$ (bracketed in (372)) to the specifier of NegP (or PolP). Head movement of the D^0 *et* to Neg^0 would not allow this attested example to be generated. Instead, the order obtained would be as shown in (373a). Applying both head movement of D^0 to Neg^0 and fronting the remaining $DP_{[+neg]}$ (i.e. without the subject) to the specifier of NegP also yields incorrect results, as shown in (373b). We must therefore insure that head movement does not apply in [-V] predicates.

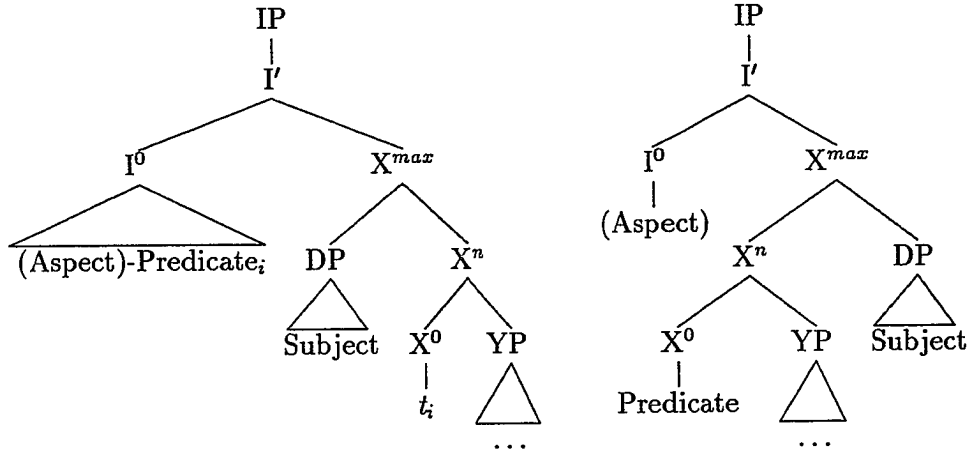
(373) a. **Et-di xten-ä-ni.*
not-NEG belongs.to-1EX-3RD
(It isn't mine.)

b. **Xten-ä et-di-ni.*
belongs.to-1EX not-NEG-3RD
(It isn't mine.)

[18] I assume following Grimshaw (1990) that all functional projections in the main backbone of the clause are [+V]. The quantifiers used in the special number marking constructions analyzed in Chapter 13 will also need to be [+V], whereas when used as determiners the quantifiers are [-V].

My proposal to account for the variation in word order between [±V] predicates is illustrated in (374). All phrase-level projections are uniformly head-initial. The [+V] projections are also specifier-initial, while the [-V] projections have their specifiers on the right. Head movement of the predicate X^0 is tied to those projections which are specifier-initial (i.e. [+V]).

(374) a. [+V] Clauses b. [-V] Clauses



This proposal thus makes the [±V] distinction on predicate type noted under the Subject Adjunction account work within the Verb Movement framework by proposing different structures for the predicate phrases.

We have seen, then, that VP complement constructions as well as the negation constructions fall out easily under a Verb Movement analysis. Further, we were able to propose an extension of the basic Verb Movement account to handle the clauses with non-verbal predicates. Though the account is not completely parallel, it retains the head-initial nature of all projections in QZ and divides the specifier-initial projections from the specifier-final ones along the natural division between [±V] heads. Head movement of the predicate was also seen to follow this division, with only the [+V] heads undergoing movement to I^0.

Chapter 12

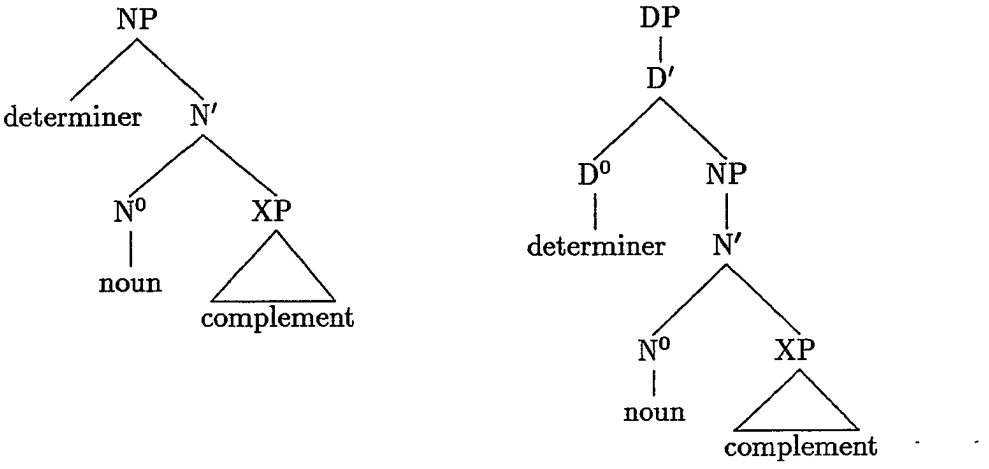
Structure of Nominal Phrases

In the last chapter we determined that clauses in which the predicate is a nominal phrase have their subject in final position (in the specifier of D^{max}) and that head movement from D^0-to-I^0 does not take place in clauses with such [-V] predicates. Here we look at the structure of regular nominal phrases which are used as arguments (or within adjunct phrases). We will see that the specifier of NP is also on the right and that head movement does not take place within the nominal phrase (DP) either. Thus, the structure I propose for QZ nominal phrases corresponds to the structure needed for [-V] predicates.

It has been widely assumed that there is a parallelism between the structure of the clause and the structure of nominals, where the possessor of the noun is seen as parallel to the subject of the clause (Chomsky 1970).[1] Therefore, the Verb Movement and Subject Adjunction proposals each have corresponding proposals for the structure of nominals. Both of these proposals follow the DP Hypothesis (Abney 1987, Stowell 1989) in which nominal phrases are headed by a determiner, which selects a noun phrase as its complement, as sketched in (375b). This DP structure is proposed to replace the basic NP structure assumed earlier, shown in (375a).

[1]Not all languages demonstrate this parallelism. For example, in Chinese, even the position of the head differs: verbs precede their objects but nominals are head-final.

(375) a. NP structure $\Longrightarrow$ b. DP structure



The DP Hypothesis is designed to directly reflect the assumed parallelism between the clause structure and the structure of nominals. Just as the clause is projected from a functional head (I^0) which takes a lexical phrase (VP) as its complement, nominals are projected from a functional head (D^0) and take a lexical phrase (NP) as their complement.

We begin by looking at the particular versions of the DP Hypothesis which correspond to the Verb Movement and Subject Adjunction proposals, respectively. Section 12.2 then presents the DP structure I propose for QZ, which is distinct from both proposals. This DP structure accounts well for the QZ data, but is somewhat disappointingly not parallel to the structure of clauses with verbal predicates. It is completely parallel to the structure of clauses with [-V] predicates, however, maintaining the [±V] division in structure noted in Chapter 11. Section 12.3 then explores the coordination possibilities within nominals, which serves to reinforce the proposed structure for nominal phrases.

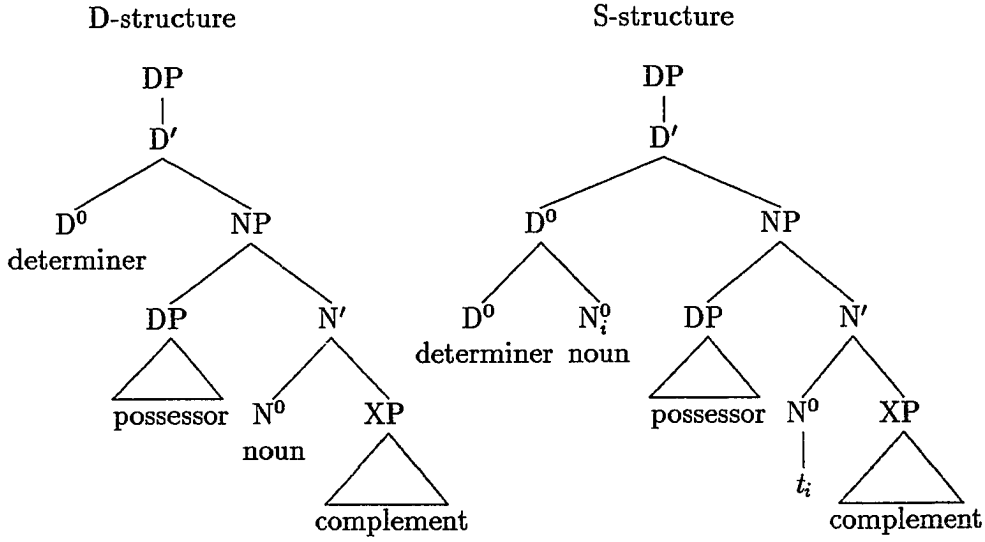
12.1 The DP Structures Parallel to the Clause Structure Proposals

The DP structures proposed by the Verb Movement and Subject Adjunction theories of clause structure will be briefly presented and evaluated in turn.

12.1.1 The Verb Movement Account

According to the version of the DP Hypothesis associated with the Verb Movement proposal, the possessor occupies the specifier of NP position, and then N^0-to-D^0 movement occurs. This head movement accounts for the fact that the possessor follows the noun, as shown in (376). (Adjoined elements such as adjectives and relative clauses are omitted here.)

(376) Proposed DP structure under the Verb Movement hypothesis



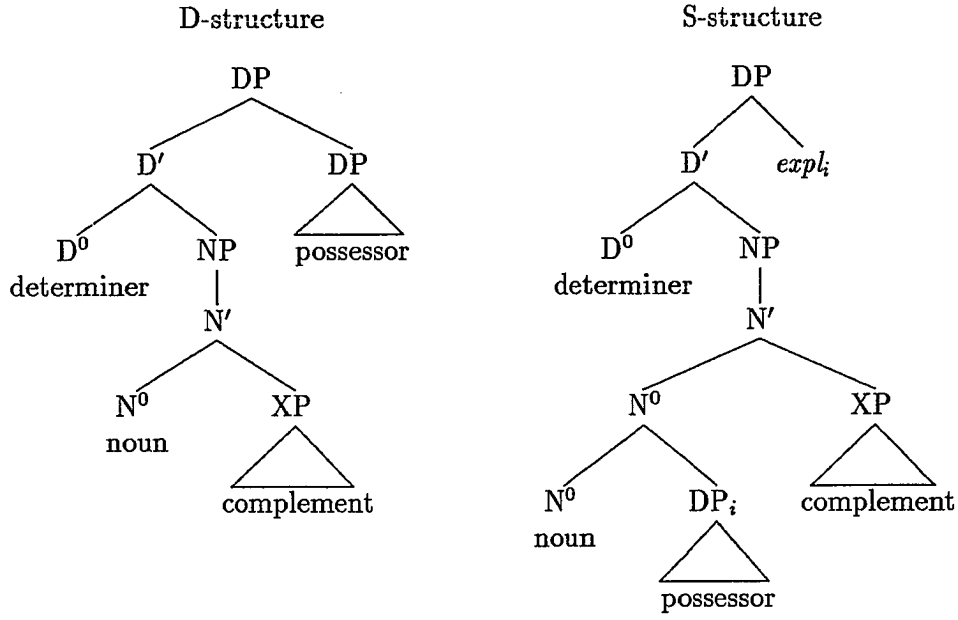
In evaluating this proposal, we can note already a difference between the proposed head movement from V^0-to-I^0 and from N^0-to-D^0: the complex unit resulting from V^0-to-I^0 movement forms a single word, and therefore such movement might be seen as resulting from morphological subcategorization (Rizzi & Roberts 1989). This is not the case with N^0-to-D^0 movement, since the determiner and the noun remain separate

words. Structurally, though, the clause structure and nominal structure proposals are quite parallel, including the fact that the specifier of the functional projection is not used as an argument position.

12.1.2 The Subject Adjunction Account

Under the Subject Adjunction version of the DP hypothesis, the possessor begins in the specifier of DP and then right-adjoins to the noun, in a similar manner to the subject adjoining to the verb. This is shown in (377), again omitting adjoined constituents. Under this theory neither adjunction is assumed to form a single word, since in both cases a maximal projection adjoins to a head.

(377) Proposed DP structure under the Subject Adjunction hypothesis



This structure is completely parallel to the corresponding proposal for clause structure and carries the same inherent strengths and weaknesses noted in section 6.2.2.

I will attempt to show that neither of these proposals can account for all the possible orders and relationships within nominals in QZ. Instead, I propose an alternative version of the DP hypothesis which does not involve movement of any constituent.

12.2 Proposed DP Structure for QZ

As seen in section 3.1, nominal phrases do not carry any morphological case marking in QZ, nor is there any number marking except through the use of quantifiers. There are no clear cases of definite nor indefinite determiners, except that *pa* seems to be a *wh*-determiner and the focus marker acts somewhat like a determiner as well. In QZ nominal phrases the quantifier or determiner comes first, followed by the noun. This in turn may be followed by one or more adjectives, a possessor, a demonstrative, and one or more relative clauses. Normally, though, only one post-modifier is used. Examples of some of the more complex nominal phrases found in the texts are given in (378), where the relative clauses in (378a–b) and the constituent being possessed in (378c) are bracketed for clarity.

(378) a. *ndal ngyed gol* [*w-u mëëz*] RANCHO 12
lots chicken old S-eat fox
"lots of old chickens that the fox ate"

b. *te x-mig noo* [*ne r-laan te men* HORTENS 4
one POS-friend 1EX that H-want one 3RD
"a friend of mine that wants a person
ne r-nii disa]
that H-speak language
that speaks the language"

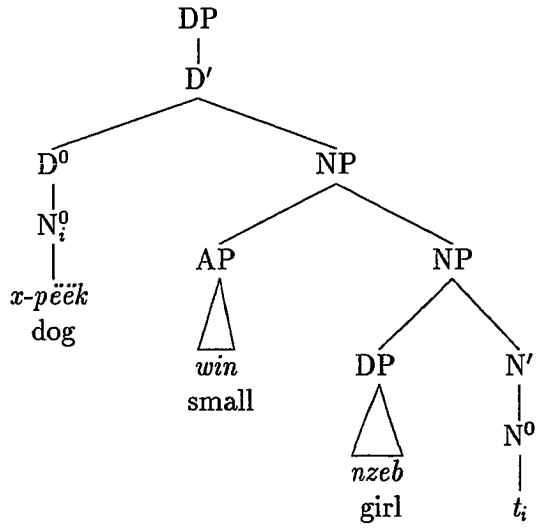
c. *porke w-et* [*x-pëëk win*] *nzeb* SYANODEN 16
because C-die POS-dog small girl
"because her little dog had died"

The fact that relative clauses come after the possessor (378b) is problematic for the Subject Adjunction account where the possessor is in the specifier of DP. The relative clause would then have to be adjoined to DP, but this violates the prohibition against adjunction to arguments (Chomsky 1986:6). The position of adjectives to the left of the possessor (378c) is also a problem, since the adjunction of the possessor cannot be directly to the noun (N^0), but instead must be to the projection directly above the adjective. Chung (1990) argues for Chamorro that Subject Adjunction may adjoin

the subject to any projection of V^0. A similar claim for Possessor Adjunction within nominals would allow adjunction to any projection of N^0. The QZ case is much more fixed: the subject must immediately follow the verb (with adjunction to V′ instead being disallowed), yet the possessor must follow any adjectives modifying the noun. A stipulation to this effect would be necessary to make the Subject Adjunction account of DP structure work for QZ.

Besides the proposed N^0-to-D^0 movement not meeting the usual morphological restrictions on head movement, as noted above, the position of the possessor with respect to adjectives is also problematic for the DP analogue of the Verb Movement proposal. In order to obtain the surface word order shown in (378c) for instance, the adjective would have to be left-adjoined to NP (above the possessor in the specifier of NP), as diagrammed in (379).

(379) S-structure



The structure in (379) is very similar to the structure ruled out for the adverbial suffixes *-re* "MORE" and *-ke* "ASSOC" in (318) (section 10.5). That structure was ruled out due to the ordering restrictions between the suffixes and to the strict adjacency requirement between the inflected verb and the subject which is necessary for Case assignment under government.

The situation is somewhat different with respect to adjectives and nouns, though parallels with the verbal case remain. First, there are not normally any ordering restrictions between adjectives as there are between adverbial suffixes. This makes the adjectives parallel to the free adverbials. We saw, however, that free adverbials could not be left-adjoined to VP due to the adjacency required by Case assignment. In order for assignment of Case to the possessor by the noun to be parallel to the assignment of Case to the subject by the verb, thus motivating the N^0-to-D^0 movement, the same strict adjacency requirement for Case assignment under government should hold (McCloskey 1991). This rules out the left-NP-adjoined position for the adjective(s) in (379), leaving the Verb Movement version of the DP hypothesis with no account of the word order within QZ nominals.

I argue instead that Case is assigned to the possessor via Specifier-head agreement with the noun, where the *x-* "POS" prefix that shows up on alienably possessed nouns is the overt reflex of this agreement. We have already seen that QZ needs to be mixed with respect to the mechanism under which 'case' (referring here to both regular Case and the relationship required by semantic operators) is assigned: main clauses, questions, and focus constructions use the minimal government relationship, whereas negative constructions and nominals use Specifier-head agreement.[2]

The phrase structure needed for nominals would be clearer if we could check the position of the possessor with respect to complements of N, since the position of complements is fixed. This would eliminate the need to consider so many possible places that adjectives may adjoin. Unfortunately, QZ does not have true noun complement constructions in which the main noun is possessed, such as the English example *Bill's letters to Sue*; instead such sentences are expressed either with embedded possessors (380a–b) or with relative clauses (380c).

[2]Use of the Specifier-head relationship for Case assignment to the possessor within the Verb Movement proposal would allow the adjectives to be left-adjoined to NP, but the proposed N^0-to-D^0 movement would then be unmotivated.

(380) a. *x-kwent x-bur noo* BRU 25
POS-account POS-burro 1EX
"on account of my burro"

b. *ru x-yuu x-mig x-patron noo* MTLEMON 11
mouth POS-house POS-friend POS-patron 1EX
"at the house of my patron's friend"

c. *te x-liber noo ne zëëd kwent lo lgyëz*
one POS-book 1EX that come story face village
"my book of stories about the village"

Some examples of noun complement constructions which do not involve possession are given in (381).[3] These fall into two categories: those in which the main noun is a body part, used to express a location (381a,b(second line)), and those in which the main noun is a classifier (381b(first line),c–e).

(381) a. *Ruu tank nga zob tapet.* BATHROOM 19
mouth tub there PR/sit rug
"On the side of the tub sits a rug."

b. *Chene w-dxiin mëëw disyember,* LIFEINUS 62
when C-arrive month December
"When December comes,
kesentyent r-ak nyag x-too gyeey
much H-become cold POS-head mountain
it will be very cold at the top of the mountain."

c. *N-ak-t men ze n-ak men Mejiko.* LIFEINUS 28
S-become-NEG 3RD how S-become 3RD Mexico
"They are not like the people of Mexico."

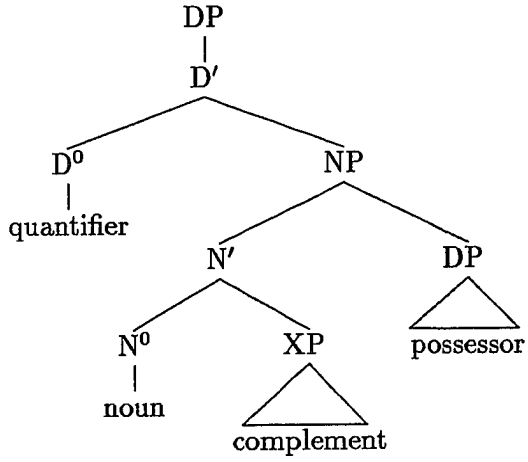
d. *N-uu tson klas bnii.* MEXICO 5
S-be three kind light
"There are three kinds of lights."

e. *W-ats te tla tabel lo pwent.* OLDMAN 15
C-break one piece plank face bridge
"A piece of the planking of the bridge broke."

[3]Actually, at least some of the examples in (381) are possessor constructions rather than noun complement constructions. For example, *x-too gyeey* "POS-head mountain" (381b(second line)) really has 'mountain' as the possessor of the 'head' as in "the mountain's top" rather than being "the top of the mountain". Neither structure is especially relevant to the point at hand, but the possessor structure could explain why an independent possessor is not attested.

Instead of either of the proposals for the structure of nominals mentioned above, I propose that the structure shown in (382), with no movement at all, seems to account best for the QZ nominals.

(382)

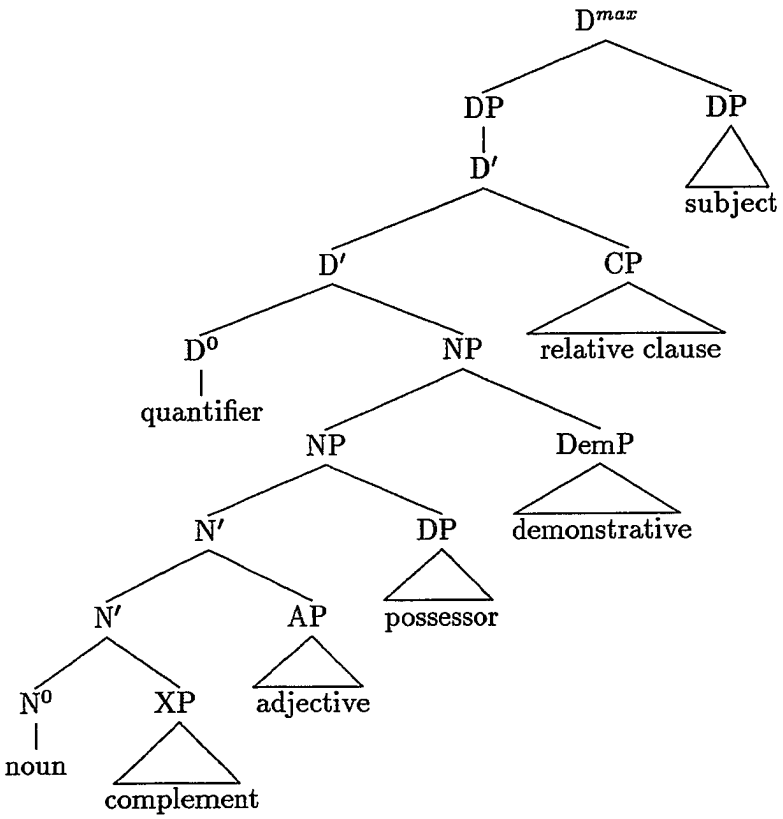


In this structure the position preceding the noun, which is normally filled by quantifiers, is the head of the DP. As Kuroda (1986) has proposed for English, I posit that the possessor fills the specifier of NP position, since this accounts for the ordering of the possessor following the noun (but after any modifying adjectives as shown below in (383)) and also allows the *x-* prefix found on alienably possessed nouns to be accounted for by the normal mechanism of Specifier-head agreement.

We can extend the proposal further, again in line with the spirit of Kuroda's proposal, and posit that the specifier of D^0 position is filled by the subject of nominal small clauses. Movement evidence such as that presented in section 9.2.2 and discussed in Chapter 11 indicates that the predicate phrase without the subject is itself a maximal projection. I therefore posit that the subject actually occupies the specifier of D^{max} above DP, contrary to Kuroda but in accord with Koopman & Sportiche (1991). There is then no specifier directly above D′, as shown in (383). I assume that this position for the subject (above DP but under D^{max}) is not ruled out by the prohibition on adjunction to arguments (Chomsky 1986:6) since, when the subject is present, the DP is not an argument but a predicate.

Besides the head and specifier positions in each phrase, there are several possibilities for adjoined elements. I posit that adjectives may adjoin to N′, while demonstratives and relative clauses adjoin either to NP or to D′.[4] This fuller structure including the possible positions of adjoined elements is illustrated in (383).

(383)



Note that all of the specifiers and adjoined positions are on the right in (383), thus providing a clear distinction from the clause structure and DP structure assumed under the Verb Movement hypothesis (though similar to the structures assumed under the Subject Adjunction hypothesis). This phrase structure is consistent with the division between [±V] predicates seen in the last chapter, however. We determined

[4]Clearly, I do not follow the specific statement of Chomsky's (1986) theory of adjunction, since it only allows adjunction to maximal projections. The position of adjectives with respect to possessors and relative clauses could not be accounted for if the only adjunction site within the DP was adjunction to NP.

there that the phrase structure of the predicate phrase itself is dependent upon its [±V] feature. The phrases projected from [+V] heads are uniformly head-initial and specifier-initial, whereas those projected from [-V] heads are head-initial and specifier-final. Further, head movement only occurs in clauses projected from [+V] predicates. This distinction is further verified by the fact that the phrase structure of both DP and NP is head-initial and specifier-final and that no head movement occurs.

12.3 Attested Coordination within DP

We saw in Chapter 11 that true, productive VP coordination with a single subject is not attested in QZ, while clausal coordination at both the CP and the PolP levels is widely used. The possibilities for coordination of DPs and within DP are examined here. In each example in this section, the conjuncts are bracketed and the conjunction is underlined.

QZ has the overt conjunctions *no* "and" and *o* "or". Some examples of coordinate DPs using these overt conjunctions are given in (384). Note that (384c) provides an example of a coordinate DP in focus position.

(384) a. *R-kandil men-o* [*te xman*] <u>*o*</u> [*chip gbiz*]. QUESO 23
H-colgar 3RD-3I one week or ten day
"She hangs it for a week or ten days."

b. *R-ap noo* [*ndal yaa ngyed*] <u>*no*</u> [*te bur*]. AGOSTO 41
H-have 1EX lots very chicken and one burro
"I have lots of chickens and one burro."

c. [*Dxit*] <u>*o*</u> [*gyët-guu bzaa*] *n-uu* TRIPTOQ 24
egg or tortilla-tamale bean S-be
"There are eggs or bean tamales,
porke ne-guin r-u men-o.
because that-this H-eat 3RD-3I
because from this they eat."

In addition, two DPs may coordinate without any overt conjunction, as seen in (385).

(385) *Per w-see men [y-ra x-kayet Biki]* GRING 32
but C-throw 3RD P-all POS-cracker Virginia
"But they threw away all Virginia's$_i$ crackers
[y-ra x-nex Biki].
P-all POS-fruit Virginia
and all her$_i$ fruit."

We can use some of these text examples as starting points for determining what constituents within DP may be coordinated. (386a) is the coordinate DP from (385), where each conjunct consists of a quantifier, a noun, and its possessor. (386b–c) show that expressing the possessor only in one of the two conjuncts is ungrammatical or highly questionable.[5] The form given in (386d), where a coreferent pronoun replaces the second occurrence of the proper name possessor, could be used instead of (386a).

(386) a. *[y-ra x-kayet Biki]* (*no*) *[y-ra x-nex Biki]*
P-all POS-cracker Virginia (and) P-all POS-fruit Virginia
"all Virginia's crackers and all her fruit"

b. *??[y-ra x-kayet] Biki* (*no*) *[y-ra x-nex]*
P-all POS-cracker Virginia (and) P-all POS-fruit
(all Virginia's crackers and all her fruit)

c. **[y-ra x-kayet]* (*no*) *[y-ra x-nex] Biki*
P-all POS-cracker (and) P-all POS-fruit Virginia
(all Virginia's crackers and all her fruit)

d. *[y-ra x-kayet Biki]* (*no*) *[y-ra x-nex men]*
P-all POS-cracker Virginia (and) P-all POS-fruit 3RD
"all Virginia's crackers and all her fruit"

The inability to coordinate quantified noun phrases under a single possessor is further evidence against using the Subject Adjunction proposal for QZ. If the possessor is in the specifier of DP, it should be possible to coordinate under it at the D′ level and then adjoin the possessor to the first noun, as in (386b). This is correct for Chamorro, since comparable examples to both (386b–c) are grammatical there (Chung 1990,

[5]I assume the slight difference in judgement is due to the possibility of using the null third person pronoun in (386b). My language consultant's personal preference is to use overt pronouns in all cases.

1991),[6] but is impossible for QZ. In contrast, if the possessor is in the specifier of NP as proposed in (383), the attempted coordination of a quantified noun phrase under a possessor is correctly predicted to be ungrammatical.

Even without a quantifier in either conjunct, thus attempting to coordinate at the N′-level, it is not possible to have only a single possessor. (387a) shows that the possessor cannot be expressed only in the first conjunct and (387b) shows that it cannot simply remain in final position. Instead, (387c–e) show grammatical expressions where either the possessor is repeated in both conjuncts (387c), or a coreferent pronoun is used in the second conjunct (387d), or two distinct possessors are present (387e). Coordination at the N′-level is not possible in QZ.

(387) a. *??*[*x-kayet*] *Biki* (*no*) [*x-nex*]
POS-cracker Virginia (and) POS-fruit
(Virginia's crackers and fruit)

b. **[*x-kayet*] (*no*) [*x-nex*] *Biki*
POS-cracker (and) POS-fruit Virginia
(Virginia's crackers and fruit)

c. [*x-kayet* *Biki*] (*no*) [*x-nex* *Biki*]
POS-cracker Virginia (and) POS-fruit Virginia
"Virginia's crackers and her fruit"

d. [*x-kayet* *Biki*] (*no*) [*x-nex* *men*]
POS-cracker Virginia (and) POS-fruit 3RD
"Virginia's crackers and her fruit"

e. [*x-kayet* *Biki*] (*no*) [*x-nex* *Gecha*]
POS-cracker Virginia (and) POS-fruit Lucrecia
"Virginia's crackers and Lucrecia's fruit"

It is possible to coordinate under a single quantifier, as shown in (388). Under my analysis, this is coordination at the NP-level under D^0.

(388) a. *ndal* [*ngyed*] (*no*) [*bur*]
lots chicken (and) burro
"lots of chickens and burros"

[6]In Chamorro, Subject/Possessor Adjunction is allowed to adjoin to any projection of the head or to not apply at all, accounting for the equivalent of (386c).

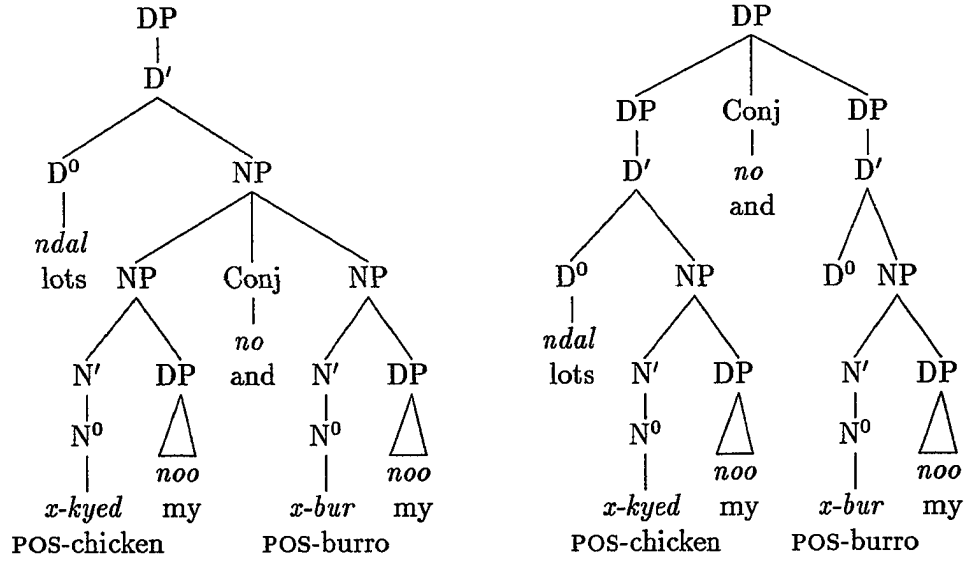
b. *txup-tson* [*ngyed*] (*no*) [*bur*]
two-three chicken (and) burro
"a few chickens and burros"

c. *ndal* [*x-kyed* *noo*] (*no*) [*x-bur* *noo*]
lots POS-chicken 1EX (and) POS-burro 1EX
"lots of my chickens and my burros"

d. *txup-tson* [*x-kyed* *xnaa* *noo*] (*no*) [*x-bur* *men*]
two-three POS-chicken mother 1EX (and) POS-burro 3RD
"a few of my mother's chickens and her burros"

Strictly speaking, the examples in (388) are ambiguous, in that you really do not know how many burros are being referred to. This is because two different levels of coordination are possible. The bracketing shown in (388) indicates coordination at the NP-level under D^0, as diagrammed in (389a) (for (388c)). The other reading is that coordination is at the DP-level, with the quantifier only a part of the first conjunct, as sketched in (389b). Without a quantifier in the second conjunct, the number of burros can be one or two or many, just as with any other nominal which is not explicitly marked for number by a quantifier.

(389) a. NP Coordination or b. DP Coordination



Though I have not completely researched this area, it seems that QZ does not allow zero-level or single-bar-level coordination. Only maximal phrases may coordinate. This generalization is consistent with the impossibility of coordinating different verbs under a single subject seen in section 11.1.2 (though it is the movement out of the coordinate structure that is most problematic there). It is also impossible to coordinate two verbs with the same direct object. Of the attempts in (390) to express the English construction *My sister washed and ironed the clothes* in QZ, only full sentential coordination (390d) is successful. It is ungrammatical to have coordinate verbs before the subject and object (390a), or to have the subject follow the first verb and the object follow the second verb (390b), or to place both the subject and the object only in the first conjunct (390c).

(390) a. *[*W-aa*] *no* [*w-gu-planch*] *bzaan noo lër.*
C-wash and C-CAUS-iron sister 1EX clothes
(My sister washed and ironed the clothes.)

b. *[*W-aa*] *bzaan noo no* [*w-gu-planch*] *lër.*
C-wash sister 1EX and C-CAUS-iron clothes
(My sister washed and ironed the clothes.)

c. *[*W-aa*] *bzaan noo lër no* [*w-gu-planch*].
C-wash sister 1EX clothes and C-CAUS-iron
(My sister washed the clothes and ironed.)

d. [*W-aa bzaan noo lër*] *no* [*w-gu-planch men-o*].
C-wash sister 1EX clothes and C-CAUS-iron 3RD-3I
"My sister washed the clothes and she ironed them."

Coordination at the D^0-level is not possible either, though this might be questioned in examples like (388b & d). Though *txup-tson* is literally "two-three" it is a fixed from used to indicate "a few". True coordination would allow any two numbers to coordinate, which is not possible. Further, the other two possible determiners, *pa* "what" and the focus marker *laa* must occur to the left of any quantifier, thus being accounted for by adjunction rather than coordination.

Given the limitation on coordinate structures in QZ to maximal projections, we can note whether there are further restrictions on which maximal projections may

coordinate. We saw in Chapter 11 that predicate phrases may not coordinate, except where the verbs are identical (and even this is not preferred). Likewise, IP may not coordinate under negation unless both the verbs and the Aspect marking are identical (again the preferred method is to fully coordinate at the PolP level with each conjunct fully specified). This is predicted by the Verb Movement analysis: movement of the predicate to I^0 and possibly to Pol^0 violates the Coordinate Structure Constraint, unless it can be accomplished via Across the Board Extraction of identical elements. We have seen examples of coordination at the CP, PolP, and DP levels. It is also possible to coordinate Adjective phrases, Adverbial phrases, and Prepositional phrases used as modifiers. Therefore, all maximal projections may coordinate, subject to the restrictions due to Verb Movement.

To summarize, we saw that the DP structure needed to account for the word order in QZ nominal phrases is uniformly head-initial and specifier-final and that no movement need be proposed. This proposal is not parallel to either the Verb Movement account or the Subject Adjunction account of DP structure. Specifically, the DP structure I propose for QZ is not parallel to the structure of clauses with verbal (or [+V]) predicates which was adopted under the Verb Movement analysis. The DP structure is, however, completely parallel and consistent with the structure of clauses with [-V] predicates.

We saw further that the disallowed coordination of two nominals under a single possessor reinforces the analysis that the possessor occupies the specifier of NP. The generalization that QZ only allows coordination of phrase-level categories was also tentatively put forth, pending further research.

Chapter 13

Special Number Marking Constructions

This chapter ties together much of the analyses of the previous chapters in giving both a semantic and a syntactic analysis for the unique and exotic constructions used to mark number (exemplified in (392) and following).[1]

As noted in Chapter 3, the only method available for marking number in QZ is through the use of quantifiers. When no quantifier is used, a noun phrase or pronoun is ambiguous between singular and plural. Use of a quantifier signals that the speaker wishes to make the number explicit.

In addition to number words, QZ has the general quantifiers *ra* "all", *zhi* or *zhindxe* "few",[2] *txup-tson* "two-three" or "some, a few", *ndal* "lots" (used with count nouns), and *naal* "much" (used with mass nouns). In addition, *ni*, borrowed from Spanish, is beginning to be used as a negative quantifier.[3] These quantifiers can be used in regular quantificational DPs, as shown in (391).[4]

(391) a. *R-ap noo ndal yaa ngyed no te bur.* AGOSTO 41
H-have 1EX lots very chicken and one burro
"I have lots of chickens and one burro."

[1]Much of the material presented in this chapter first appeared in Black (1992), though the syntactic analysis given there is in terms of a Subject Adjunction view of QZ clause structure rather than the Verb Movement proposal adopted here. Clarifying data obtained from additional field work is also included in this chapter.

[2]Phrases using either of these forms for the quantifier meaning "few" must be fronted, as shown in section 7.3. In contrast, *txup-tson*, literally "two-three", but used to mean "some" or "a few", acts as a regular quantifier in that phrases quantified by *txup-tson* may remain in their D-structure position as well as being fronted.

[3]In accord with the analysis in Chapter 9, a phrase marked by the negative quantifier must be fronted and must cooccur either with negation marked on the verb or with another negative head (=*gart* "still.no" in (391d)).

[4]I assume that *yaa* "very" in (391a) is an intensifier that may adjoin to some quantifiers as well as to adjectives and adverbs.

b. *W-ak* *naal* *nis* *gyoow.* OLDMAN 13
C-become much water river
"There was much water in the river."

c. *Zhi* *maa* *gin* *r-dil* *noo.* BENIT 19C
few 3A this H-fight 1EX
"Those few animals are bothering me."

d. *Ni* *tla* *gyët* *gart* *g-u* *noo* *axta-ge* *xsil.* MENMAAC 22
not piece tortilla still.no P-eat 1EX until-that morning
"I haven't eaten a piece of tortilla since this morning."

Of these quantifiers which can be used in quantificational DPs, only *ra* "all" and the numbers "one" through "four" are allowed to fill the Quantifier position in the constructions which are the focus of this chapter.[5] These special number marking constructions abound in QZ texts and speech. In these constructions, a nominal phrase is followed by a quantifier, which is in turn followed by (usually) two nominal phrases. An example is shown in (392), where the parts of the construction are underlined.

(392) *R-oo* *men* *y-rup* *men* *Biki* *nisgaal.* AGOSTO 8A
H-drink 3RD P-two 3RD Virginia soda
"She and Virginia drink soda pop."

Recall that pronouns in QZ are not specified for number, gender, or case, so the third person pronoun *men* can mean "he/she/they" or "him/her/them" or "himself/herself/themselves" or "his/her/their" depending upon its position in the sentence. Therefore the full meaning conveyed by the construction in (392) might be expressed in English as "they, she and Virginia, just the two of them...". The basic form of these constructions is diagrammed in (393), where the subscripts indicate required coindexing.

[5]Specifically note that neither *ndal* "lots", nor any of the negative quantifiers, *zhi* "few", *txuptson* "a few", or *ni* "no/not", can be used in the special number marking constructions. Instead, these general quantifiers would fill the head of DP in regular coordination constructions to express notions such as "no girls and no boys", "lots of men and a few women", "few pigs and chickens", or "neither my mother nor my father". The special number marking constructions are more referential than quantificational, with the Quantifier specifying the number feature of the construction as shown in section 13.1.1.

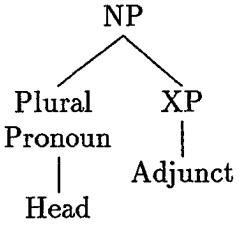
(393) $\underbrace{DP_1}_{Head}$ $\underbrace{(Aspect\text{-})Quantifier\ DP_1\ DP_2}_{Adjunct}$

I claim that these QZ constructions can be seen as exotic and elaborate versions of the Plural Pronoun Construction (PPC) analyzed by Schwartz (1988). A PPC is composed of a plural pronoun followed by either a nominal phrase or a prepositional phrase, depending upon the language. The plurality of the pronoun may or must be taken to express the number of the entire construction, rather than the number of only the pronoun itself. An example from Mokilese is given in (394).

(394) *kamwa Davy inla duhdu* SCHWARTZ 4C
2.DUAL Davy go swim
"You (SG) and Davy went swimming."

In English we might say "the two of you, you and Davy..." to convey the same information. Schwartz analyzes these constructions as asymmetric single-headed complex nominal phrases with the constituent structure diagrammed in (395).

(395)



Ladusaw (1989) gives a semantic interpretation for the PPC which requires that the referent of the adjunct be properly included in the reference of the head pronoun. This is in contrast to a regular coordination relationship, where the conjuncts must be disjoint in reference. Ladusaw's interpretation entails the properties noted by Schwartz as universals for the PPC, including the plurality of the head pronoun and the Person Hierarchy Effect. The latter says that the person feature of the head must be greater or equal to the person feature of the referent of the adjunct on a hierarchy of $1 > 2 > 3$. In order for the referent of the adjunct to be properly included in the reference of the head pronoun, two things must be true. First, the number of the

pronoun must be large enough to include the referent of the adjunct as well as the reference of the head, so it must be minimally dual in number. Second, the person feature of the head pronoun must also be high enough to include the referent of the adjunct. For example, a second or third person pronoun head cannot include a first person adjunct in its reference. The inclusion requirement thus entails these two properties of the PPC.

Since the Person Hierarchy Effect is also a strong constraint in the QZ constructions, the semantic interpretation for the PPC provides a starting point for understanding them. Section 13.1 looks at the semantics of these special QZ number marking constructions further. I give an interpretation which extends Ladusaw's analysis beyond the plural pronoun heads found in the PPC to the QZ cases with non-pronominal heads and independent number marking, while still entailing the Person Hierarchy Effect.

The syntax of the QZ constructions is much less clear than their semantics is. Though it is reasonable to assume the basic insight from Schwartz (1988) of a Head-Adjunct structure, this type of construction is far from well-understood. For example, the configuration in which the adjunct is adjoined to the head nominal phrase (as in the proposal by Schwartz shown in (395)) is problematic, given the mandate in Chomsky (1986:6) against adjunction to an XP in argument position. McCloskey (1992a) showed this prohibition to be widely true. Therefore, the proper account of the QZ data will most likely have the adjunct phrase adjoined at some point within the head DP_1. This and other syntactic issues raised, such as the category type and internal structure of the adjunct phrase, will be addressed in section 13.2, where I present an analysis for the version of the construction where all the parts are contiguous.

The question of the position of the adjunct is complicated by the fact that there is also a completely synonymous, separated version of (392) (repeated here as (396a)), which is shown in (396b). Whereas the construction appears to be a single constituent

in (396a), only the head is in subject position in (396b), while the adjunct is at the end of the clause.

(396) a. *R-oo* *men* *y-rup* *men* *Biki* *nisgaal.* AGOSTO 8A
H-drink 3RD P-two 3RD Virginia soda
"She and Virginia drink soda pop."

b. *R-oo* *men* *nisgaal* *y-rup* *men* *Biki.* AGOSTO 8B
H-drink 3RD soda P-two 3RD Virginia
"She and Virginia drink soda pop."

Given example (396b), we now need to ask also whether both forms of this special construction begin with the same underlying D-structure, coupled with movement of the adjunct phrase in (396b). Or, do they have distinct underlying structures, with the adjunct phrase in the separated construction simply base generated as adjoined to the verb phrase in clause final position?

Section 13.3 discusses whether a syntactic movement analysis or a semantic construal analysis is preferable for the separated version of the QZ number marking construction. Either option is workable, though my personal preference is for the derivational analysis. Integrated with this issue of the division of labor between the syntax and the semantics is the question of how to account for the required coindexing between the head and the first argument of the adjunct, which is covered in section 13.3.3.

13.1 Semantic Interpretation

We saw that, for the PPC, the requirement that the referent of the adjunct be included in the reference of the plural pronoun head entailed the Person Hierarchy Effect (Ladusaw 1989). In that construction, both the person feature and the number feature are determined by the head plural pronoun.

QZ does not have plural pronouns, so the relevant person feature and number feature are found separately. The crucial parts of the QZ construction relevant to its interpretation are the person feature of the head DP, the number feature of the

Quantifier, and the fact that the DPs listed after the Quantifier must be included in the group defined by those features. I show in section 13.1.3 that this extension of Ladusaw's interpretation for the PPC correctly entails the Person Hierarchy Effect for the QZ constructions.

First, though, section 13.1.1 verifies that the Quantifier provides the number feature for the entire construction. The meaning of the Potential marking on the Quantifier is also explained. Data are then presented to show the full range of DP-types allowed as the head of the construction. Section 13.1.2 also includes a discussion of how the idea of inclusion can be seen as extending to non-pronominal or non-plural pronoun heads for Meso-American languages, as well as why an analysis of the QZ construction as regular Comitative Coordination is not workable.

13.1.1 The Quantifier Contribution

As mentioned, the only method available for marking number in QZ is through the use of quantifiers.[6] The number-marking role of the Quantifier in the special constructions under consideration is crucial to the correct interpretation of the construction. There is substantial evidence that the Quantifier marks the number of the entire constituent. For example, while (397a) can have either of the first three readings given (with the first one being correct from the context), the last reading is impossible. In contrast, only that reading is possible if the Quantifier is changed to *y-rup* "P-two" as in (397b). What is crucial to understanding this is that *y-ra* "P-all" cannot be used in contexts

[6]Marlett & Pickett (1985) report that outside of the Southern group, all of the Zapotecan languages have either a plural proclitic which is used with nominals and pronouns, or a verbal prefix to pluralize the subject, or both. Within the Southern group, quantifiers must be used to mark plurality for a nominal. There are variations as to whether there is a singular versus plural distinction in pronouns, though all Southern dialects except QZ have at least singular and plural first person exclusive. QZ makes no singular or plural distinction at all, with the sole exception of the first person inclusive pronoun, which must include the speaker and the hearer and so is plural in that limited sense.

Though the other Zapotec languages all have quantificational DPs, the use of quantifiers in the constructions being analyzed here is only widely attested within the Southern group. This complementarity certainly suggests that the proliferation of these special constructions in QZ stems from the lack of alternative methods of pluralization.

where there are only two participants, since *y-rup* "P-two" provides an alternative way of expressing that. Instead, the plurality expressed by *y-ra* entails that there are at least three participants.

(397) a. *Sabt w-a-xee noo,* MTLEMON 6
Saturday C-go-rise 1EX
w-xa-ndxen noo y-ra x-patron noo.
C-eat-breakfast 1EX P-all POS-patron 1EX
"Saturday I got up and ate breakfast with all my patrons."
"Saturday we got up and ate breakfast with our patron."
"Saturday we got up and ate breakfast with all our patrons."
*(Saturday I got up and ate breakfast with my patron.)

b. *Sabt w-a-xee noo, w-xa-ndxen noo y-rup x-patron noo.*
Saturday C-go-rise 1EX C-eat-breakfast 1EX P-two POS-patron 1EX
"Saturday I got up and ate breakfast with my patron."

Though normally the distinction is made only between dual and plural, using the Quantifiers meaning "two" and "all" respectively, these structures may also be found where the number marking is singular, as well as where a group of three or four is indicated. Singular marking is used to indicate that the action was done alone, as shown in (398).

(398) a. *Teb tir te mër zob lo yag,* MARTRIST 1
one time one pigeon PR/sit face tree
"One time a pigeon was sitting in a tree
r-oolbaan maa te-tee maa.
H-sing 3A one-one 3A
singing all by himself."

b. *Luzh lo g-uu men bni, dxiid men te-tee men.* OLDMAN 5
finish face P-sow 3RD seed F/come 3RD one-one 3RD
"After he plants the seed, he will come alone."

(399) shows that while the Quantifiers meaning "two" and "all" may be thought of as selecting two DP arguments (and "one" only one), the Quantifiers meaning "three" and "four" have three and four DP argument positions, respectively (see section 13.2.3

for the analysis).[7] As (399c) verifies, it is ungrammatical to have more DPs following the Quantifier than the Quantifier selects: *gy-on* "P-three" only selects three DP arguments, so four DPs cannot be present.[8] Further, as (399d) shows, having less arguments filled than are selected by the Quantifier is highly unnatural. Though my language consultant verifies that (399d) can be understood to mean "there were four people including Susan and myself who came", it is not a normal, natural usage and no examples like it were found in the texts.[9]

(399) a. *Xiid noo gy-on noo Susan Rodolf lee.* TEXAS 29
PR/come 1EX P-three 1EX Susan Rodolfo also
"Susan, Rodolfo, and I came (the three of us)."

b. *Xiid noo y-tap noo Susan Rodolf Biki lee.*
PR/come 1EX P-four 1EX Susan Rodolfo Virginia also
"Susan, Rodolfo, Virginia, and I came (the four of us)."

c. **Xiid noo gy-on noo Susan Rodolf Biki lee.*
PR/come 1EX P-three 1EX Susan Rodolfo Virginia also
(Susan, Rodolfo, Virginia, and I came (the three of us).)

d. *??Xiid noo y-tap noo Susan (lee).*
PR/come 1EX P-four 1EX Susan also
(Susan and I came (the four of us).)

There is also a simpler construction which is fully grammatical that acts like a plural (or dual, triple, etc.) pronoun would in other languages. I analyze this as a

[7]Thus, *gyon* and *ytap* are very close to being three- and four-place conjunction morphemes which Gazdar, Klein, Pullum & Sag (1985:170) conjectured that no language could have.

[8]The only exception to this is that the names of babies or young children are sometimes allowed to be added in additionally with a conjunction, as in the bracketed portion in (i) and (ii).

(i) *W-a noo gy-on noo Rodolf Susan [no Min lee].* MTLEMON2 2
C-go 1EX P-three 1EX Rodolfo Susan and Yazmin also
"Rodolfo, Susan, and I (and Yazmin also) went."

(ii) *W-ra s-te gyëël gin w-ruu noo Pwert* HORTENS 26
C-all F-one night this C-leave 1EX Salina.Cruz
"The next day I left Salina Cruz
y-rup noo Rodolf [no Yazmin].
P-two 1EX Rodolfo and Yazmin
with Rodolfo (and Yazmin)."

[9]The two 'missing' arguments in (399d) can be accounted for by the Redundancy Condition, discussed in the next paragraph, allowing the construction to be understood.

special case of the full construction which is subject to a Redundancy Condition. The Redundancy Condition says that if DP_2[10] is the same pronoun as DP_1 then DP_2 is not realized phonetically, since it adds no new information. Constructions illustrating this Redundancy Condition are given in (400a)–(402a); the (b) examples show that repetition of the pronoun is ungrammatical.

(400) a. *S-ya men y-rup men.* SAMUEL 13
PR-go 3RD P-two 3RD
"They both were going."

b. **S-ya men y-rup men men.*
PR-go 3RD P-two 3RD 3RD
(They both were going.)

(401) a. *G-u-sëë noo y-ra noo.* LIFEINQ 20
P-eat-dinner 1EX P-all 1EX
"We all will eat dinner."

b. **G-u-sëë noo y-ra noo noo.*
P-eat-dinner 1EX P-all 1EX 1EX
(We all will eat dinner.)

(402) a. *W-nëëz noo byon g-yon noo.* TEXAS 4
C-catch 1EX airplane P-three 1EX
"We three caught an airplane."

b. **W-nëëz noo byon g-yon noo noo noo.*
C-catch 1EX airplane P-three 1EX 1EX 1EX
(We three caught an airplane.)

This simplified version has the same distribution as the fuller versions of the construction, including the synonymous separated version (shown in (402)). Versions of the special number marking construction which follow the Redundancy Condition are quite common. They can be found not only in subject position, but also as objects, possessors, objects of prepositions, and in focus position, just as the fuller version of the construction can. This distribution will be displayed further in section 13.2.2.

[10]The same reasoning extends to DP_3 and DP_4 when the Quantifiers meaning 'three' and 'four' are used.

This simpler construction can also be used appositively, as in (403), where the number feature of the Quantifier must match the number of persons referred to in the appositive construction (bracketed),[11] thus further confirming that the Quantifier specifies the number of the entire structure.

(403) a. *Xiid noo gy-on noo, [txup bech Dolf noo lee].*
PR/come 1EX P-three 1EX two brother Rodolfo 1EX also
"The three of us came, Rodolfo's two brothers and I."

b. **Xiid noo gy-on noo, [Susan no txup bech Dolf noo lee].*
PR/come 1EX P-three 1EX Susan and two brother Rodolfo 1EX also
(The three of us came, Susan, Rodolfo's two brothers and I.)

c. *W-a men y-tap men, [tson bech Dolf no Susan lee.]*
C-go 3RD P-four 3RD three brother Rodolfo and Susan also.
"They four went, Rodolfo's three brothers and Susan."

d. **W-a men y-tap men, [tson bech Dolf.]*
C-go 3RD P-four 3RD three brother Rodolfo.
(They four went, Rodolfo's three brothers.)

Note that this appositive construction is the only way to express the meaning conveyed by examples such as (403a & c). In the regular construction, DP_2, DP_3, or DP_4 may not be filled by a nominal phrase that refers to more than one person,[12] as (404) verifies, giving further evidence for the selection of a specific number of arguments by the Quantifier.

(404) a. **Xiid noo gy-on noo txup bech Dolf.*
PR/come 1EX P-three 1EX two brother Rodolfo
(Two of Rodolfo's brothers and I came (the three of us).)

[11]The appositive construction is not used with the Quantifier *y-ra* "P-all".

[12]This restriction does not seem to hold with the Quantifier *y-ra* "P-all", since (i) is grammatical. (The DP_1 following the Quantifier can be omitted due to either the Subject=Possessor_of_Object Condition or the Non-Pronominal Head Condition, to be discussed in sections 13.2.1.1 and 13.2.1.2.)

(i) *W-tap Jesus y-ra chip-txup x-tisipulo Jesus.* LUCAS 9:1
C-reunite Jesus P-all ten-two POS-disciple Jesus
"Jesus and all his twelve disciples came back together."

This example may alternatively be analyzed as a coordinate structure without an overt conjunction, however.

b. *Xiid noo y-tap noo Susan txup bech Dolf.
PR/come 1EX P-four 1EX Susan two brother Rodolfo
(Susan, two of Rodolfo's brothers, and I came (the four of us).)

c. *W-a men y-tap men tson bech Dolf.
C-go 3RD P-four 3RD three brother Rodolfo
(He and three of Rodolfo's brothers came (the four of them).)

We move now to the question of the purpose and meaning of the Aspect/Mood marking on the Quantifier. The forms of the Aspect prefixes which can appear on quantifiers are identical to those found on verbs, but their semantic significance is altered somewhat. In regular quantificational DPs, three Aspect markers are attested on the Quantifiers which can be used in these special constructions (i.e. the numbers "one" through "four" and the quantifier meaning "all"). The other quantifiers never carry Aspect marking nor any other affixes. Each marker will be described in turn. Only the Potential marker, given last here, is attested in the special number marking constructions.

The Completive Aspect marker *w-* can be used to indicate a finished period of time, as in (405a–b), or to form an ordinal number as in (405c).

(405) a. W-ra gyëël w-a-xee noo. MTLEMON 37
C-all night C-go-rise 1EX
"The next day we got up."

b. W-deb iz w-ya x-mig noo lgyëz. MARTIN 1
C-one year C-go POS-friend 1EX town
"Last year my friend came to the village."

c. Per chene w-ya Jose w-rup tir w-za-no Jose Jwan. AGOSTO 20
but when C-go Jose C-two time C-walk-take Jose Juan
"But when Jose went the second time, he took Juan."

Likewise, the Future marker *s-* may be used to indicate "another" (406a–b) or "again" (406c–d) as many times as the cardinality of the quantifier indicates. The marking on the quantifier is independent of the Aspect marking on the main verb.

(406) a. *Por s-teb koo zob s-te giblew* BATHROOM 31A
on F-one side PR/sit F-one faucet
"On the other side sits another faucet
ne r-naa men.
that H-wash.hands 3RD
at which they wash their hands."

b. *Nes s-yon iz* HORTENS 48A
inside F-three year
"Within another three years,
y-tsoow men te Biblya na disa.
P-make 3RD one Bible which language
they will make a Bible in Zapotec."

c. *Xiid noo s-te x-yuu de.* MARTIN 47
F/come 1EX F-one POS-house 2
"I will come again to your house."

d. *R-lux lo nga r-kaa giib s-te.* ESCUELA 20
H-finish face there H-touch bell F-one
"After this the bell rang again."

The third Aspect/Mood marker that can appear on these quantifiers is the Potential *y-* or *gy-*. Its use indicates that the number expressed by the quantifier is that of the whole group, whereas a number without the Aspect/Mood marking gives a partitive reading. For example, the use of the Potential marking in the quantificational DP in (407a) indicates that the three rifles were all the rifles that the thieves had. Without the Aspect/Mood marking, as in (407b), the reading is that the man carried three out of a larger group of rifles that the thieves had.

(407) a. *W-eey men gy-on x-kwiib ngbaan.* CWENT 41
C-take 3RD P-three POS-rifle thief
"He carried the thieves' three rifles."

b. *W-eey men tson x-kwiib ngbaan.*
C-take 3RD three POS-rifle thief
"He carried three of the thieves' rifles."

In the special number marking constructions, only the Potential marker may occur. It is almost always present and carries the same holistic meaning as in regular quantificational DPs (408a). If the Potential marker is not present, a partitive reading

is conveyed, as seen in example (408b).

(408) a. *S-ya men y-rup men.* SAMUEL 13
PR-go 3RD P-two 3RD
"They both were going."

b. *S-ya men txup men.*
PR-go 3RD two 3RD
"Two of them (out of the group) were going."

Consistent with this holistic versus partitive meaning of the Potential marking, *ra* "all" always carries the Potential marking in these special constructions, since the meaning of the Quantifier is inconsistent with a partitive reading.

Note that the use of the construction without the Potential marker does not change any of the requirements regarding the number of arguments which can/must appear after the Quantifier. Specifically, removing the Potential marker from (399d) does not make it grammatical; it remains highly unnatural. Dropping the Potential marker does not license identifying only part of that particular group. Instead, it indicates that the group referred to is only part of a larger group. In contrast, use of the Potential marker indicates that the identified group is the total group relevant to the context.

13.1.2 Head Type and Inclusion

In the QZ constructions, the head DP_1 can be filled by any referential nominal phrase, including proper names, common noun phrases, or quantified noun phrases, as well as by pronouns. Some examples of each type are given in (409). Pronoun heads are the most common in the full construction (which has all the DP's overt), due to the optionality conditions to be discussed in sections 13.2.1.1–13.2.1.2.

(409) a. *Tempran r-a-xee noo y-rup noo xnaa noo.* LIFEINQ 1
early H-go-rise 1EX P-two 1EX mother 1EX
"Early my mother and I would get up."

b. *Nga ts-uu de y-rup de Susan.* TRIPTOQ 6
there P-be 2 P-two 2 Susan
"There you'll be with Susan."

c. *W-zhoon men y-ra men x-pëëd noo.* MARTRIST 6
C-run 3RD P-all 3RD POS-baby 1EX
"She and my children ran away."

d. *W-ya maa y-rup maa x-mig mër gos.* MARTRIST 35
C-dance 3A P-two 3A POS-friend pigeon female
"He danced with the female pigeon's friend."

e. *W-guu Jose y-rup Jose xuz noo* AGOSTO 44A
C-sow Jose P-two Jose father 1EX
"Jose and my father put it
leen x-yuu xuz noo.
inside POS-house father 1EX
inside my father's house."

f. *W-nëëz mëëk ngyed y-rup ngyed konej.* AGOSTO 49
C-catch dog chicken P-two chicken rabbit
"The dog caught a chicken and a rabbit."

g. *Te men y-rup x-pëëk men z-a x-ten men.* MENMAAC 1A
one 3RD P-two POS-dog 3RD PR-go POS-ranch 3RD
"A man and his dog were going to his ranch."

Looking only at the pronominal examples (409a–d) first, we can see how these QZ constructions are similar to the PPC. If we superimpose the number marked by the Quantifier on the head pronoun, we have the same effect as a plural pronoun. Then, the referents of the pronoun and second DP in the adjunct can be seen as included in the reference of the "plural pronoun" head, as shown in the readings given in (410a–d) for (409a–d), respectively.

(410) a. Early we two, I and my mother, would get up.

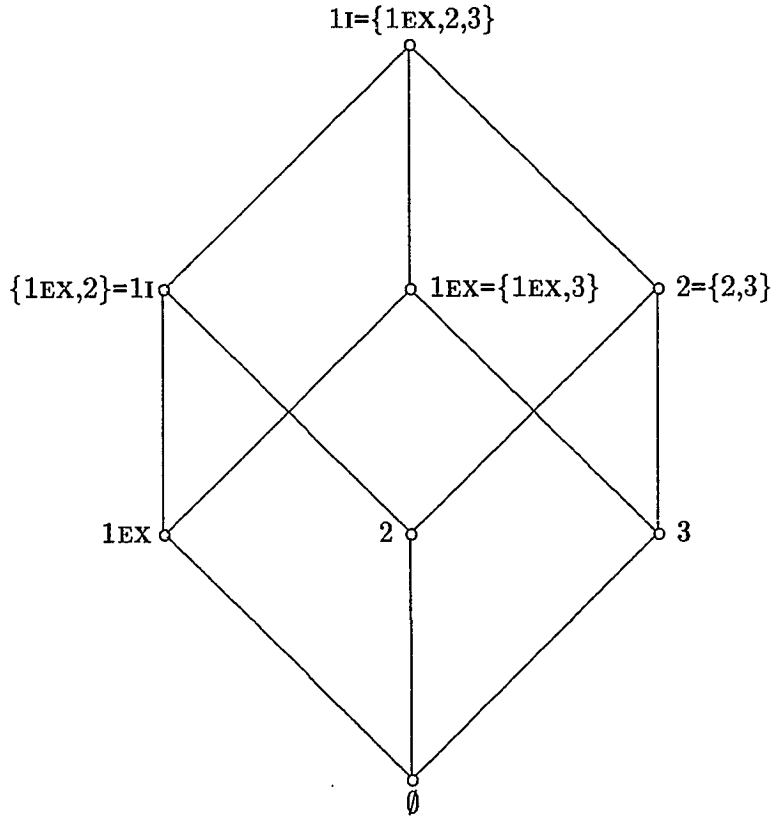
b. There will be you two, you and Susan.

c. They all, she and my children, ran away.

d. The two animals, he and the female pigeon's friend, danced.

The notion of inclusion within the reference of a pronoun can be formalized as Set-theoretic inclusion, which forms the lattice shown in (411).[13] (411) shows that combining a first person exclusive pronoun and a second person pronoun yields a first person inclusive pronoun. A first person exclusive pronoun may add a third person referent and still remain first person exclusive. Likewise, a second person pronoun may add a third person referent and remain second person. Finally, the combination of a first person exclusive pronoun, a second person pronoun, and a third person pronoun requires the use of first person inclusive. First person inclusive is thus the top or upper-bound of the lattice, while the empty set is the bottom or lower-bound.

(411)



[13]I am grateful to Bill Ladusaw for pointing out the lattice properties of pronominal systems. For details regarding the mathematical properties of lattices, see Partee, ter Meulen, & Wall (1990:Chapter 11).

Looked at from the point of view of the semantic interpretation for the PPC given by Ladusaw (1989), the requirement that the referent(s) of the adjunct be included in the reference of the pronoun head entails the Person Hierarchy Effect, due to the meaning of the person features of the pronouns. For example, since a second person pronoun refers to a group which includes the hearer but excludes the speaker, a construction with a second person pronoun as head could not have a first person adjunct. Likewise, a third person pronoun refers to a group which excludes both the speaker and the hearer, so neither a first person nor a second person adjunct is allowed. The inclusion interpretation thus accounts for the Person Hierarchy Effect without a separate stipulation that the person feature of the head must be greater or equal to the person feature of the adjunct on a scale of $1 > 2 > 3$.

The distinction in usage of the first person exclusive and inclusive pronouns in QZ provides additional evidence that the inclusion relationship entails the Person Hierarchy Effect for constructions with pronominal heads. In the QZ constructions which include both first and second person, it is ungrammatical to use the first person exclusive pronoun *noo* as the head, as shown in (412a) and (413a). The grammatical counterpart of each of these is shown in (412b) and (413b), where the first person inclusive pronoun is the head. This data accords with the lattice showing the inclusion relation in (411).[14]

[14]Recall that the first person inclusive pronoun *-be* is a phonological clitic which attaches to the preceding word whenever possible. In (412b) it has attached to the Quantifier *y-ra* and the final vowel has dropped to form a closed syllable. In (413b) it has again attached to the Quantifier, this time *y-rup*. Since degemination applies to the *p-b* combination, the word surfaces as *y-rup-e*. The final vowel cannot drop in this case or there would be no evidence for the pronoun.

Note also that it is not possible to use the first person inclusive pronoun as the head but have the first person exclusive pronoun and the second person pronoun in the adjunct, as in (i).

(i) **G-ux-sëë-b y-ra noo de.*
P-eat-dinner-1I P-all 1EX 2
(We(inc) all will eat dinner.)

This is due to the required coindexing between the head and the first DP following the Quantifier. See section 13.3.3.

(412) a. **G-ux-sëë noo y-ra noo de.* LIFEINQ 20A
P-eat-dinner 1EX P-all 1EX 2
(We(inc) all will eat dinner.)

b. *G-ux-sëë-b y-ra-b.*
P-eat-dinner-1I P-all-1I
"We(inc) all will eat dinner."

(413) a. **G-ux-sëë noo y-rup noo de.* LIFEINQ 20B
P-eat-dinner 1EX P-two 1EX 2
(You and I will eat dinner (together).)

b. *G-ux-sëë-b y-rup-e.*
P-eat-dinner-1I P-two-1I
"You and I will eat dinner (together)."

Once we move away from pronoun heads, however, the inclusion interpretation seems more problematic. Giving a reading similar to those in (410) for (409e–g) yields the bizarre results shown in (414e–g) (respectively). In each of these examples, the reference of head and of the adjunct seem to be disjoint.

(414) e. ??The two 'Jose's, Jose and my father, put it inside my father's house.

f. ??The dog caught two chickens, a chicken and a rabbit.

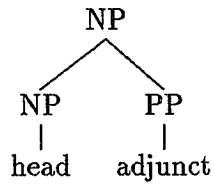
g. ??Two 'one man's, including a man and his dog, were going to his ranch.

One approach we could try is to analyze the QZ structures with non-pronominal heads as versions of the Comitative Coordination construction proposed by McNally (1993) for Russian. An example is given in (415).

(415) *Anna s Petej napisali pis'mo.* MCNALLY 1
A.-NOM with P.-INSTR wrote-PL letter
"Anna and Peter wrote a letter."

McNally proposes that the NP *Anna* and PP *s Petej* in (415) form a single-headed asymmetric constituent which has a semantics practically identical to that of a symmetric coordinate structure. She analyzes the structure of these Comitative Coordination structures as shown in (416), which is almost identical syntactically to Schwartz' analysis for the PPC.

(416)



McNally further notes that the fact that the verb in (415) has plural agreement marking argues for the constituency of the construction. The number marking is not found on the head of the construction, but rather is semantically determined. She claims that the Comitative Coordination construction denotes a group, with an implicature requiring that the action was done together, where the referent of the adjunct must be disjoint from the referent of the head.

A major problem with adopting a Comitative Coordination analysis for the QZ structures would be that it does not explain the fact that the Person Hierarchy Effect is a strict requirement, even in the constructions with non-pronominal heads. There is no reason under the Comitative Coordination analysis that one could not say *John with me*, but the QZ counterpart of this is ungrammatical. Thus, the idea of disjoint reference seems incorrect for the QZ constructions.

Surprisingly, in Meso-American languages the inclusion relationship may still be workable. Judith Aissen (p.c.) found that PPC-type constructions in Tzotzil which have proper names rather than plural pronouns as the head are also grammatical and receive basically the same interpretation as regular PPCs. This is possible since, in Tzotzil as in QZ, a proper name may denote not only that individual, but also his family or close associates.

Following up on this reasoning, we could assume that the correct extension of Ladusaw's semantic analysis of the PPC would be that the referent(s) in the adjunct must be included in the reference of the head, with the number feature of the group being given by the Quantifier. Under this analysis, proper names and common noun phrases become simply special types of third person pronouns. Therefore, just as a third person animate (but nonhuman) pronoun *maa* could not include reference

to a person (similarly, *it* cannot refer to John), *John* could not include reference to someone, say, in his enemy's family. This analysis might be made to work for (409e), since 'Jose' and 'my father' could be close associates, and for (409g), since a man's dog certainly belongs to him. It does not seem workable for (409f), however, since the reference of 'chicken' does not seem in any way to include the reference of 'rabbit'. Therefore, more needs to be said to entail the Person Hierarchy Effect for non-pronominal heads; inclusion alone is not sufficient.

13.1.3 The Person Hierarchy Effect and Group Reference

In addition to the case of (409f), where the inclusion relation does not hold between the reference of the head and the reference of the adjunct, there are problematic cases where inclusion does hold. Examples (417)–(418) show that the inclusion analysis does not entail the Person Hierarchy Effect for non-pronominal heads. If the person referred to by the second person pronoun is a member of Susan's family, the inclusion interpretation would predict that (417b) is grammatical, but it is not, since it violates the Person Hierarchy Effect. The correct order is given in (417a).

(417) a. *Ts-a de y-rup de Susan.* TRIPTOQ 80
P-go 2 P-two 2 Susan
"You can go with Susan."

b. **Ts-a Susan y-rup Susan de.*
P-go Susan P-two Susan 2
(Susan can go with you.)

Similarly, *xnaa noo* "my mother" should be able to head a construction which includes "me", but as (418b) shows, the Person Hierarchy Effect again rules this out.

(418) a. *Tempran r-a-xee noo y-rup noo xnaa noo.* LIFEINQ 1
early H-go-rise 1EX P-two 1EX mother 1EX
"Early my mother and I would get up."

b. **Tempran r-a-xee xnaa noo y-rup xnaa noo noo.*
early H-go-rise mother 1EX P-two mother 1EX 1EX
(Early my mother and I would get up.)

Clearly, it is the person feature of the head that is crucial. In order to ensure that the Person Hierarchy Effect is met we need the person feature of the head to be the person feature for the entire structure. Also, we saw in section 13.1.1 that the Quantifier marks the number for the construction. I capture both of these properties in the semantic interpretation given in (419), where the phrase "the mother DP" signifies the whole construction.[15]

(419) Proposed Semantic Interpretation

The mother DP defines a group which has the person feature of the head DP_1 and the number feature of the Quantifier. The referents of all the arguments of (i.e. DPs following) the Quantifier must be included in the defined group.

This means that, as before, a first person exclusive head would require that the hearer (second person) could not be part of the group, whereas a first person inclusive head would require that both the speaker and the hearer be included. A second person head would mean that the speaker (first person) could not be included, and a third person head would exclude both the speaker and the hearer. For example, the makeup of the group X referred to by *Susan y-rup Maria* "Susan P-two Mary" would be calculated as follows:

$$\begin{array}{l} \text{Susan} \in \text{X, person=3} \Longrightarrow 1 \notin \text{X}, 2 \notin \text{X} \\ \text{Mary} \in \text{X} \\ |\text{X}| = 2 \end{array}$$

The proposed interpretation thus entails both the Person Hierarchy Effect and the number resolution for the structure. It covers both pronominal and non-pronominal heads, thus clarifying and extending Ladusaw's analysis beyond the limited domain of the PPC.[16]

[15]We could appeal to the Correspondence Principle (Zwicky 1977) to correlate the syntactic and semantic features on the mother DP, though no overt morphosyntactic marking is present in QZ.

[16]There seems to be one hole remaining: pronominal heads are preferred over non-pronominal heads. Thus, even when a third person pronoun is used, it cannot be in DP_2 while a non-pronominal is the head. Chung (1981) reports that there is a similar hierarchical ranking of pronouns over non-pronominal DPs in Chamorro. In this case the subject of a transitive irrealis clause is required to

An account of the construal between the head and the adjunct will be postponed until section 13.3.3.

13.2 Syntactic Analysis of the Contiguous Structure

Before a syntactic analysis can be given, more of the properties of the construction must be covered. The two conditions on the optionality of the repeated DP_1 will be presented first. One of these, the Subject=Possessor_of_Object Condition, provides evidence for the clausal nature of the Quantifier and following DPs. This will be incorporated into the proposed analysis given in section 13.2.3. Section 13.2.1.2 also shows that a coordination structure analysis is not correct, even for the cases where there are only two DPs and DP_1 is not overtly realized after the Quantifier. (We already saw that a semantic coordination-type account is not sufficient either.) In addition, the specific ordering required between the DPs, covered in section 13.2.1.3, rules out two further coordinate-structure analyses. Both of these implausible analyses involve coordination of the DPs following the Quantifier as a single DP, thus allowing the Quantifier to either act as a conjunction between the head DP_1 and the coordinate DP, as shown in (420a), or to serve as the head of an adjunct phrase which selects only a single complement, as (420b) illustrates. The ordering restrictions between the DPs following the Quantifier, as well as the selection of a specific number of DPs by a particular Quantifier, cannot be accounted for under a coordination analysis, ruling both options out.

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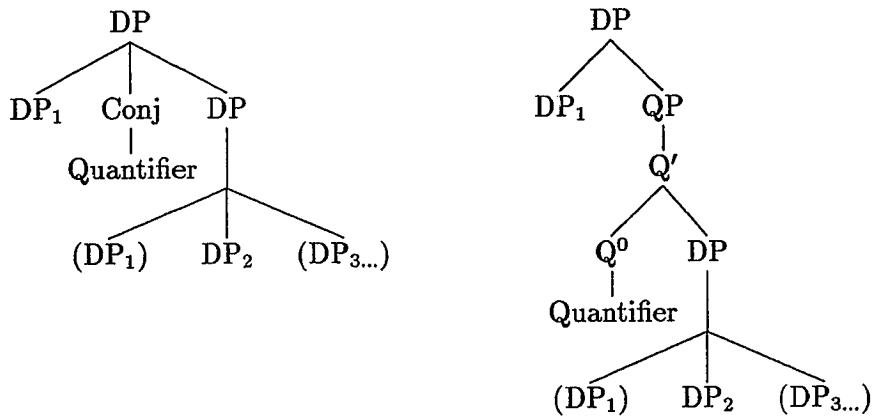
be equal or superior to the object on this hierarchy. In these Chamorro clauses, if a non-pronominal subject (like our DP_1 head) is present, the object (comparable to DP_2) cannot be a pronoun.

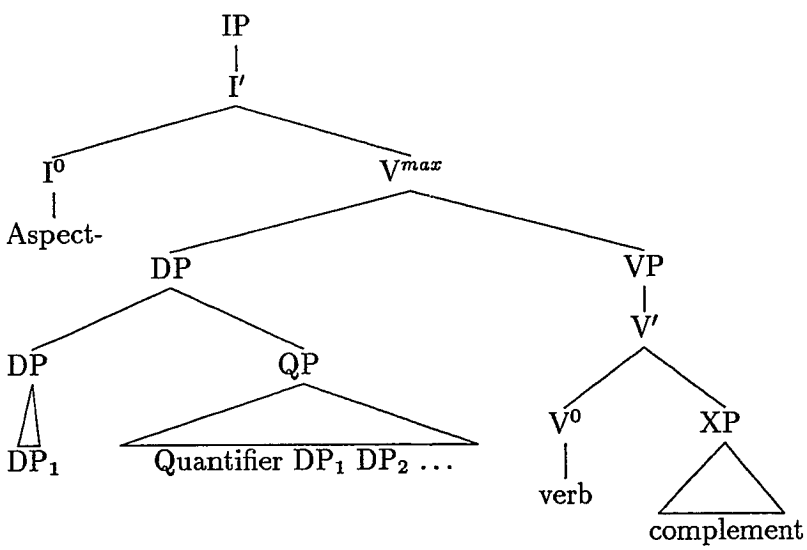
If non-pronominals are treated as lower than third person pronouns (i.e. as if they have 'fourth' person feature rather than third person on an appropriately expanded lattice), then the above account will assure that a pronominal head is always chosen over a non-pronominal head.

(420) a. *Double Coordination or b. *Adjunct Coordination

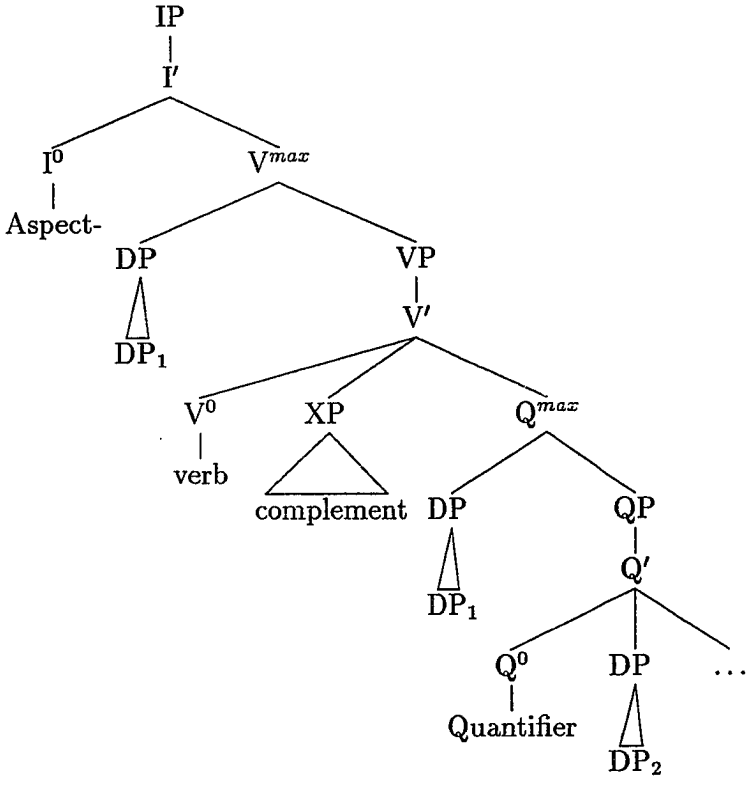


In section 13.2.2, more data is given showing the distribution of the construction. Here I specifically contrast two possible analyses: one where the whole construction is a single DP which fills an argument role, illustrated in the D-structure in (421) for a special number marking construction occupying the subject position (omitting many details to be worked out in section 13.2.3), versus an account of the Quantifier as a predicate which is embedded under the verb in the preceding clause, as diagrammed in the D-structure in (422).

(421) DP constituent analysis



(422) Embedded predicate analysis



Both of these accounts assume that the Quantifier and following elements form a clause, which is consistent with the findings of the previous section. I argue that the analysis in (421), where the construction fills a single DP argument role in the sentence, is superior to the claim that the Quantifier serves as a controlled embedded predicate (422). First, the Quantifier clause must be an adjunct, since it would never be selected by a higher predicate. Secondly, the embedded predicate analysis has no account for the cases where the entire contiguous construction has moved as a constituent, such as by focusing. Thus, even if the clause headed by the Quantifier in (422) is made a VP adjunct, rather than a complement of V^0, it is not possible to capture the fact that the entire number marking construction forms a constituent.

The remaining concerns to be dealt with in giving a syntactic analysis of the contiguous structure are covered in section 13.2.3. These involve the questions of

where the Quantifier clause attaches within the DP and what the internal structure of the Quantifier clause is. Section 13.3 then extends the analysis to the separated version of the construction.

13.2.1 The Clausal Nature of the Quantifier Phrase

In section 13.1 we discovered some of the basic properties of these special number marking constructions. We saw that the Quantifier marks the number of the entire construction. Further, the number of DP positions following the Quantifier is specifically selected by that Quantifier. *Ra* "all" selects two DP positions, similarly to a transitive verb. The four numeral Quantifiers select the number of DP positions that they signify: *te* "one" selects only one argument, *txup* "two" selects two arguments, etc. The third major property is that the Person Hierarchy Effect is a strict requirement.

We also saw that the Redundancy Condition allows for a simplified version of the construction in which $DP_{2,\ldots,n}$ are not expressed when they are identical to DP_1. There are two other conditions under which the DP_1 following the Quantifier can be optionally omitted. (The head DP_1 preceding the Quantifier is always overt.)[17] These two conditions, which are shown to be part of the grammar of QZ rather than being specific to the special number marking constructions, will be covered in the next two subsections. A discussion of the ordering restrictions among the DPs follows. Besides giving a better understanding of the construction descriptively, these conditions point toward a clausal analysis of the Quantifier and the DPs following it.

13.2.1.1 The Subject=Possessor_of_Object Condition

In addition to the examples of the full construction we have seen where all the DPs are overt, there are many examples where there is no repeated DP_1 after the Quantifier. One condition allowing this repeated DP_1 to be phonetically silent is the

[17]Except that the Quantifier and following DPs may stand alone as the answer to an appropriate question. See footnote (26) in section 13.2.3, example (vii), for one additional exception.

Subject=Possessor_of_Object Condition, which says that DP_1 may be absent after the Quantifier if it is also the possessor of DP_2. (423) shows this optionality when DP_1 and the possessor of DP_2 are a proper name and (424) gives an example where both are pronominal.[18] (425) verifies that this optionality is not possible when the possessor of DP_2 is different from DP_1.

(423) a. *Biki z-a g-un kompanyar* GRING 6
Virginia PR-go P-LM accompany
"Virginia went to accompany
Gecha y-rup x-pëëd Gecha.
Lucrecia P-two POS-baby Lucrecia
Lucrecia$_i$ and her$_i$ baby."

b. *Biki z-a g-un kompanyar*
Virginia PRR-go P-LM accompany
"Virginia went to accompany
Gecha y-rup Gecha x-pëëd Gecha.
Lucrecia P-two Lucrecia POS-baby Lucrecia
Lucrecia$_i$ and her$_i$ baby."

(424) a. *Tempran r-a-xee noo y-rup noo xnaa noo.* LIFEINQ 1
early H-go-rise 1EX P-two 1EX mother 1EX
"Early my mother and I would get up."

b. *Tempran r-a-xee noo y-rup xnaa noo.*
early H-go-rise 1EX P-two mother 1EX
"Early my mother and I would get up."

(425) a. *W-zhoon men y-ra men x-pëëd noo.* MARTRIST 6
C-run 3RD P-all 3RD POS-baby 1EX
"She and my children ran away."

b. **W-zhoon men y-ra x-pëëd noo.*
C-run 3RD P-all POS-baby 1EX
(She and my children ran away.)

This optionality is the same phenomenon seen in regular transitive sentences when the subject and the possessor of the object are coreferent (presented in Chapter 5 as the "reflexive of possession" construction, following Butler 1976a). Some examples

[18]Recall from Chapter 5 that Principle C of the Binding Theory must be parameterized for QZ; proper names may be repeated throughout the sentence rather than changing all references after the first to pronouns. Further, there is no marking on the pronouns to indicate reflexivity.

are given in (426), where the subject position is empty in each case. In (426a–b) the expressed possessor is a pronominal, and in (426c) a full nominal phrase fills that position. (426d) shows two instances of coreference between the subject and the possessor of the object in the same sentence, where the possessor is a proper name in both cases. In the first instance, a number marking construction is used and the 'subject' (or repeated DP_1) is null. The second case is a clause with a regular transitive verb, *ts-a-loo* "P-go-extract", where the subject is overtly expressed even though it is coreferent with the possessor of the object, thus illustrating the optionality. These examples show that the possessed object in question may be either a direct object or an oblique object.

(426) a. *R-dxiin-t* __ *x-ten* *men.* RANCHO 9
H-arrive-NEG POS-ranch 3RD
"They$_i$ didn't arrive at their$_i$ ranch."

b. *Dxe* *w-dxiin* __ *x-ten* *men* MENMAAC 3
already C-arrive POS-ranch 3RD
"When he$_i$ arrived at his$_i$ ranch
w-kaa __ *x-kix* *men chu* *yag.*
C-put POS-bag 3RD belly tree
he$_i$ put his$_i$ bag on a tree."

c. *S-ya* __ *ru* *x-yuu* *mër* *gol.* MARTRIST 42
PR-go mouth POS-house pigeon male
"The male pigeon$_i$ went to his$_i$ house."

d. *Biki* *z-a* *g-un* *kompanyar* GRING 6
Virginia PR-go P-LM accompany
"Virginia went to accompany
Gecha *y-rup* *x-pëëd* *Gecha*
Lucrecia P-two POS-baby Lucrecia
Lucrecia$_i$ and her$_i$ baby
ne *ts-a-loo* *Gecha* *x-kiich* *Gecha.*
that P-go-extract Lucrecia POS-paper Lucrecia
so that Lucrecia$_i$ could get her$_i$ visa."

There is clearly a special relationship between the subject and the possessor of the object in QZ and other Zapotecan languages. In Yatzachi Zapotec, for example, all reflexive and reciprocal relationships are expressed by this type of portmanteau

relationship where only the possessor of the object is overt, as shown in (427a–c) from Butler 1976a (see Chapter 5 for more examples from Yatzachi Zapotec). (427d–e) gives Yatzachi Zapotec examples of the reflexive of possession construction which directly corresponds to the QZ constructions.[19]

(427) a. *B-čeč k^wiN-boʔ.*
C-hit self.of-3F
"He hit himself."

b. *B-e-xot k^wiN beʔe-naʔ.*
C-REP-kill self.of person-that
"That person reportedly killed himself (suicide)."

c. *Ba-ǰ-əsəʔə-leʔi lR^wežR bžinʔ kaʔ.*
already-H-SPL-see fellow.of mule those
"Those mules have already seen one another."

d. *J̌-lab libř če-boʔ.*
H-read book of-3F
"He$_i$ is reading his$_i$ book."

e. *Ba-ǰ-g^{w}ia liš Bed-ənʔ.*
already-H-look.at paper Peter-the
"Peter$_i$ is already looking at his$_i$ paper."

Unfortunately, framing a theoretical analysis for these constructions where the subject may be null when it is coreferent with the possessor of the object is extremely challenging. I will only be able to detail some of the challenges and tentatively suggest a possible account here.

Binding Theory recognizes c-command as the key relationship necessary in anaphoric constructions (Reinhart 1981, Chomsky 1981, etc). The anaphor, or referentially dependent element, must be c-commanded by its antecedent in order to obtain its reference from the antecedent. Likewise, a full DP cannot be c-commanded by its antecedent (though we have seen in Chapter 5 that QZ allows violations of this Principle C requirement). The referentially independent element normally precedes

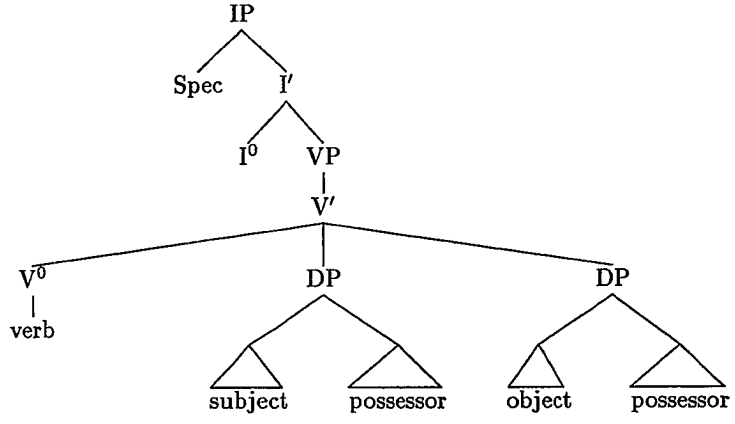
[19]In the Yatzachi examples, the morpheme gloss REP means "reportedly" and SPL marks the plurality of the subject. 3F indicates the third person familiar pronoun. The symbol *N* indicates a homorganic nasal and *R* and R^w are uvular fricatives.

and c-commands the referentially dependent element, making the term 'antecedent' meaningful. In these Zapotecan constructions, however, it is the preceding and c-commanding element, the subject, that is referentially dependent on the possessor of the object.

As verified in the S-structure trees in (428), there is no way under either the Verb Movement or Subject Adjunction Hypotheses to have a normal c-command relationship between the possessor of the object and the subject. In the Verb Movement account, the subject is in the specifier of V^{max}, well above the possessor of the object. In the Subject Adjunction account, the subject starts even higher, as the specifier of IP. The S-structure position after Subject Adjunction has taken place is much lower in the tree, but the possessor, being the specifier of NP within the object DP, is still unable to c-command even the lowered subject.[20]

[20]The S-structure after Subject Adjunction has applied is quite comparable to the configuration argued for by Woolford (1991) for VSO languages, where the subject as well as the object is base generated as sister to the verb, as shown in (i).

(i)

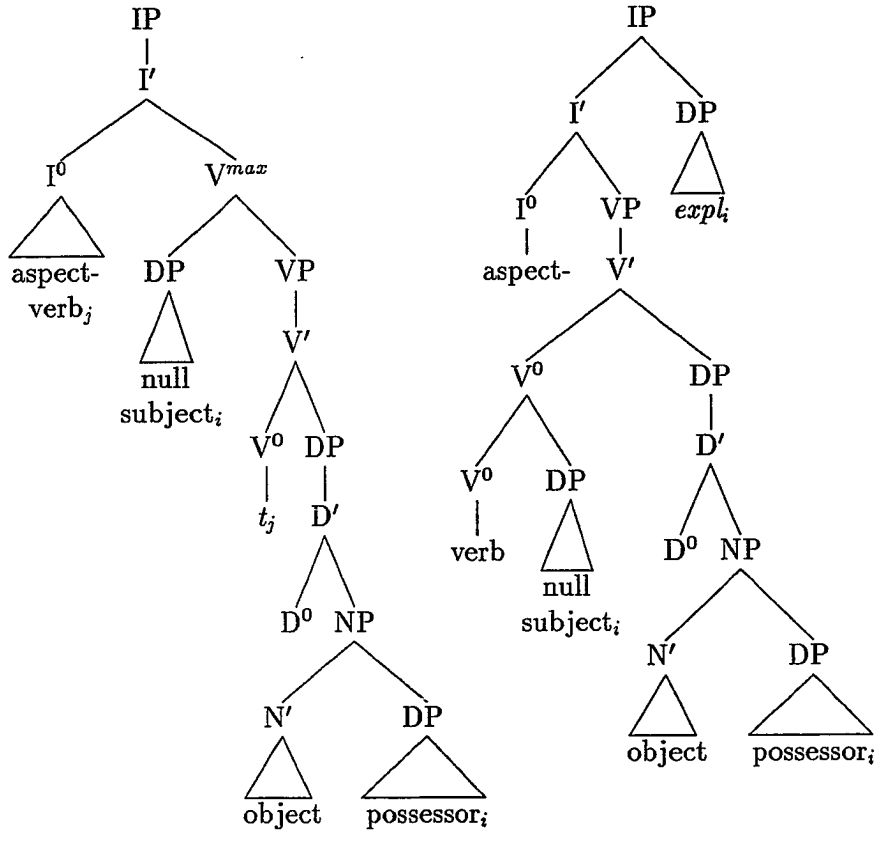


This structure allows mutual c-command between the subject and the object. Woolford (1991) claims that this accounts for the fact that coreference is required in Jacaltec examples where the subject c-commands the null possessor of the object, shown in (ii) (taken from Craig 1986:31), while coreference is impossible in examples such as (iii) (taken from Craig 1977:177) where the null object pronoun c-commands the possessor of the subject.

(ii) *Xil naj pel* [*smam* [*e*]].
saw CL Peter POS-father his
"Peter$_i$ saw his$_{i/*k}$ father."

(iii) *Xil* [*smam* *naj pel*] [*e*].
saw POS-father CL Peter it
"Peter$_i$'s father saw it/*him$_i$."

(428) Verb Movement or Subject Adjunction



We need to verify that these problematic constructions really consist of a verb followed by a null subject and then an object with its possessor and are not instead simply examples of VOS order. All of the available evidence points to the conclusion that the final element is indeed the possessor and not the (displaced) subject.

First, the object and its possessor can be focused together, as in the Yatzachi Zapotec example (429) (compare to (427e)), indicating that they form a single con-

Jacaltec apparently does not allow the interpretation of (iii) shown in (iv), the parallel of the Zapotec case, where the subject is null and the overt argument is in object position.

(iv) *??Xil* [e] [*smam naj pel*].
saw POS-father CL Peter
(Peter$_i$ saw his$_i$ father.)

This shows that the facts are different between the two languages, thus also requiring different analyses.

stituent. A coindexed pronoun must overtly mark the subject on the verb when this focusing occurs, however, showing that the null subject is only licensed very locally.

(429) *Liš Bed-ənʔ ba-ǰ-g^{w}ia-boʔ.*
paper Peter-the already-H-look.at-3F
"Peter$_i$'s paper, he$_i$ is already looking at."

Further, strict VSO order is required for the correct interpretation of grammatical functions within the clause since there is no overt case marking. VOS order, which could be obtained by either rightward movement of the subject or by the optionality of Subject Adjunction movement, is unattested in Zapotec.

Woolford (1991) notes that Jacaltec avoids the problem of the reflexive c-commanding its antecedent by incorporating the reflexive into the verb instead of placing it in object position, as shown in (430) (taken from Craig 1977:148). *Sba* is argued to have incorporated into the verb, since VOS order is never allowed in Jacaltec either.

(430) [*Xil sba*] *naj pel.*
saw self CL Peter
"Peter saw himself."

One might wonder, therefore, if an incorporation analysis would work for the Zapotec constructions, which have the same superficial word order. Unfortunately, though initially attractive, such an analysis does not account for all the facts.

First, the 'incorporated' object is a noun requiring a possessor. The DP following this object serves as the possessor, not as the subject (though coreferent with the subject). This is confirmed in Juarez Zapotec, where some of the subject and possessor pronouns differ. Nellis & Nellis (1983:379–380) note that in these constructions for both reflexive and reciprocal uses, it is always the possessive pronoun form that appears, rather than the subject form of the pronoun. (431) illustrates this: the possessive pronoun is used in the simple grammatical example (431a), but replacing the possessive pronoun with a subject pronoun yields ungrammaticality (431b).

(431) a. *quîi-níʔí*
wash-hand/3POS
"He$_i$ washed his$_i$ hands."

b. **quîi-náʔ-q*
wash-hand-3SUBJ
(He$_i$ washed his$_i$ hands.)

There is also a syntactic argument against an incorporation analysis for these constructions. This comes from the position of negation with respect to the object. In a regular incorporation construction the object appears inside the negative marker, as shown in (432). This accords with the Verb Movement proposal for clause structure adopted here, where the whole verbal complex, including the incorporated object, moves to I^0, across the subject (which is required in negative commands), and then to Neg^0 (or Pol^0).

(432) *G-ix-nii-t de lo pis.* BATHROOM 18
P-put-foot-NEG 2 face floor
"Don't step on the floor."

In contrast to the order in (432), negation is marked **before** the object in a Subject=Possessor_of_Object construction, as shown in (433). The incorporation analysis is thus unlikely, since the object is not part of the verbal complex which undergoes head movement.

(433) a. *R-dxiin-t* __ *x-ten men.* RANCHO 9
H-arrive-NEG POS-ranch 3RD
"They$_i$ didn't arrive at their$_i$ ranch."

b. *W-tsalo-t* __ *x-mgyeey men,* RANCHO 43
C-meet-NEG POS-man 3RD
"She$_i$ didn't meet her$_i$ husband,
s-teb koo z-a x-mgyeey men.
F-one side PR-go POS-man 3RD
because he went the other way."

Given that the final element is the possessor and the subject is null, we are left with a need to redefine the binding relationship for these particular constructions. This binding relationship allowing the null subject is very local; it only holds within

a single clause and cannot even survive focusing or other Ā-movement. Pending further research, I can only suggest a direction in which the analysis might lie. We can specify that the relationship between the subject and the possessor of the object is such that, in terms of generalized chains where coindexing and c-command holds between the elements (Reinhart & Reuland 1993), it is the tail rather than the head of the chain that is identified. Judith Aissen (1992 class lectures) reported a similar identification requirement in Tzotzil, where the tail of an A-chain which is first or second person must be identified with respect to number. The null subject might be an expletive-type element in the A-chain, parallel to the analysis of the scope-markers in *wh*-chains in the partial *wh*-movement analyzed by McDaniel (1989) (see also the Appendix to Part II), allowing it to locally c-command the overt possessor. If this analysis proves viable, it will provide an interesting point of connection between A-chains and Ā-chains.

Returning to the analysis of the special number marking constructions, it is sufficient to note that the optionality of the repeated DP_1 due to the Subject=Possessor_of_Object Condition is part of a general constraint in Zapotec grammar. Most importantly, it gives evidence for a clausal analysis of the Quantifier and following DPs, since the relationship between the DP_1 and the possessor of DP_2 is exactly the same as that between the subject and the possessor of the object in a clause.[21]

13.2.1.2 The Non-Pronominal Head Condition

The second condition which allows the repeated DP_1 following the Quantifier to be omitted distinguishes between pronouns and non-pronominals. If DP_1 is a pronoun not meeting the Subject=Possessor_of_Object Condition then it must be overt after the Quantifier. In the case of a non-pronominal head DP_1, the repeated DP_1 may be

[21]To my knowledge, there is no similar relationship between the possessor of the head noun and the possessor of its complement in an ordinary nominal phrase, as in (i), which licenses a null possessor.
(i) John$_i$'s love for his$_i$ mother

This is expected given the lack of parallelism in structure between clauses headed by [+V] predicates and nominal phrases (Chapter 12). I leave this for future verification.

optionally omitted. With proper name or common noun heads, the overt realization of the repeated DP_1 appears to be truly optional, whereas the preference is clearly not to repeat the DP_1 in constructions with more complex heads (see (437)–(438)). Since it is also possible to replace the second instance of DP_1 with a coreferent pronoun, I claim that the Non-Pronominal Head Condition is simply an instantiation of the null third person pronoun and the hierarchy of DP-types seen in Chapter 5. As such, it does not need to be stated separately in the grammar.

It is important to note, however, that within these special number marking constructions the Subject=Possessor_of_Object Condition overrides this requirement for every element with a pronoun antecedent to be overt. To account for this, I appeal to the usual notions of rule ordering in Phonology where the more specific rule takes precedence over the general rule (Chomsky & Halle 1968). More recently, this idea of ranked constraints (each of which is theoretically violable) has been restated in terms of Optimality Theory (Prince & Smolensky 1991, 1992, 1993 and McCarthy & Prince 1992, 1993).[22] It seems apparent that a similar ranking is needed within syntax, specifically to account for cases like this where meeting a higher constraint, such as the Subject=Possessor_of_Object Condition, allows a lower-ranked constraint to be violated.

Examples (434)–(436) illustrate this Non-Pronominal Head Condition. When the head DP_1 is a pronoun, DP_1 must be repeated after the Quantifier, as verified by the (b) examples. In (436) the two different pronouns used indicate two groups being combined, giving a reading of "we all, I with them,...".

(434) a. *Ts-a de y-rup de Susan.* TRIPTOQ 80
P-go 2 P-two 2 Susan
"You can go with Susan."

b. **Ts-a de y-rup Susan.*
P-go 2 P-two Susan
(You can go with Susan.)

[22]Though Optimality Theory is developed in a non-derivational framework in the references cited, H.A.Black (1993) implements the idea of ranked and violable constraints in a derivational framework.

(435) a. *R-oo men y-rup men Biki nisgaal.* AGOSTO 8
H-drink 3RD P-two 3RD Virginia soda
"She and Virginia drank soda pop."

b. **R-oo men y-rup Biki nisgaal.*
H-drink 3RD P-two Virginia soda
(She and Virginia drank soda pop.)

(436) a. *Nga w-u-gwe noo y-ra noo men.* MTLEMON2 45
there C-eat-lunch 1EX P-all 1EX 3RD
"There we all ate lunch."

b. **Nga w-u-gwe noo y-ra men.*
there C-eat-lunch 1EX P-all 3RD
(There we all ate lunch.)

The repeated DP_1 may be omitted, however, when both DP positions are filled by non-pronominals. (437) illustrates this optionality when DP_1 is filled by a proper name and (438a–b) verifies that it also holds for common nouns. With more complex nominal phrases, the preference is clearly not to repeat the full DP_1 (438c), but instead to use the common noun only (438d), a coreferent pronoun (438e), or the null third person pronoun (438f) (i.e. omitting the second DP_1).

(437) a. *Xna-ydoo x-pee Manwel n-ak* AGOSTO 12
mother-church POS-son Manuel S-become
"The godparents of Manuel's son are
Katalina y-rup Tomas.
Catherine P-two Thomas
Catherine and Thomas."

b. *Xna-ydoo x-pee Manwel n-ak*
mother-church POS-son Manuel S-become
"The godparents of Manuel's son are
Katalina y-rup Katalina Tomas.
Catherine P-two Catherine Thomas
Catherine and Thomas."

(438) a. *W-nëëz mëëk ngyed y-rup ngyed konej.* AGOSTO 49
C-catch dog chicken P-two chicken rabbit
"The dog caught a chicken and a rabbit."

b. *W-nëëz mëëk ngyed y-rup konej.*
C-catch dog chicken P-two rabbit
"The dog caught a chicken and a rabbit."

c. *??W-nëëz mëëk te ngyed win y-rup te ngyed win konej.*
C-catch dog one chicken small P-two one chicken small rabbit
"The dog caught a small chicken and a rabbit."

d. *W-nëëz mëëk te ngyed win y-rup ngyed konej.*
C-catch dog one chicken small P-two chicken rabbit
"The dog caught a small chicken and a rabbit."

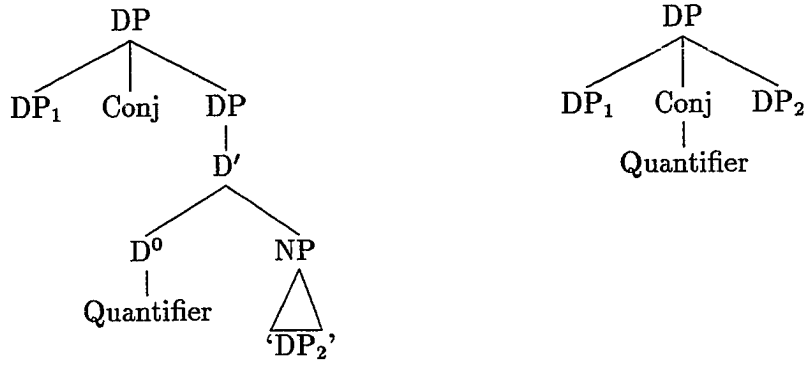
e. *W-nëëz mëëk te ngyed$_i$ win y-rup maa$_i$ konej.*
C-catch dog one chicken small P-two 3A rabbit
"The dog caught a small chicken and a rabbit."

f. *W-nëëz mëëk te ngyed win y-rup konej.*
C-catch dog one chicken small P-two rabbit
"The dog caught a small chicken and a rabbit."

The versions of the construction where the second DP_1 is not phonetically realized, such as *Katalina yrup Tomas* in (437a), look something like regular coordination constructions. A coordination analysis is not tenable as a general solution for all the special number marking constructions, however, and it does not even account well for the examples of the form DP_1 Quantifier DP_2. I show this by demonstrating the problems encountered by two possible versions of a regular coordination construction.

First, since an overt conjunction is not required between the conjuncts in DP coordination (as seen in section 12.3), one might assume that the Quantifier is really only a part of the second conjunct, as shown in (439a). Alternatively, in the special number marking constructions the Quantifier itself could be assumed to act as the conjunction, as in (439b).

(439) a. *Quantifier in 2nd Conjunct or b. *Quantifier as Conjunction



The best chance of success for the analysis that the Quantifier is part of the second conjunct in a regular DP coordination structure (439a) would be in examples like those given in (440)–(441). In each case, the attested reading as a special number marking construction is given in (a). The reanalysis as a coordinate structure is shown in (b) (with the two coordinates bracketed), but this reading is noted as unattested (*), since it is not the reading given by the QZ speaker, nor is it correct from the context.

(440) a. *Te men y-rup x-pëëk men z-a x-ten men.* MENMAAC 1A
one 3RD P-two POS-dog 3RD PR-go POS-ranch 3RD
"A man and his dog were going to his ranch."

b. **[Te men] [y-rup x-pëëk men] z-a x-ten men.*
one 3RD P-two POS-dog 3RD PR-go POS-ranch 3RD
(A man and two of his dogs were going to his ranch.)

(441) a. *Z-a x-unaa men y-rup x-pëëd x-unaa men.* RANCHO 34
PR-go POS-woman 3RD P-two POS-baby POS-woman 3RD
"She$_i$ (his woman) and her$_i$ baby were going."

b. **Z-a [x-unaa men] [y-rup x-pëëd x-unaa men].*
PR-go POS-woman 3RD P-two POS-baby POS-woman 3RD
(She$_i$ (his woman) and her$_i$ two babies were going.)

The cases which can be syntactically analyzed both ways are very limited: the repeated DP_1 must be omitted subject to one of the conditions given above, the second DP must be a noun which can be quantified, and the construction must not be sep-

arated. Also, the Quantifiers *te* "one", *tson* "three" and *tap* "four" cannot be used, since they select the 'wrong' number of arguments. For the vast majority of cases, the construction we are considering cannot be analyzed alternatively as a regular coordinate structure without an overt conjunction. Therefore, in addition to providing an unattested reading in the few cases where such an alternate analysis is available, a coordination analysis of this type does not account for the full distribution of the construction.

The analysis that the Quantifier is a conjunction (439b) runs into similar distribution problems. It could possibly be used to account for the examples which have the form DP_1 Quantifier DP_2, as in (437a), (438b), (440a) and (441a), but it provides no account for the many examples where the DP_1 following the Quantifier is overt, as in (437b) and (438a), nor for the examples which use the Quantifiers meaning 'three' or 'four'.

In the next section, we look at two more analyses involving coordination that attempt to solve the problem encountered here of accounting for more than one DP being possible after the Quantifier. These analyses are also ruled out by their inability to account for the required ordering and number of the DPs.

13.2.1.3 Ordering Restrictions Between the DPs

Coindexation of the head DP and the first DP after the Quantifier (the two DP_1s) is required.[23] DP_1 and DP_2 may not be in reverse order after the Quantifier, as shown in (442)–(443), nor may the DP_1 after the Quantifier add new information, as (444c) verifies.

(442) a. *Nga ts-uu de y-rup de Susan.* TRIPTOQ 6
there P-be 2 P-two 2 Susan
"There you'll be with Susan."

[23]This coindexation is almost always shown by identity between the two DP_1s if the second instance is overt. However, in addition to allowing the repeated DP_1 to be null due to one of the optionality conditions given, the second instance of DP_1 may be a coreferent pronoun (at least in the contiguous structure), as shown in (443c).

b. **Nga ts-uu de y-rup Susan de.*
there P-be 2 P-two Susan 2
(There you'll be with Susan.)

(443) a. *Xna-ydoo x-pee Manwel n-ak* AGOSTO 12
mother-church POS-son Manuel S-become
"The godparents of Manuel's son are
Katalina y-rup Katalina Tomas.
Catherine P-two Catherine Thomas
Catherine and Thomas."

b. **Xna-ydoo x-pee Manwel n-ak*
mother-church POS-son Manuel S-become
(The godparents of Manuel's son are
Katalina y-rup Tomas Katalina.
Catherine P-two Thomas Catherine
Catherine and Thomas.)

c. *Xna-ydoo x-pee Manwel n-ak*
mother-church POS-son Manuel S-become
"The godparents of Manuel's son are
Katalina$_i$ y-rup men$_i$ Tomas.
Catherine P-two 3RD Thomas
Catherine and Thomas."

(444) a. *Lex bweree-ke men y-ra men.* MTLEMON2 57B
later C/return-ASSOC 3RD P-all 3RD
"Then they all returned also."

b. *Lex bweree-ke men y-ra men Susan.*
later C/return-ASSOC 3RD P-all 3RD Susan
"Then they all, including Susan, returned also."

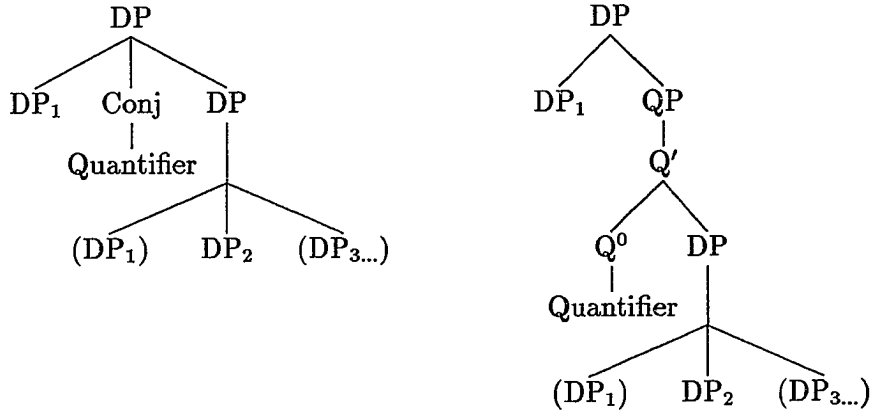
c. **Lex b-weree-ke men y-ra Rodolf Susan.*
later C/return-also 3RD P-all Rodolfo Susan
(Then they all, including Rodolfo and Susan, returned also.)

The unattested examples above where the first DP following the Quantifier is not coindexed with the head DP_1 are simply uninterpretable in QZ. The reason for this restriction ties in with the need for assuring correct semantic construal of the adjunct, especially in the separated structure. This construal will be discussed in section 13.3.3.

The ordering restriction between the DPs following the Quantifier is a key factor in ruling out two possible syntactic configurations where there is always only one

DP following the Quantifier. This DP would have to be a coordinate structure to account for the cases where more than one DP is present following the Quantifier (thus improving on the two analyses rejected in the last section). Under one version of such an analysis, the Quantifier would act as a conjunction between the head DP_1 and the coordinate DP, as shown in (445a). Alternatively, the full configuration would be an asymmetric DP structure where the adjunct QP takes a single DP complement, which is itself a coordinate DP, illustrated in (445b).[24]

(445) a. *Double Coordination or b. *Adjunct Coordination



These analyses where the Quantifier is always followed by only a single DP might seem advantageous over the account where it may take one to four complements. However, the coordinate DP analyses in (445) would not have any mechanism for assuring that the proper number of DPs will be coordinated in the single DP. The examples given in (446) are predicted incorrectly to be grammatical. The fact that *y-rup* "P-two" and *y-ra* "P-all" may only have two DPs following them while *gy-on* "P-three" must have three DPs is unaccounted for under either coordinate DP analysis in (445), but it falls out nicely under a clausal analysis of the QP adjunct where the Quantifier is normally a multi-argument predicate.

[24]Here I abstract away from the issue of whether the adjunct attaches to the head DP or somewhere within it. That issue will be dealt with in section 13.2.3.

(446) a. *W-nëëz mëëk ngyed y-rup ngyed konej mëël.*
C-catch dog chicken P-two chicken rabbit snake
(The dog caught a chicken, a rabbit, and a snake.)

b. *W-nëëz mëëk ngyed y-ra ngyed konej mëël.*
C-catch dog chicken P-all chicken rabbit snake
(The dog caught a chicken, a rabbit, and a snake.)

c. *W-nëëz mëëk ngyed gy-on ngyed konej.*
C-catch dog chicken P-three chicken rabbit
(The dog caught a chicken and a rabbit.)

Further, if the DP following the Quantifier were a regular coordinate DP, we should be able to insert *no* "and" between DP_1 and DP_2. This, however, is not allowed (447a). Also, within a regular coordinate DP the order of the conjoined DPs is reversible, but reversing the order within the special number marking constructions makes the sentence ungrammatical (as we have seen above, repeated in (447b)).

(447) a. *W-nëëz mëëk ngyed y-rup ngyed no konej.*
C-catch dog chicken P-two chicken and rabbit
(The dog caught a chicken and a rabbit.)
W-nëëz mëëk ngyed y-rup konej ngyed.
C-catch dog chicken P-two rabbit chicken
(The dog caught a chicken and a rabbit.)

It should be noted that the structure in (445b) has several advantages over the other coordination structures considered thus far. It is clearly an asymmetric structure with a head and an adjunct, and as such it parallels the structure of the PPC. This allows both the semantics and the syntax to be similar between the two constructions. Further, the Quantifier is treated as the head of the adjunct. Both of these advantages will also be included in the analysis I adopt. Instead of the single (coordinate) DP complement for the Quantifier shown in (445b), however, I assume that the Quantifier heads a clausal adjunct and subcategorizes for one to four complements. This accounts for the various properties and restrictions on these special constructions in a way that is consistent with the rest of QZ syntax. The proposed internal structure of this clausal adjunct will be given in section 13.2.3.

Throughout this section we have been assuming that the head DP and the QP adjunct form a single constituent, as in the PPC. The next section presents data to confirm this constituency.

13.2.2 The Constituency of the Construction

This section presents more data to show the full distribution of the construction. We will see that the construction as a whole fills all the normal DP positions. This distribution, coupled with the fact that the whole construction can be focused as a unit, argues for its constituency as a DP. I will use this to specifically argue against the alternative proposal that the QP is an embedded predicate.

The examples given here are grouped according to the grammatical function the structure fills in the sentence. As before, the parts of the structure under consideration are underlined. Examples are given with pronouns, proper names, or nominal phrases in each DP position. Some examples have all the DPs overt, while in others one or more DPs are not phonetically realized, due to the conditions discussed in the previous sections.

These structures are found in subject position in the vast majority of cases. (448) gives examples where all the DPs are filled by pronouns. (448a–c) illustrate constructions where the Redundancy Condition has applied, whereas examples (448d–e) have the full construction occupying the subject position.

(448) a. *S-ya* *men* *y-rup* *men.* SAMUEL 13
PR-go 3RD P-two 3RD
"They were both going."

b. *G-u-sëë* *noo* *y-ra* *noo.* LIFEINQ 20
P-eat-dinner 1EX P-all 1EX
"We all will eat dinner."

c. *Xiid noo y-ra noo s-te* MTLEMON 47
F/come 1EX P-all 1EX F-one
"We will all come again
led-ne z-u x-kamyon Danyel.
body-that PR-stand POS-truck Daniel
to where Daniel's truck is."

d. *Nga w-u-gwe noo y-ra noo men.* MTLEMON2 45
there C-eat-lunch 1EX P-all 1EX 3RD
"There we all ate lunch."

e. *Lex bweree-ke noo y-ra noo men.* MTLEMON2 57
later C/return-ASSOC 1EX P-all 1EX 3RD
"Then we all returned also."

The examples in (449) have pronominal heads but DP_2 is non-pronominal. (449a) exemplifies the Subject=Possessor_of_Object Condition (which could also have applied in (449b) but did not), while the remaining examples are all full constructions, again occupying the subject position.

(449) a. *Sabt w-a-xee noo,* MTLEMON 6
Saturday C-go-rise 1EX
"Saturday I got up
w-xa-ndxen noo y-ra x-patron noo.
C-eat-breakfast 1EX P-all POS-patron 1EX
and ate breakfast with all my patrons."

b. *Tempran r-a-xee noo y-rup noo xnaa noo.* LIFEINQ 1
early H-go-rise 1EX P-two 1EX mother 1EX
"Early my mother and I would get up."

c. *Nga ts-uu de y-rup de Susan.* TRIPTOQ 6
there P-be 2 P-two 2 Susan
"There you'll be with Susan."

d. *Ts-a de y-rup de Susan.* TRIPTOQ 80
P-go 2 P-two 2 Susan
"You can go with Susan."

e. *W-zhoon men y-ra men x-pëëd noo.* MARTRIST 6
C-run 3RD P-all 3RD POS-baby 1EX
"She and my children ran away."

f. *W-ya maa y-rup maa x-mig mër gos.* MARTRIST 35
C-dance 3A P-two 3A POS-friend pigeon female
"He danced with the female pigeon's friend."

(450) gives examples with non-pronominal heads. (450a) shows a possessed nominal as the head which is also itself the possessor of DP_2. The repeated DP_1 is thus omitted under the Subject=Possessor_of_Object Condition. (450b) shows the full construction with a proper name as head in subject position.

(450) a. *Z-a x-unaa men y-rup x-pëëd x-unaa men.* RANCHO 34
PR-go POS-woman 3RD P-two POS-baby POS-woman 3RD
"She$_i$ (his woman) and her$_i$ baby were going."

b. *W-guu Jose y-rup Jose xuz noo* AGOSTO 44
C-sow Jose P-two Jose father 1EX
"Jose and my father put it
leen x-yuu xuz noo.
inside POS-house father 1EX
inside my father's house."

The examples is (451) show that the structure can also be focused, giving evidence that it forms a constituent. In (451a) the Non-Pronominal Head Condition has allowed the repeated DP_1 to be omitted, whereas (451b) shows a construction subject to the Redundancy Condition.

(451) a. *Laa xnaa noo yrup xuz noo r-laa-w.* AGOSTO 21
FM mother 1EX P-two father 1EX H-do-3I
"My mother and my father did it."

b. *Noze noo y-ra noo s-ya den.* SYANODEN 8
only 1EX P-all 1EX PR-go rancho
"Just the rest of us go to the ranch."

(452) gives an example of the construction used in a stative sentence. Here, the repeated DP_1 is omitted under the Non-Pronominal Head Condition.

(452) *Xna-ydoo x-pee Manwel n-ak* AGOSTO 12
mother-church POS-son Manuel S-become
"The godparents of Manuel's son are
Katalina y-rup Tomas.
Catherine P-two Thomas
Catherine and Thomas."

These structures can also be the object of a regular declarative sentence. (453a–b) show single clause examples, whereas in (453c–d) the construction is the object of an embedded clause. Again, constructions subject to the various conditions are exemplified.

(453) a. *W-nëëz mëëk ngyed y-rup ngyed konej.* AGOSTO 49
C-catch dog chicken P-two chicken rabbit
"The dog caught a chicken and a rabbit."

b. *W-nache meedx men y-ra men.* ANIMAL 49
C-frighten lion 3RD P-all 3RD
"The lion frightened everyone."

c. *Y-niiz noo txup chamar o tson chamar* TRIPTOQ 9
P-give 1EX two blanket or three blanket
"I'll give you two or three blankets
y-ral de y-rup de Susan.
P-cover 2 P-two 2 Susan
to cover you and Susan."

d. *Biki z-a g-un kompanyar* GRING 6
Virginia PR-go P-LM accompany
"Virginia went to accompany
Gecha y-rup x-pëëd Gecha
Lucrecia P-two POS-baby Lucrecia
Lucrecia$_i$ and her$_i$ baby
ne ts-a-loo Gecha x-kiich Gecha.
that P-go-extract Lucrecia POS-paper Lucrecia
so that Lucrecia$_i$ could get her$_i$ visa."

Though no text examples were found, (454) gives various examples from my language consultant where the special number marking construction is acting as the object of a preposition.

(454) a. *R-e Jasint lo Rafayel y-rup Lawer:...*
H-say Jacinto face Ralph P-two Larry
"Jacinto said to Ralph and Larry ..."

b. *R-e Jasint lo men y-rup men Biki:...*
H-say Jacinto face 3RD P-two 3RD Virginia
"Jacinto said to her and Virginia ..."

c. *W-gwed Benit mëlbyuu lo men y-ra men.*
C-give Benito fish face 3RD P-all 3RD
"Benit gave fish to all of them."

d. *W-eey Danyel gyët por noo y-ra noo men.*
C-take Daniel tortillas for 1EX P-all 1EX 3RD
"Daniel took tortillas for all of us."

Finally, the contiguous structure can be a possessor, as shown in (455). This exemplifies the optionality allowed by the Non-Pronominal Head Condition.

(455) *W-dxiin men led-ne ts-oo men* GRING 8
C-arrive 3RD body-that P-extract 3RD
"They arrived at the place where they get
x-kiich Gecha y-rup Karmita.
POS-paper Lucrecia P-two Carmita
Lucrecia's and Carmita's visas."

The distribution of the construction leads to the conclusion that the head, at least, is a DP, since it may fill all the normal DP positions. The fact that the whole construction can be focused (451) argues for its constituency as a DP. The alternative account which assumes that the Quantifier clause is actually embedded under the main verb, rather than being a DP adjunct, cannot account for this focusing.

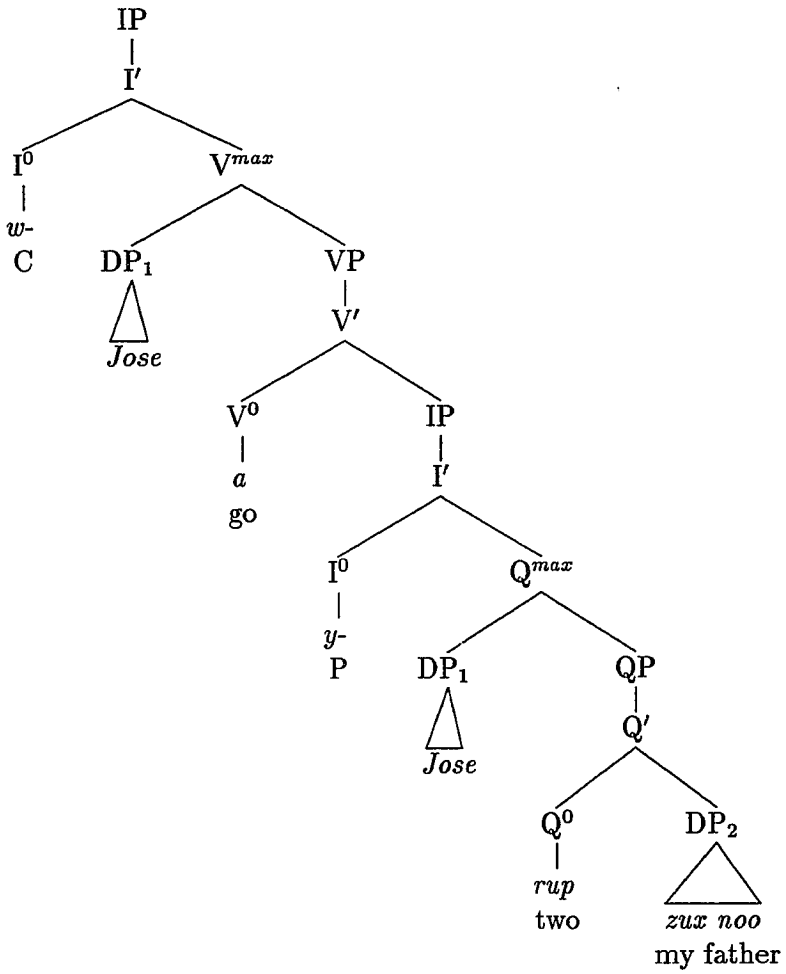
Such an alternative embedded predicate account deserves a closer look, however, since it holds promise in explaining the required coindexing between the head DP_1 and its counterpart after the Quantifier. We would assume that the main verb selects a Quantifier clause that has an external argument (i.e. the DP_1 following the Quantifier) which is coindexed with the verb's external argument (which is what I have been calling the head DP_1). Though such a construction in English requires a nonfinite embedded clause with a null subject, as in the free translation of (456), the QZ equivalent usually has both subjects overtly expressed.

(456) *R-laan Jose s-ya Jose den.*
H-want Jose PR-go Jose ranch
"Jose wants to go to the ranch."

If we consider the Quantifier as filling the same position and role as the embedded transitive verb in (456), then an example such as (457) would have the D-structure shown in (458).

(457) *W-a Jose y-rup Jose zux noo.*
C-go Jose P-two Jose father 1EX
"Jose went together with my father."

(458) D-structure



As mentioned, such an account would provide a nice explanation for the required coindexing between the two instances of DP_1. This is true as long as the head DP_1 occupies the subject position in the clause. Coindexation between the external arguments of the verb and the Quantifier is not required nor correct when the head DP_1 is the object, possessor, or object of a preposition in a clause, since the head DP_1 is not the external argument of the verb in these cases. Further, there is nothing about the main verb *a* "go" that is selecting the Quantifier clause; such phrases can

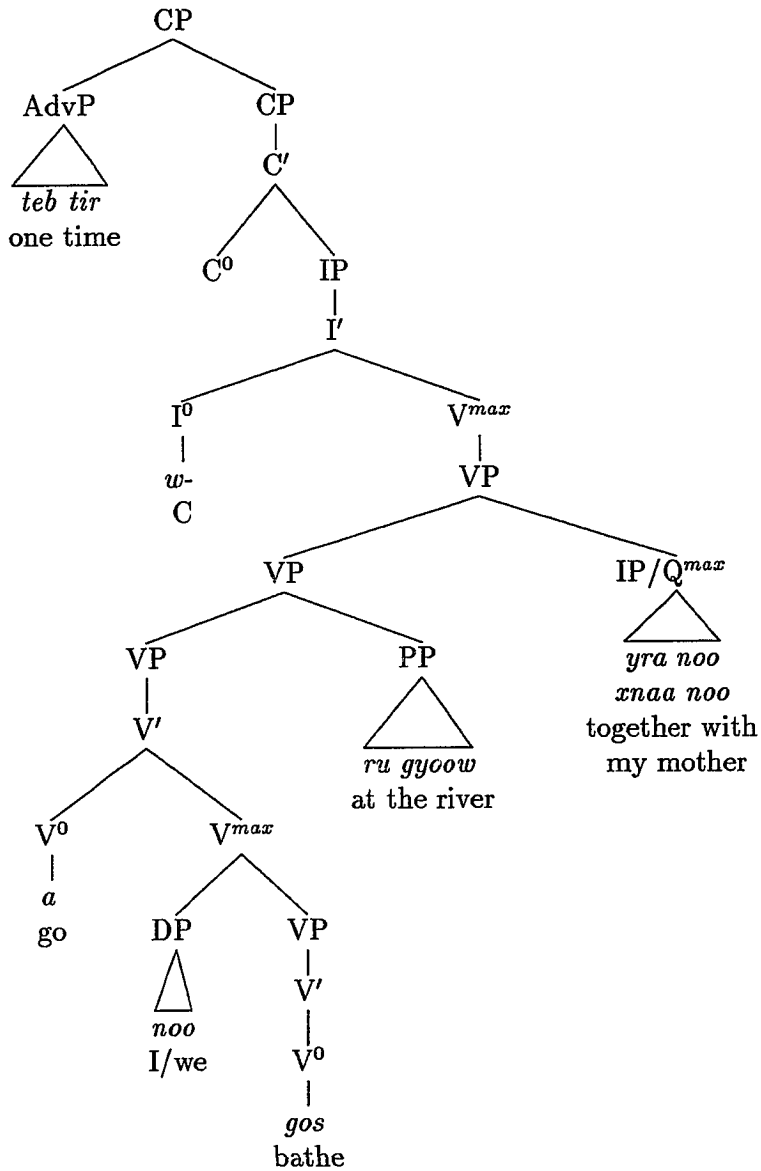
go with any verb as long as the coindexation requirement between the two DP_1s is met. The Quantifier clause must therefore be an adjunct.

The amended alternative that the Quantifier clause is a VP adjunct can also be ruled out by the full distribution of the special number marking construction. Such an analysis would be equivalent to assuming that all the contiguous versions of these special number marking constructions have the same D-structure as the separated structures, if a base generated analysis were used for the separated constructions (see section 13.3). For example, in the separated structure in (459a) the Quantifier and following DPs clearly form an adjunct clause. The adjunct is not necessary, since without it the sentence conveys the information "One time I/we went to bathe at the river". The adjunct adds the specific details that the group who went to bathe included "me" and "my mother" (and other female relatives, as indicated by the use of *y-ra* "P-all" rather than *y-rup* "P-two"). Further, the S-structure position of the adjunct in (459a) would be right-adjoined to VP (or possibly to V^{max}), as shown in (460). The question is whether the structure in (460) is also the D-structure of both (459a & b), as would be the case under the VP-adjunct analysis, rather than allowing the whole construction to be a constituent at least in the contiguous construction (459b).

(459) a. *Teb tir w-a noo gos ru gyoow* SNAKHAIR 1
one time C-go 1EX bathe mouth river
"One time I went to bathe at the river
y-ra noo xnaa noo.
P-all 1EX mother 1EX
together with my mother (and others)."

b. *Teb tir w-a noo y-ra noo xnaa noo*
one time C-go 1EX P-all 1EX mother 1EX
"One time my mother and I (and others) went
gos ru gyoow.
bathe mouth river
to bathe at the river."

(460)



The structure in (460) seems clearly wrong as a D-structure for (459b) at least. In order to obtain the surface order of (459b), movement to adjoin the Quantifier clause to the subject DP would be necessary. Such adjunction to an argument would violate the prohibition in Chomsky (1986:6). Also, since the head and the adjunct do not ever form a constituent under the VP-adjunct analysis, there remains no account for the fact that they can be focused together.

The analysis I propose where the head and the adjunct form a single DP constituent is therefore superior to both the controlled embedded predicate account and the VP-adjunct analysis, at least for the contiguous structure.

13.2.3 The Internal Structure of the Mother DP and of the Clausal Adjunct

We have established so far that the Quantifier and following DPs form an adjunct clause and that the head DP_1 and this adjunct clause together comprise a single constituent. The remaining questions to be dealt with in giving a syntactic analysis of the contiguous structure are where the Quantifier clause attaches within the DP and what the internal structure of the Quantifier clause is.

Instead of positing that the adjunct attaches to the head DP itself (as assumed by Schwartz 1988 for the PPC, McNally 1993 for the Comitative Coordination constructions, and Black 1992 in my earlier analysis of these QZ constructions), I propose here that the adjunct clause attaches within the DP, most likely adjoined to D′, just as relative clauses do (see (383) in section 12.2). This base generated adjunction within DP has the advantage of not violating Chomsky's (1986) prohibition against adjunction to arguments even when it is applied to base generated structures.[25] The parallel to relative clauses is in accord with the fact that relative clauses may also be separated from their heads, just like these Quantifier clauses may.

As for the internal structure of the adjunct, I assume that it is an IP which is headed by the Potential marker on the Quantifier, just as normal clauses are headed by the Aspect marking in I^0. The I^0 in this case selects a Quantifier Phrase (Q^{max}) which has a [+V] predicate.[26] As such, this Quantifier predicate head has its specifiers

[25]Though it does violate his specific statement of the prohibition that limits adjunction to maximal projections only. I assume here and throughout the dissertation (see especially the structure required for nominals in section 12.2) that adjunction to non-maximal projections is allowed.

[26]Independent evidence for the characterization of these special Quantifiers as [+V] comes from the surprising fact that they can carry the normal verbal suffixes when the construction is focused and the emphasis is on whether the action specified was done together or not, as shown in (i) and (iv). These suffixes must occur on the main verb when the construction is in its normal position in the clause, as (ii)-(iii) and (v)-(vi) verify.

on the left and undergoes movement to I^0 (recall the discussion in Chapter 11 of the distinction between [±V] predicates).

In addition, as a [+V] predicate, the Quantifier subcategorizes for a certain number and type of arguments, just as verbs do. Therefore, the Quantifiers meaning "two" and "all" are like transitive verbs, whereas the Quantifier meaning "one" is like an intransitive verb in its subcategorization requirements, and the Quantifiers meaning "three" and "four" take that number of arguments, respectively. I further assume

(i) *Led Rafayel y-rup-t Lawer w-tsoow mezh.*
FM Ralph P-two-NEG Larry C-make table
"It wasn't together that Ralph and Larry made a table."
(i.e. Ralph made it alone.)

(ii) **R-oo men y-rup-t men Biki nisgaal.*
H-drink 3RD P-two-NEG 3RD Virginia soda
(She and Virginia drink soda pop, not together.)

(iii) *R-oo-t men y-rup men Biki nisgaal.*
H-drink-NEG 3RD P-two 3RD Virginia soda
"She and Virginia don't drink soda pop together."

(iv) *Martin y-rup-ke Biki r-oo nisgaal.*
Martin P-two-ASSOC Virginia H-drink soda
"Martin and Virginia also drink soda pop."

(v) **R-oo Martin y-rup-ke Biki nisgaal.*
H-drink Martin P-two-ASSOC Virginia soda
(Martin and Virginia also drink soda pop.)

(vi) *R-oo-ke Martin y-rup Biki nisgaal.*
H-drink-ASSOC Martin P-two Virginia soda
"Martin and Virginia drink soda pop also."

The fact that the negative marker can occur on the Quantifier when the number marking construction is focused (i) indicates that the adjunct clause headed by the Quantifier may be a Polarity Phrase (PolP) rather than simply an IP. Since examples of the Quantifier carrying the negative marker are so rare (no such examples were found in the texts (Regnier 1989a), probably due to the special context required) and they are restricted to focus position, I leave it as an IP in the discussion and trees.

Alongside the above examples, my language consultant says that (vii) is also attested, where the focused number marking construction does not have a head DP_1 before the Quantifier.

(vii) *Y-rup-ke Martin Biki r-oo nisgaal.*
P-two-ASSOC Martin Virginia H-drink soda
"Together also Martin and Virginia drink soda pop."

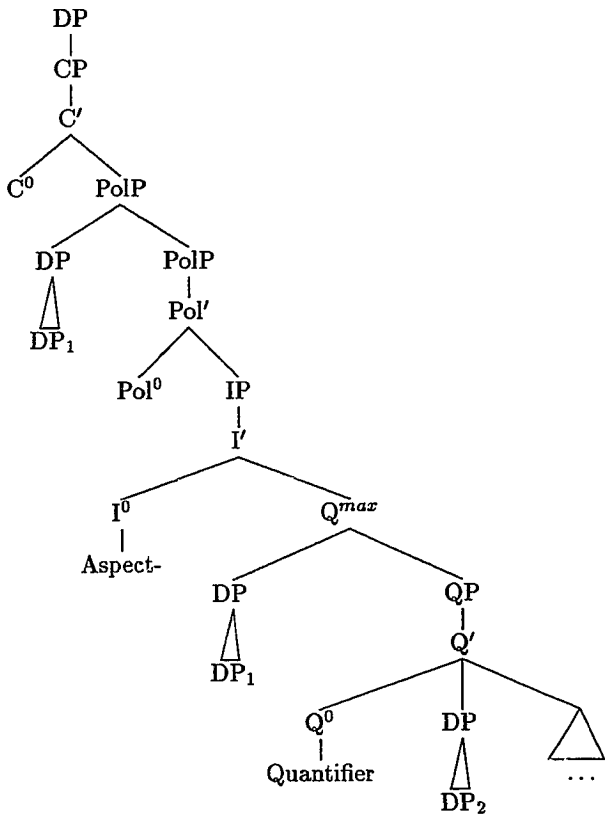
This example might be used to argue for an analysis of the special number marking construction as a clause itself (CP), which occupies the regular DP positions (just like sentential subjects do), rather than as an asymmetric DP structure containing a clausal adjunct as I propose. Under such a CP analysis, all of the normal examples which have the DP_1 overt before the Quantifier would be cases where the DP_1 was focused within the clause, as diagrammed in (viii).

that the first argument after the Quantifier is the external argument (or subject) in each case, which accords with the ordering restrictions among the DPs and the Subject=Possessor_of_Object Condition.

The structure I propose for a simple sentence like (461) (=(457)) is given in (462).

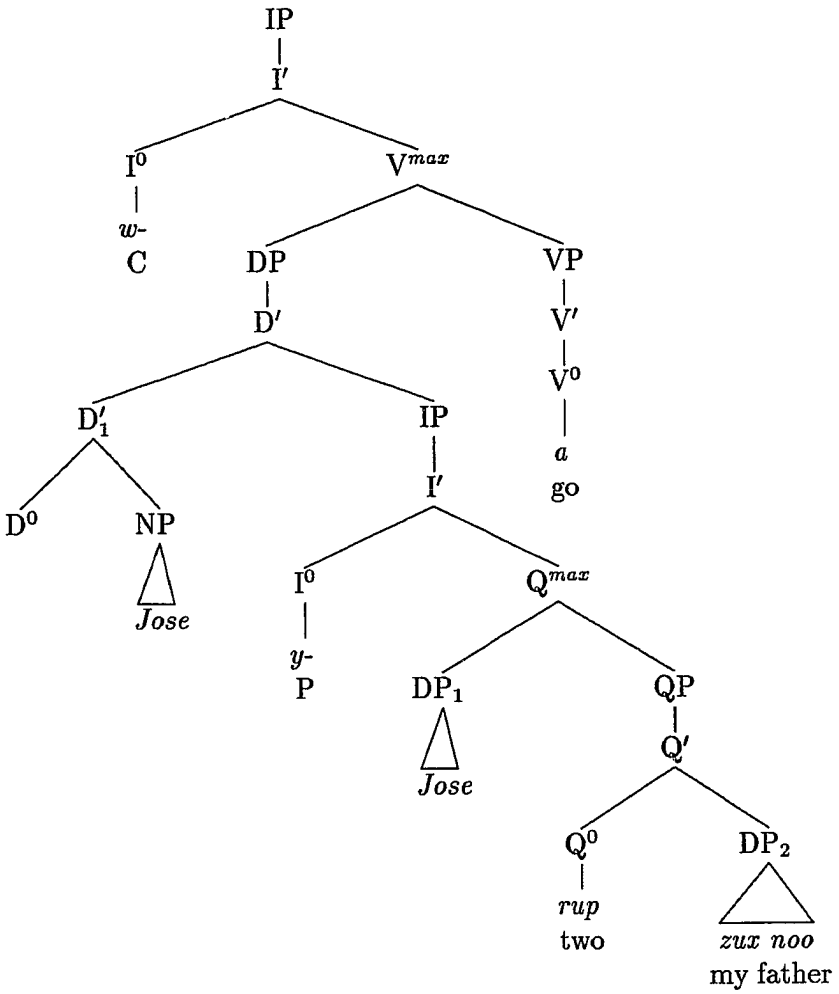
(461) *W-a Jose y-rup Jose zux noo.*
C-go Jose P-two Jose father 1EX
"Jose went together with my father."

(viii)



For such an analysis to be viable, several questions would need to answered, such as (a) why this focusing is normally required, (b) why a copy of the focused item remains after the Quantifier (when this is not the case in normal focus constructions), and (c) why only DP_1 may be focused and not DP_2, for instance, which would correspond to constructions where the object has been focused. Since the answers to these questions do not seem straightforward, I do not consider the option in (viii) further. I assume instead that the fact that the DP_1 is not required before the Quantifier when the special number marking construction is focused ties in with the special conditions allowing the Quantifier to carry the verbal suffixes only when the construction occupies that same position. Perhaps examples (i)-(vii) could all be accounted for by allowing a base generated biclausal analysis for these focus constructions. The Quantifier would then serve as the matrix predicate.

(462) D-structure



Note that this structure is very similar to the embedded predicate analysis (458) except that the "embedded" IP is adjoined to D′ within the subject DP here, instead of being a complement of the verb. The structure in (462) has the distinct advantage of having the whole construction be a constituent, while maintaining the clausal nature of the adjunct. An account for the required coindexing between the head (=D'_1 now) and the external argument of the Quantifier is still needed and will be given in section 13.3.3.

13.3 Analysis of the Separated Construction

Having given the semantic interpretation for these special number marking constructions and a syntactic analysis for its contiguous structure, we are now ready to address the analysis of the separated version of the construction.

Consider again the pair of sentences in (463), repeated from earlier.

(463) a. *R-oo men y-rup men Biki nisgaal.* AGOSTO 8A
H-drink 3RD P-two 3RD Virginia soda
"She and Virginia drink soda pop."

b. *R-oo men nisgaal y-rup men Biki.* AGOSTO 8B
Hdrink 3RD soda P-two 3RD Virginia
"She and Virginia drink soda pop."

Example (463b) looks exactly like (463a), except that the object intervenes between the head and the adjunct in (463b). Otherwise, the separated construction is identical to the contiguous construction, both in its interpretation, the restrictions on the optionality of the DPs, and the fact that the Person Hierarchy Effect is a strict requirement.

Data illustrating these separated constructions are given in (464)–(468). There are numerous examples where the head is in the subject position, immediately following the verb, but the Quantifier phrase comes after the direct object or locative phrase, as shown in (464).

(464) a. *W-tsoow Rafayel te mezh y-rup Rafayel Lawer.* AGOSTO 43
C-make Ralph one table P-two Ralph Larry
"Ralph and Larry made a table."

b. *R-ya xuz noo den y-ra xnaa noo,* QUESO 3
H-go papa 1EX rancho P-all mother 1EX
"My father and mother go to the ranch
r-boo me gyezh.
H-extract 3f cheese
and she extracts cheese."

c. *Chene w-uu noo lgyëz y-ra xnaa noo,* SANJOSE 1
when C-be 1EX town P-all mother 1EX
"When I lived in town with my mother (and family),
r-a xnaa noo San Jose.
H-go mother 1EX San Jose
my mother went to San Jose."

d. *W-a noo wii lo gyëël y-ra noo men.* MTLEMON 50
C-go 1EX see face lake P-all 1EX 3RD
"We all went to see the lake."

e. *Bweree noo nëz y-rup noo men.* LIFEINUS 67
C/return 1EX road P-two 1EX 3RD
"We all returned by the road."

Example (465) shows that this separated construction may also have its head in the subject position of a deeply embedded clause, with the adjunct following the object.

(465) *Dxe-bel r-laan de ts-a de g-e noo lo men xiid men* HORTENS 5
already-if H-want 2 P-go 2 P-say 1EX face 3RD F/come 3RD
"If you want to go, I will tell him to come,
g-u de diiz y-rup de men.
P-chat 2 word P-two 2 3RD
so that you can talk with him."

There are also many cases where only the head is in focus position and the adjunct is clause final, as shown in (466).

(466) a. *Te men z-a x-ten y-rup x-pëëk men.* MENMAAC 1
one 3RD PR-go POS-ranch P-two POS-dog 3RD
"A man was going to his ranch with his dog."

b. *Le Jose w-zhoon y-rup x-unaa Jose.* AGOSTO 69
FM Jose C-run P-two POS-woman Jose
"Jose$_i$ ran away with his$_i$ wife."

b. *Le xuz noo w-guu bni y-ra mee bzaan noo.* SYANODEN 19
FM papa 1EX C-sow seed P-all boy sibling.opp.sex 1EX
"My father planted seed with all my brothers."

(467) is the only unambiguous example in the texts[27] of a separated construction where the head is in object position. In this case a locative phrase intervenes between the head and the adjunct.

(467) *Lex w-a-ron men noo x-yuu x-mig men* MTLEMON 8
later C-go-leave 3RD 1EX POS-house POS-friend 3RD
y-rup x-pëëd noo.
P-two POS-baby 1EX
"Then they took me and my baby to their friend's house."

Example (468) is ambiguous, though (468a) is the preferred reading due to semantic considerations. The ambiguity comes about because the repeated DP_1 is missing after the Quantifier, and two different conditions can account for this. In (468a), the Non-Pronominal Head Condition has applied where "my mother" is the head in subject position and the adjunct includes "my father" in the sending process. In (468b), we can assume that the first person exclusive pronoun *noo* is the head in object position. The Subject=Possessor_of_Object Condition allows the pronoun to be missing in the Quantifier phrase in this case, giving a reading that "my father and I" were sent to school.

(468) a. *Dxe win noo r-xaal xnaa noo noo skwel* ESCUELA 1
already small 1EX H-send mother 1EX 1EX school
y-rup xuz noo.
P-two papa 1EX
"When I was young, my mother and my father sent me to school."

b. *Dxe win noo r-xaal xnaa noo noo skwel* ESCUELA 1
already small 1EX H-send mother 1EX 1EX school
y-rup xuz noo.
P-two papa 1EX
"When I was young, my mother sent me and my father to school."

All of these variations in the position of the head and the adjunct in the separated QZ construction can be accounted for straightforwardly with a derivational syntax.

[27]My QZ language consultant assures me that separated counterparts of the contiguous structure in object position are generally grammatical as long as the intervening material is within the same clause.

The D-structure for the separated construction can be the same as proposed for the constituent structure. The only movements necessary are Extraposition from DP of the adjunct Quantifier clause (relative clauses may also undergo this movement) and the independently needed fronting for focus. This analysis is demonstrated in section 13.3.2.

First, though, we look at the reasons that base generated analyses have been preferred over movement analyses in similar constructions in other languages. Section 13.3.1 presents the analyses given for the separated version of the Comitative Coordination Constructions from Russian (McNally 1993) and the separated PPC constructions in Tzotzil (Aissen 1989), where it has been argued that the separated construction must be base generated. None of the evidence motivating such a conclusion is present in the QZ case, however, which allows me to propose the derivational analysis in section 13.3.2.

Finally, section 13.3.3 addresses the issue of semantic construal and the required coindexing between the head and the 'external' argument of the Quantifier.

13.3.1 Arguments for a Base Generation Analysis in Other Languages

In QZ there is no outside marking or ambiguity which requires the separated construction to be interpreted differently than the contiguous structure, as is present in Russian and Tzotzil. We will see first that there is different agreement marking on the verb when the Russian constructions are separated, which is why McNally (1993) argues that only the head is in argument position and the adjunct is base generated adjoined to VP for the separated constructions. I then discuss the ambiguity of Tzotzil sentences containing PPCs, which Aissen (1989) uses to argue for two structures for these sentences, one where the comitative PP adjunct is included in the PPC and one where it is simply a VP-adjunct.

13.3.1.1 Separated Russian Comitative Constructions

McNally's analysis of the Russian Comitative Coordination constructions was given in section 13.1.2, where it was noted that plural number agreement marking is found on the verb. McNally (1993) shows that the verbal agreement marking is singular, rather than plural, when the parts of the construction are separated in what she calls a Comitative VP Adjunct construction. Examples of this are shown in (469) where (a) is the Comitative Coordination construction like that shown earlier, (b) is the Comitative VP Adjunct construction, and (c) verifies the ungrammaticality of plural verbal agreement marking in the separated version of the construction.[28]

(469) a. *Anna s Petej pridut.* MCNALLY
A.-NOM with P.-INSTR come-3PL
"Anna and Peter are coming."

b. *Anna pridët s Petej.* MCNALLY 6A
A.-NOM come-3SG with P.-INSTR
"Anna is coming with Peter."

c. **Anna pridut s Petej.* MCNALLY 6B
A.-NOM come-3PL with P.-INSTR
(Anna are coming with Peter.)

McNally gives further arguments regarding the constituency of the Comitative Coordination construction versus the non-constituency of the Comitative VP Adjunct construction. These include the facts that sentences like (469a) are ungrammatical when the NP and PP are separated by adverb interpolation or extraposition whereas adverbs may normally intervene in the separated version (469b), and that the PP in constructions like (469a) may not be extracted via WH-movement while the PP in (469b) may be easily extracted. She thus gives compelling evidence that the Comitative Coordination construction does form a constituent, but the Comitative VP Adjunct construction is base generated separately.

These arguments do not apply to the QZ constructions, however, since there is no number marking on the verb at all in QZ, much less different number markings to

[28]Example (469a) is taken from an earlier version of the paper published as McNally (1993).

distinguish the different constructions. The number marking for the group remains on the Quantifier in all cases. Further, there is no discernible difference in extraction possibilities.

13.3.1.2 Plural Pronoun Constructions in Tzotzil

Turning now to Tzotzil, Aissen (1989) shows that an ambiguity is created by adding a comitative PP to a sentence. The plural pronoun head may be interpreted either as referring to a single individual, thus including the referent of the comitative PP in its plurality, or as being plural itself, with the referent of the comitative PP simply added on. Examples (470) and (471) illustrate this, where the (a) examples show the verb form and its meaning[29] and the (b) examples show the ambiguity between the PP-included and PP-excluded readings created by adding the comitative PP.

(470) a. *Libatotikotik.* AISSEN 1
We(exc)-went
"We went."

b. *Libatotikotik xchi7uk li Petule.*
We(exc)-went with def Petul
(i) "I went with Petul." (PP-included reading)
(ii) "We(exc) went with Petul." (PP-excluded reading)

(471) a. *Chajtojik.* AISSEN 2
I-pay-you(pl)
"I'll pay you(pl)."

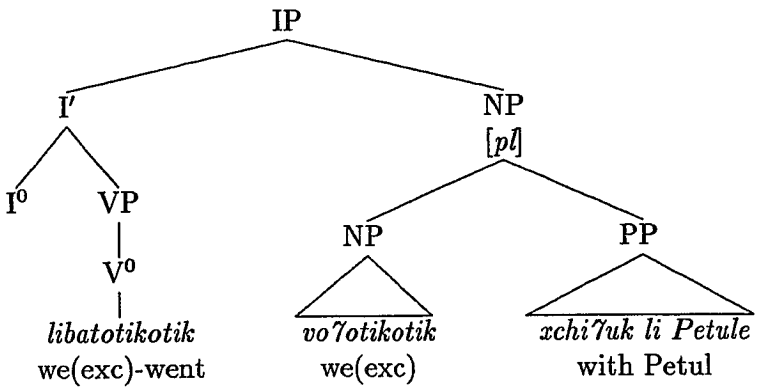
b. *Chajtojik xchi7uk li Xune.*
I-pay-you(pl) with def Xun
(i) "I'll pay you(sg) and Xun." (PP-included reading)
(ii) "I'll pay you(pl) and Xun." (PP-excluded reading)

The PP-included reading is simply that of the Plural Pronoun Construction. Under the PPC analysis, the PP-included reading for (470b) would have the structure shown in (472).[30]

[29]Tzotzil is a *pro*-drop language and the predicate agrees with both the subject and the direct object. The unmarked word order is VOS.

[30]The subject is shown here in the specifier of IP, though it could instead be a right-specifier of VP (or V^{max}).

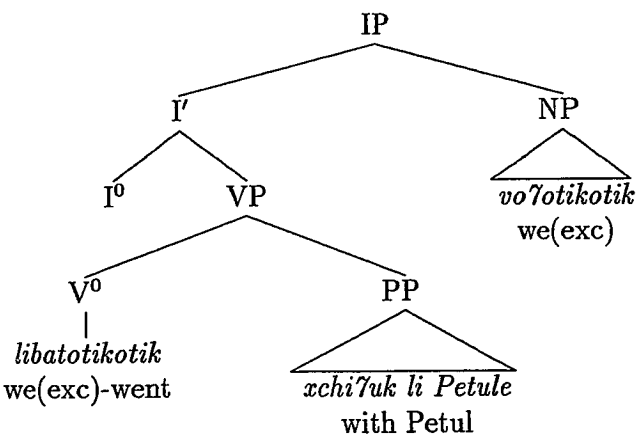
(472)



In (472) the subject is first person plural exclusive because its head is, thus the verb is inflected for a first person plural exclusive subject. However, based upon the semantic interpretation given by Ladusaw (1989), the subject really means "we, including Petul" or "Petul and me". All that is necessary to yield (470b) is to assume that the pronominal head of the construction can drop, like other personal pronouns in Tzotzil.

In contrast, the PP-excluded reading can be represented as in (473), where there is no Plural Pronoun Construction, and the PP is instead base-generated as a VP dependent. In computing who went in (473), *Petule* is added to the subject which is already plural, so more than two people must have gone. Again, *pro*-drop will yield (470b).

(473)



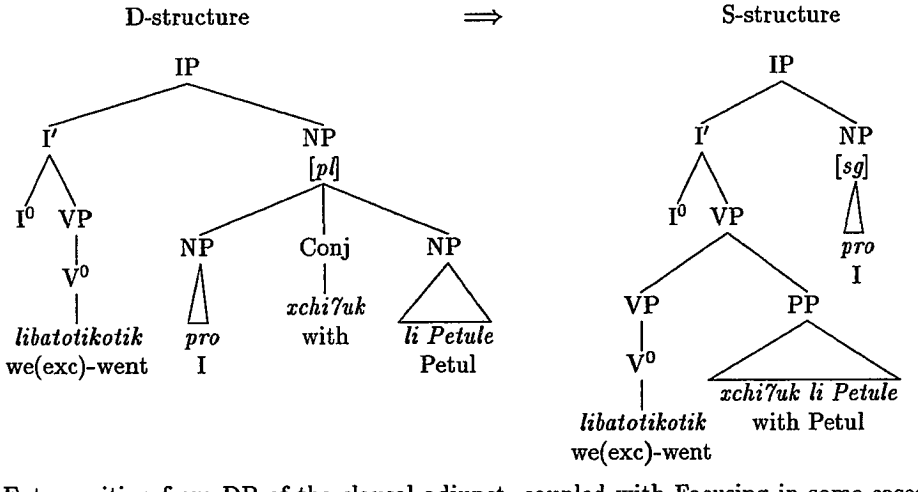
The ambiguity in the readings for these Tzotzil sentences is thus explained as a phrase-structural ambiguity if we assume that the PP-excluded readings are base-generated as shown in (473). Again though, we do not see this type of ambiguity in the QZ constructions, so there is no reason to assume that the separated constructions cannot be generated by movement.[31]

13.3.2 Predictions Made by a Movement Analysis

Since nothing in the QZ grammar necessitates that the separated structure be base generated, we can propose a derivational analysis. This provides a natural account for the fact that the Person Hierarchy Effect and other properties of the construction hold for the separated structure as well as for the contiguous structure. I propose the derivational analysis because it seems more straightforward and is my personal preference. It would also be possible to account for the properties of the separated

[31]It is important to note that I am not proposing that the QZ separated constructions result from the earlier Conjunct Union-type analysis, now disfavored, in which there is an initial coordinate NP, which is a subject in (470b) and an object in (471b). These coordinate constructions are then split up so that the PP becomes a separate VP Adjunct. Many have proposed this type of analysis. Lakoff & Peters (1969) called it *Conjunct Movement* and *Preposition Adjunction* for English. Hetzron (1973) gave it for Hungarian under the name of *Comitivization*. Hale (1975) called it *Conjunct Movement* for Navajo and Aissen (1987) labeled it *Conjunct Union* for Tzotzil. Under this analysis, (470b) would have the syntactic structures shown in (i) for the PP-included reading.

(i)



Instead, Extraposition from DP of the clausal adjunct, coupled with Focusing in some cases, will account for the separation of the head and comitative adjunct in QZ.

structure under a base generated analysis and others may wish to pursue this. Along the way, I suggest what would be necessary to account for the same facts under a base generated analysis but do not develop it.

In this section, the observed distribution of the data for the separated structure is shown to fall out automatically from mechanisms independently needed in the QZ syntax, namely Extraposition from DP and focusing. The analysis will be presented first, followed by discussion of the few problematic examples noted in the literature for assuming that Extraposition from DP is accomplished via movement.

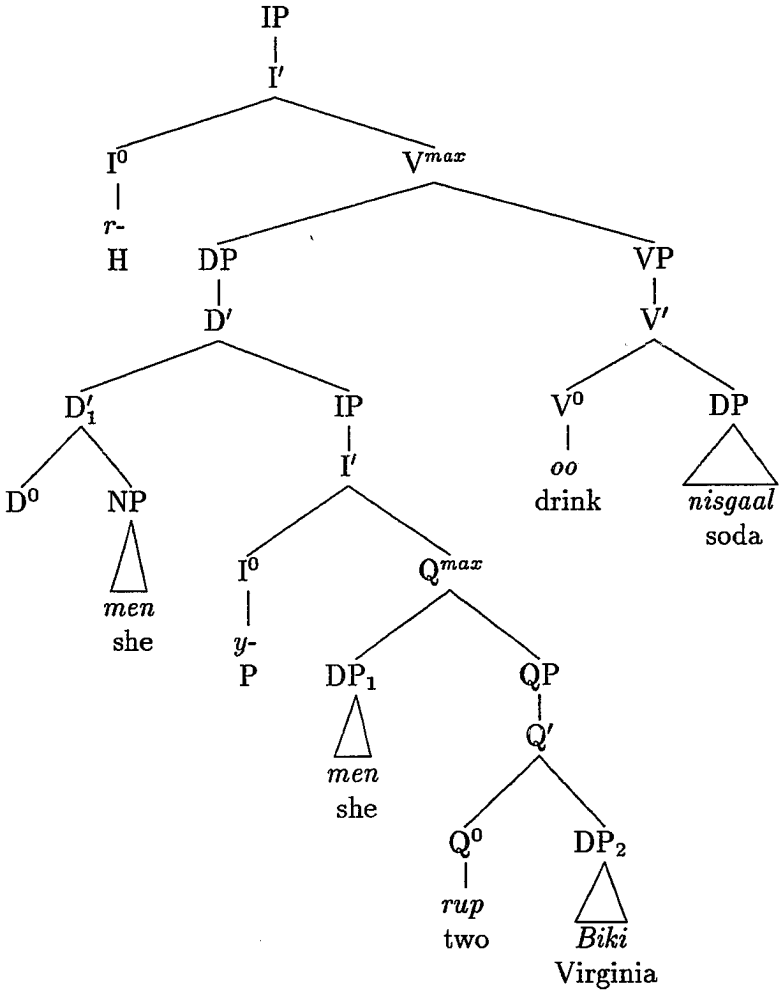
We can begin by comparing the account for the contiguous structure in (474a) with the separated structure (474b).

(474) a. *R-oo* *men* *y-rup* *men* *Biki* *nisgaal.* AGOSTO 8A
H-drink 3RD P-two 3RD Virginia soda
"She and Virginia drink soda pop."

b. *R-oo* *men* *nisgaal* *y-rup* *men* *Biki.* AGOSTO 8B
H-drink 3RD soda P-two 3RD Virginia
"She and Virginia drink soda pop."

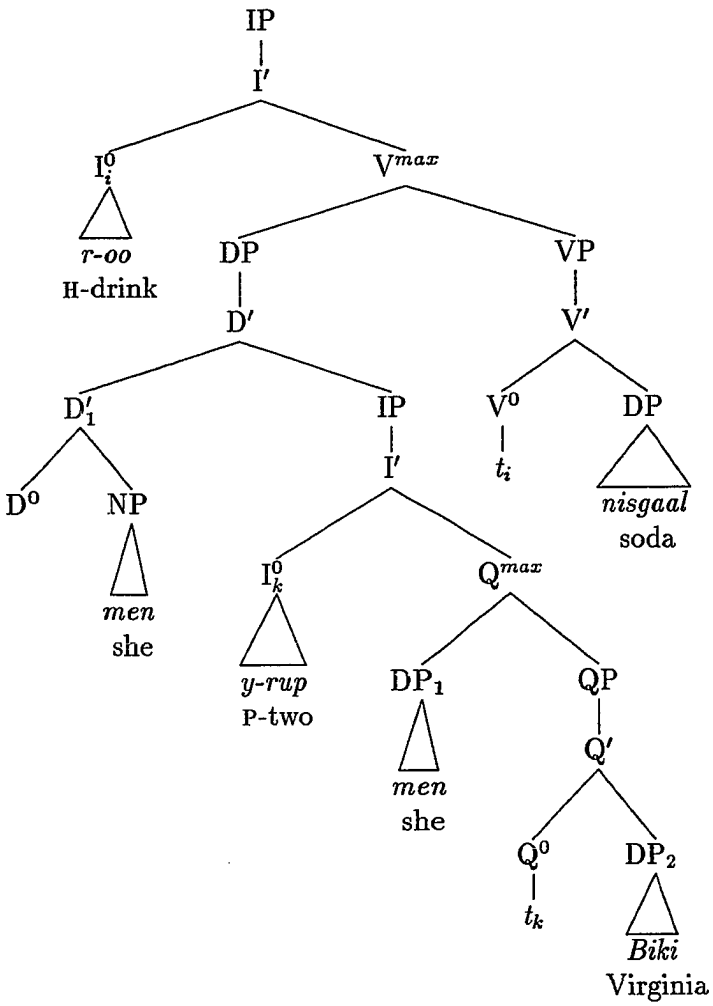
Under a derivational analysis, the D-structure for both examples in (474) is the same (shown in (475)), thus accounting naturally for their synonymy.

(475) D-structure for (474a–b)



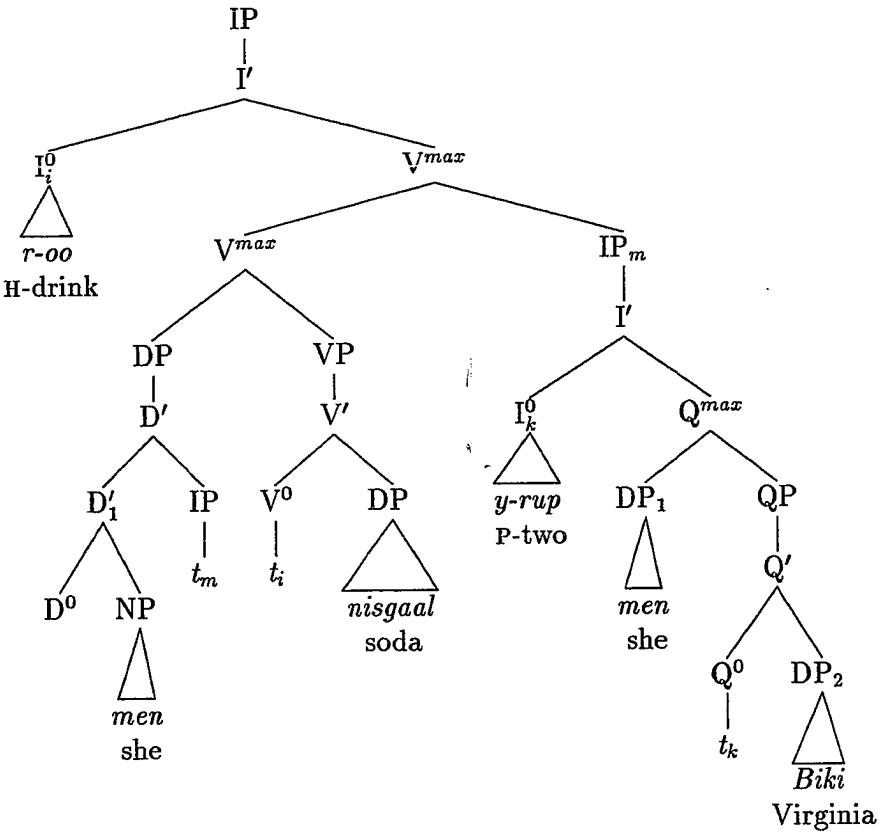
All that is necessary to obtain the S-structure for (474a) is for V^0 to move to I^0 in the main clause and for Q^0 to move to I^0 in the adjunct, as shown in (476).

(476) S-structure for (474a)



Both of these same head movements also take place in (474b). In addition, the IP adjunct undergoes Extraposition from DP movement to obtain the S-structure for (474b) shown in (477).

(477) S-structure for (474b)



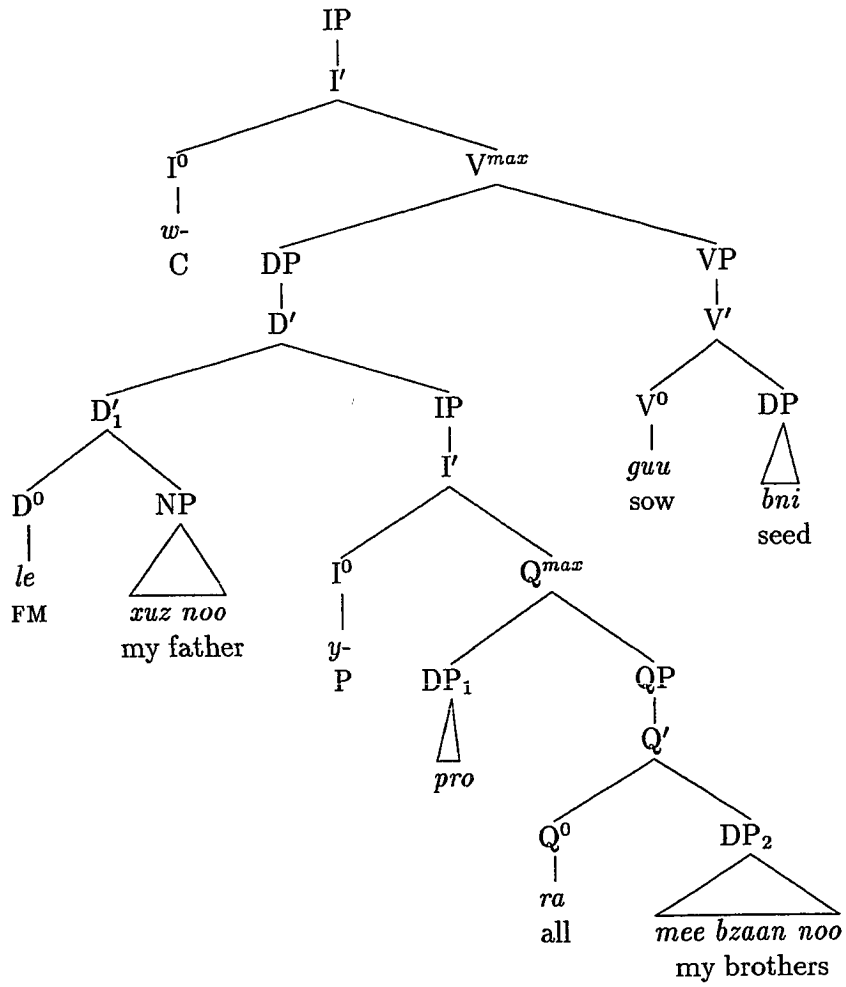
Similar Extraposition from DP will also account for the cases where the head is in object position and the adjunct is clause final, as in (467).

We still need an account for the separated structures where the head is in focus position, such as (478b). Again, the separated structure can be compared with the contiguous structure, which has been focused as a constituent (478a).

(478) a. *Le xuz noo y-ra mee bzaan noo w-guu bni.* SYANODEN 19A
FM papa 1EX P-all boy sibling.opp.sex 1EX C-sow seed
"My father and all my brothers planted seed."

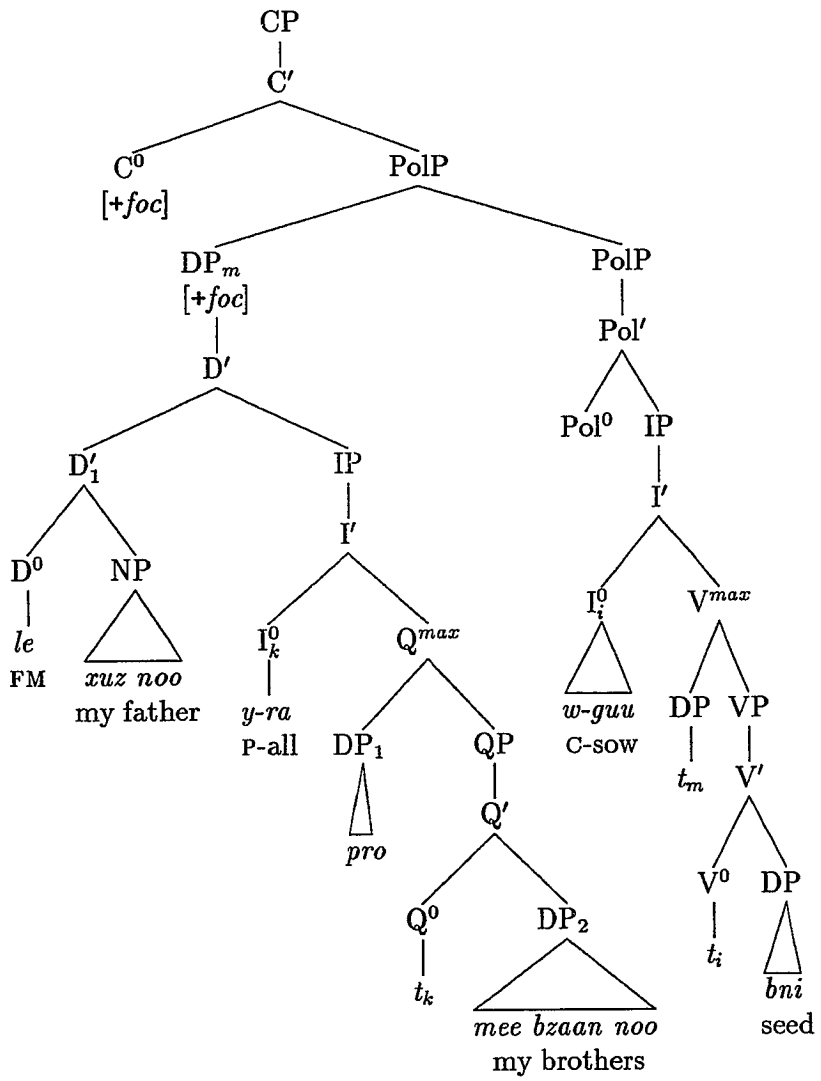
b. *Le xuz noo w-guu bni y-ra mee bzaan noo.* SYANODEN 19
FM papa 1EX C-sow seed P-all boy sibling.opp.sex 1EX
"My father planted seed with all my brothers."

(479) D-structure for (478a–b)



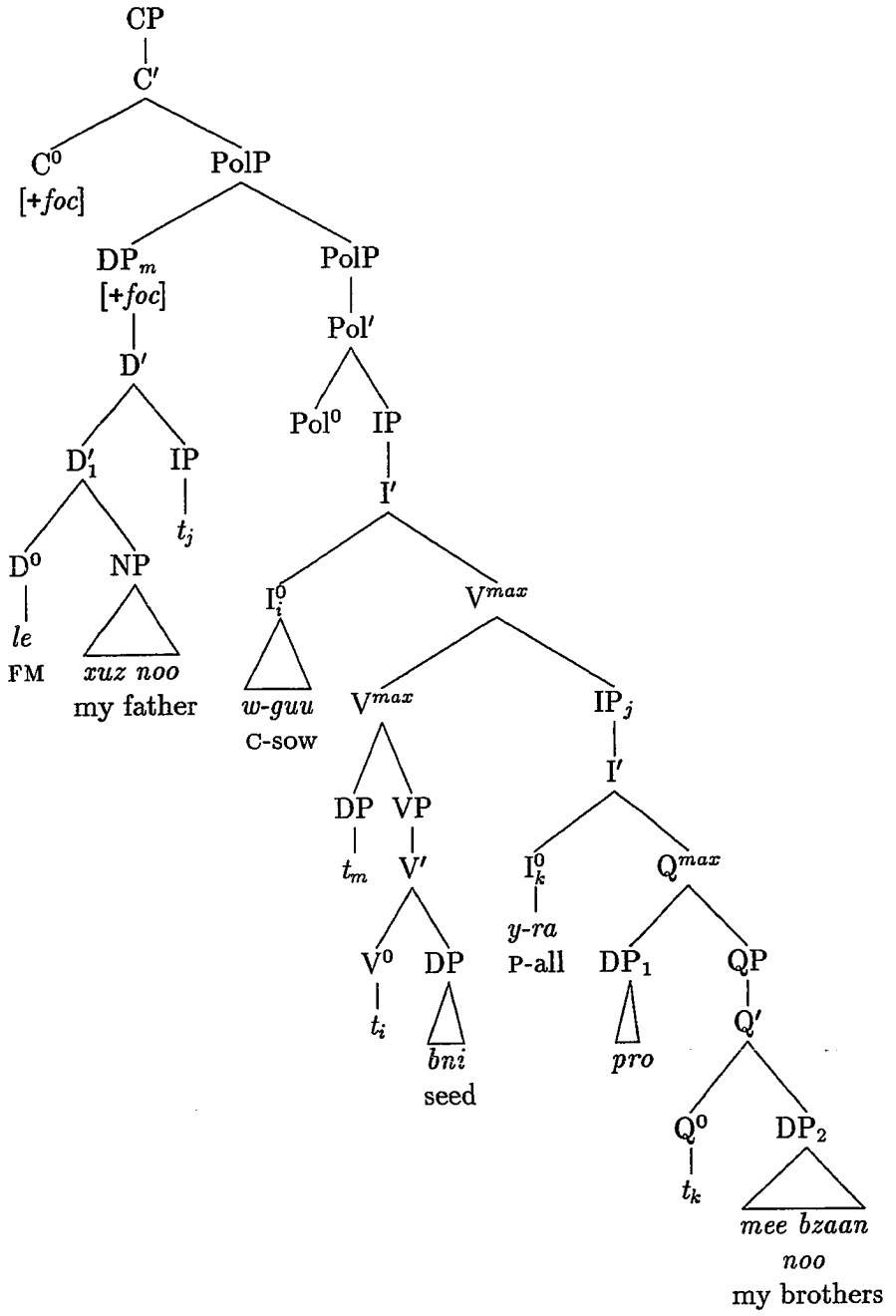
In (478a), the focusing operation moves the entire subject DP to adjoin to PolP below C^0, as shown in (480). (Head movement to I^0 also occurs as before.)

(480) S-structure for (478a)



To obtain the S-structure for (478b) instead, we must first apply Extraposition from DP to the adjunct clause, and then focus the head, which is all that remains overtly in the subject DP. This is illustrated in (481).

(481) S-structure for (478b)



This separation involving Extraposition from DP and then focusing is also found with relative clauses, as shown in the following examples (see also section 8.4).

(482) a. [*S-te giblew*] *zob gya* [*ne regader*]. BATHROOM 7
F-one faucet PR/sit high that showerhead
"Another faucet that is the showerhead sits higher."

b. [*Chup maa*] *n-ak* [*ne r-e g-u maa noo*]. MANSNAKE 74
two 3A S-become that H-say P-eat 3A 1EX
"There were two animals that said the snake should eat me."

c. [*Koyot*] *n-ak* [*ne w-sa-laa x-bit noo*]. MANSNAKE 77
coyote S-become that C-fall-escape POS-life 1EX
"The coyote was the one that saved my life."

The attested separation of relative clauses is more restricted than the separation in the special number marking structures is, however. In every case where Extraposition from DP may apply in relative clauses, the matrix verb is either an unaccusative, stative, or copular verb. This restriction is verified by the examples in (483).

(483) a. *R-a me r-ka me* [*gyus na g-eey x-nisyaa me*]. SANJOSE 2
H-go 3R H-buy 3R pot which P-cook POS-food 3R
"She went to buy a pot which her food would cook in."

b. **R-a me* [*gyus*] *r-ka me* [*na g-eey x-nisyaa me*].
H-go 3R pot H-buy 3R which P-cook POS-food 3R
(She went to buy a pot which her food would cook in.)

c. **[Gyus] r-a me r-ka me* [*na g-eey x-nisyaa me*].
pot H-go 3R H-buy 3R which P-cook POS-food 3R
(She went to buy a pot which her food would cook in.)

d. *N-guxkwaa* [*tank na r-az men*]. LIFEINUS 17
S-make tub which H-bathe 3RD
"A tub in which they bathe is made."

e. **[Tank] n-guxkwaa* [*na r-az men*].
tub S-make which H-bathe 3RD
(A tub in which they bathe is made.)

In contrast, the separated version of the special number marking construction is attested in sentences with all types of matrix verbs. I have no concrete account to offer for this difference, but simply suggest that the separation in the number marking constructions is freer due to the required coindexation between the head and the DP_1 following the Quantifier, which assures correct construal of the separated clause.

In addition to the noted similarity to the extraposition allowed in some relative clauses, the distribution of the separated structure gives credence to a movement analysis. We saw that the head of the separated structure is found in all the same positions that the contiguous structure is found in, with two notable exceptions. While the contiguous structure can be a possessor, as in (484a), the separated version (484b) is ungrammatical. Likewise, the contiguous structure can serve as the object of a preposition, as in (485a), but it is impossible to have only the head in that position, with the Quantifier clause appearing clause-final (485b).

(484) a. *W-oo men x-kiich Gecha y-rup Karmita ofisin.*
C-extract 3RD POS-paper Lucrecia P-two Carmita office
"They got Lucrecia's and Carmita's visas at the office."

b. **W-oo men x-kiich Gecha ofisin y-rup Karmita.*
C-extract 3RD POS-paper Lucrecia office P-two Carmita
(They got Lucrecia's and Carmita's visas at the office.)

(485) a. *W-eey Danyel gyët por noo y-ra noo Danyel x-too gyeey.*
C-take Daniel tortillas for 1EX P-all 1EX Daniel POS-head mountain
"Daniel took tortillas for all of us (including himself)
to the mountain top."

b. **W-eey Danyel gyët por noo x-too gyeey y-ra noo Danyel.*
C-take Daniel tortillas for 1EX POS-head mountain P-all 1EX Daniel
(Daniel took tortillas for all of us (including himself)
to the mountain top.)

This lack of a synonymous separated structure in the possessor and object of preposition positions only can be explained by the failure of these positions to be properly governed in QZ. Neither the possessor nor the object of a preposition can be extracted by either *wh*-movement or focusing (except with pied-piping of the entire phrase). I

assume this is due to P^0, D^0 and N^0 not being proper governors, eliminating the possibility of proper government of the trace from within DP or PP. Further, the position of the possessor as specifier of NP (see section 12.2) makes it too low to be properly governed from outside of the DP, and the same is true of the object of a preposition. Both the positions which the head and adjunct can move to and the positions which this separation can occur from are thus explained by a derivational analysis.

There are two main reasons that some (such as Culicover & Rochemont 1990) prefer not to allow Extraposition from DP as a movement option, but instead to assume that such constructions are base generated. First is the fact that Extraposition from DP involves rightward movement, which is somewhat dispreferred within GB theory. However, the separated structures in QZ display the same clause-boundedness noted in other languages for constructions involving rightward movement. The trace left by adjunction to VP (or V^{max}) will therefore be antecedent-governed.

Further, a few examples have been noted (e.g. by Perlmutter & Ross 1970 and Gazdar 1981) which are problematic for assuming that separated relative clause constructions are generated by movement. One such example is given in (486a). While (486b) could be assumed to be generated by movement from a D-structure with the order shown in (486c), (486a) could not be so generated.

(486) a. A man came in and a woman went out who look quite similar.
b. A man and a woman came in who look quite similar.
c. A man and a woman who look quite similar came in.

Examples such as (486a) have been used to argue for an account in which the relative clause is base generated as an adjunct to the coordinate structure, with the construal and coindexing requirements being determined by the semantics.

Due to the nature of the coindexing requirement between the DP_1s in the QZ constructions, examples with split heads as in the problematic (486a) are not possible (nor are examples with conjoined heads as in (486b–c)). QZ does not seem to allow separated relative clauses with the problematic structure in (486a) either. The only

available way to express the same basic meaning as in (486a–c) is given in (487a–c), respectively. Note that in (487a) a coordinate DP structure is used, where each conjunct contains a relative clause. In (487b–c), however, the special number marking construction is used to express the meaning of the English coordinate structure, and it in turn serves as the head of a relative clause. The main verb in each case expresses the notion "to look alike", while the movement into and out of the store is now expressed within a relative clause. A more direct translation of the English examples in (486) is not possible in QZ. I have attempted to make the unproblematic structure of these examples clear via labeled bracketing.

(487) a. *Tese r-zak-lo* [DP[DP *mgyeey* [CP *ne w-dee leen tyent*]]
same H-appear-face man that C-enter inside store
"The man that entered the store
[DP *wnaa* [CP *ne w-ruu leen tyent*]]].
woman that C-leave inside store
and the woman that left the store look alike."

b. [DP *Te mgyeey y-rup te wnaa* [CP *ne w-dee leen tyent*]]
one man P-two one woman that C-enter inside store
"A man and a woman that came inside the store
tese r-zak-lo men y-rup men.
same H-appear-face 3RD P-two 3RD
look like each other."

c. *Tese r-zak-lo* [DP *te mgyeey$_i$ y-rup men$_i$ te wnaa*
same H-appear-face one man P-two 3RD one woman
"A man and a woman
[CP *ne w-dee leen tyent*]].
that C-enter inside store
that came in the store look alike."

Though a base generated account of the separated structure is certainly possible, the account would need to be more complex. For instance, the semantics would have to include not only the construal and coindexation requirements, but also stipulations as to what positions the head could occupy, amounting to a recreation of the ECP. Such stipulations are unnecessary in a derivational account, since the possible positions are determined by otherwise needed principles of the syntax. In addition

to this complication of the semantics, the syntax would have to allow the Quantifier clause to adjoin at D-structure to VP for the separated structure but to D′ for the contiguous structure. The semantics would then have to also provide an account for the synonymy between the two variations of the construction. I therefore prefer the derivational analysis as the simpler and more natural account of the separated structures for QZ.

13.3.3 The Required Coindexation and Semantic Construal

The purpose of the repeated DP_1 after the Quantifier is to assure proper construal between the head and adjunct parts of the construction. When the repeated DP_1 is overt, this linking is assured. The specific conditions on its optionality make the identity of the missing DP_1 recoverable, thus eliminating ambiguity in most cases.

As we have seen, coindexation of the head and the first DP after the Quantifier (the two DP_1s in the configurational diagram) is required. DP_1 and DP_2 may not be in reverse order after the Quantifier (488a–b), nor may the DP_1 after the Quantifier add any new information (488c). These sentences are uninterpretable in QZ.

(488) a. **Nga ts-uu de y-rup Susan de.* TRIPTOQ 6A
there P-be 2 P-two Susan 2
(There you'll be with Susan.)

b. **Xna-ydoo x-pee Manwel n-ak* AGOSTO 12A
mother-church POS-son Manuel S-become
(The godparents of Manuel's son are
Katalina y-rup Tomas Katalina.
Catherine P-two Thomas Catherine
Catherine and Thomas.)

c. **Lex bweree-ke men y-ra Rodolf Susan.* MTLEMON2 57A
later C/return-ASSOC 3RD P-all Rodolfo Susan
(Then they all, including Rodolfo and Susan,
returned also.)

The reason for this restriction ties in with the need for assuring correct semantic construal of the adjunct. When there is more than one DP in a sentence, the coindexing restriction determines which DP the QP is construed with, in either a contiguous construction or a separated construction.

The QP may not simply be construed with the closest nominal, as shown in (489). Though the possessor immediately precedes the adjunct, the order of the DPs following the Quantifier prohibits construal with the possessor *xuz noo* "my father" in (489a), since the first DP following the Quantifier may not be coindexed with the possessor. In contrast, this construal is required in (489b), where the order of the DPs following the Quantifier has been reversed.

(489) a. *W-guu Jose leen x-yuu xuz noo* AGOSTO 44
C-sow Jose inside POS-house father 1EX
y-rup Jose xuz noo.
P-two Jose father 1EX
"Jose and my father put it inside my father's house."
*(Jose put it inside my father's and Jose's house.)

b. *W-guu Jose leen x-yuu xuz noo*
C-sow Jose inside POS-house father 1EX
y-rup xuz noo Jose.
P-two father 1EX Jose
"Jose put it inside my father's and Jose's house."
*(Jose and my father put it inside my father's house.)

Construal is not determined by marking certain verbs for construal with subjects and others for construal with objects either.[32] In (490a), the only possible natural reading construes the adjunct with the object.[33] The third person pronoun subject cannot be coindexed with the missing DP_1 in the Quantifier adjunct, since the Non-Pronominal Head Condition would require the repeated DP_1 to be overt in that case.

[32]This constitutes another argument against the hypothesis that the Quantifier serves as an embedded predicate whose external argument is controlled by the matrix verb.

[33]Technically, it is possible to construe the Quantifier adjunct with the possessor of the locative in a contiguous structure based on the optionality of the repeated DP_1 allowed by the Non-Pronominal Head Condition (i.e. the head DP_1 *x-mig men* "their friend" could antecede the null third person pronoun). This would give the reading "Then they took me to [their friend and my baby]'s house", which is not an expected rendering of the sentence.

The first person pronoun object may be coindexed with the missing DP_1, however, because it is the same as the possessor of DP_2, thus satisfying the Subject=Possessor_of_Object Condition on optionality. By changing the positions of the subject and object pronouns in (490b), we now have the adjunct construed with the subject as the only possible reading.

(490) a. *Lex w-a-ron men noo x-yuu x-mig men* MTLEMON 8
later C-go-leave 3RD 1EX POS-house POS-friend 3RD
y-rup x-pëëd noo.
P-two POS-baby 1EX
"Then they took me and my baby to their friend's house."

b. *Lex w-a-ron noo men x-yuu x-mig men*
later C-go-leave 1EX 3RD POS-house POS-friend 3RD
y-rup x-pëëd noo.
P-two POS-baby 1EX
"Then I with my baby took them to their friend's house."

Thus, verbs meaning "take" or "send" do not have required construal in these special number marking constructions. Instead, we would need a QZ particular construal rule for these Quantifier clause adjuncts under a base generated view of the syntax of the separated structures.

Under a derivational syntax, the construal is really accomplished via D-structure adjunction, with the correct interpretation of a separated structure being determined by the trace of movement. The theory of adjunction is still in its infancy. Though some generalizations have been put forth (such as heads may only adjoin to heads, maximal projections may not adjoin to heads, and Chomsky's prohibition against adjunction to arguments), the real question of what can adjoin where requires further research to be fully determined. Another sub-area that lacks definitive answers is the relationship between the head and the adjunct. Pollard & Sag (1994) claim that the adjunct 'subcategorizes' for the category of the head it can attach to (e.g. adjectives 'subcategorize' for an N′ and relative clauses 'subcategorize' for an NP). Further restrictions may also need to be added to this 'subcategorization', such as coindexing

requirements between the head and the relative pronoun in a relative clause. Pending further development of formalism in the theory of adjunction, I suggest that both the coindexing requirement and correct construal can be captured for the special number marking construction by the Adjunct Admissibility Filter given in (491). Informally, this filter requires that a Quantifier clause may only adjoin at D-structure to a D′ which is coindexed with the external argument of the Quantifier.

(491) Quantifier Adjunct Admissibility Filter

Let Q(x)	=	x is a Quantifier clause
Let D′(x)	=	x is labelled D′
Let Ext(x)	=	the external argument of x
Let Adjoin (x,y)	=	x is adjoined to y at D-structure
Let Coindexed(x,y)	=	x is coindexed with y

$$\text{Q}(x) \;\&\; \text{Adjoin}(x,y) \Longrightarrow \text{D}'(y) \;\&\; \text{Coindexed}(y, \text{Ext}(x))$$

In combination, the syntactic and semantic analyses given for the special number marking constructions thus account for all the properties and requirements of both the contiguous and separated structures.

Chapter 14

Overall Conclusion

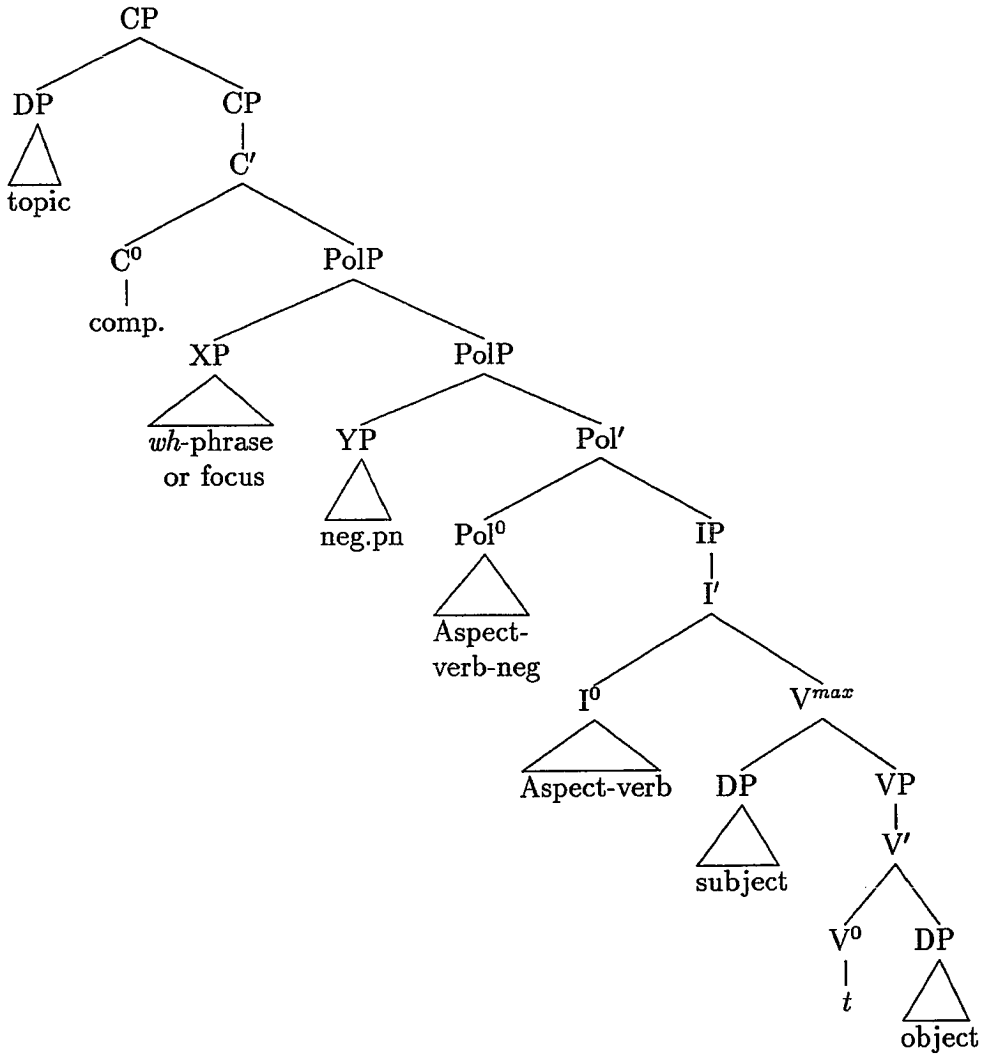
This dissertation presented and analyzed many of the syntactic constructions in Quiegolani Zapotec, making available a large body of data from a language family that has not received much attention. The fact that QZ is a VSO language particularly enhances that area of research, since the otherwise available data on VSO languages is taken from a relatively few language families.

The investigation involved the overall clause structure and the structure of nominal and predicate phrases, as well as the structure of some special constructions. The basic analysis arrived at will be reviewed here, as well as noting both the strong points of the account given and areas for further research.

After setting the stage descriptively in Part I, Part II addressed the questions of the number and relative nesting of the functional projections needed in the clause structure and how the basic VSO word order is obtained. I chose to adopt the Verb Movement proposal (McCloskey 1991, Koopman & Sportiche 1991, and others) over the Subject Adjunction account (Choe 1986 and Chung 1990) based on the evidence for head movement of the verb in the negation constructions. Examination of the attested and unattested interaction between the obligatory fronting in the various Ā-constructions showed that both a functional projection for negation and an adjoined position for either a focus phrase or a *wh*-phrase are needed between IP and CP in the clause structure. The allowed coordination of negative and non-negative clauses led to further refining of the clause structure. I posited that negation and affirmation are expressed by a Polarity Phrase (PolP), which is present in every clause (affirmation or assertion is unmarked in QZ). This clause structure is diagrammed in (492).[1]

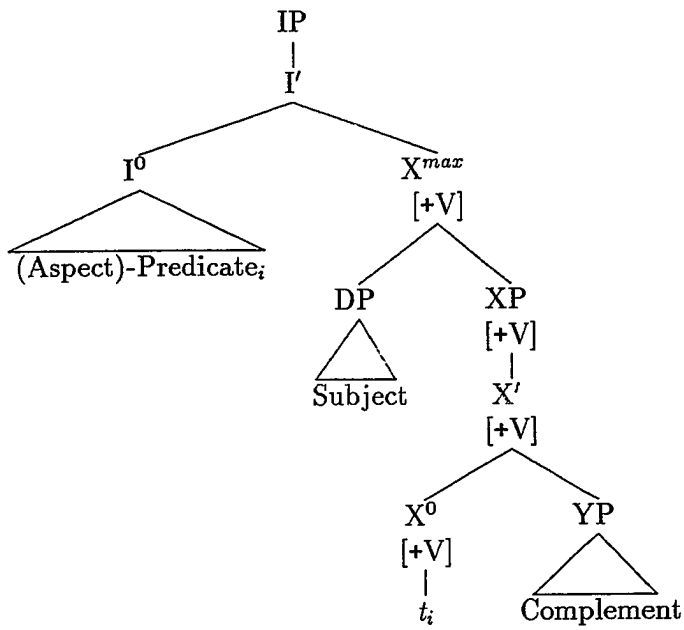
[1]The verbal complex moves to Pol^0 from I^0 only if the negative marker is present.

(492) Proposed S-structure for Clauses



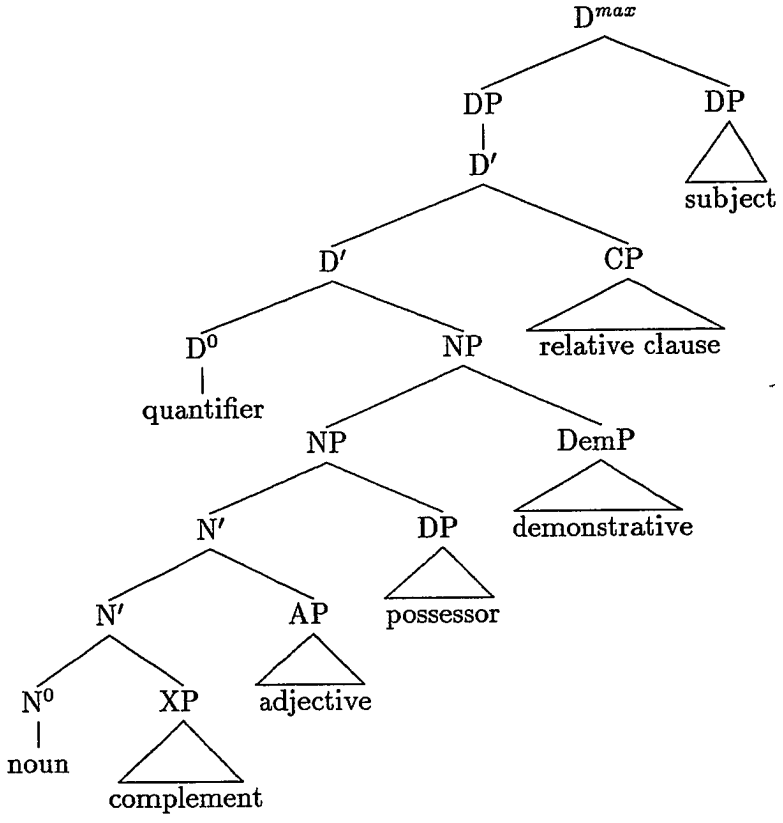
In Part III, the word order required in VP complements to auxiliary-type elements was shown to provide collaborating evidence for the underlying SVO order within VP assumed under the Verb Movement proposal. Clauses headed by adjectival predicates also display the same head-initial, specifier-initial characteristics, so I adopted this phrase structure for phrases with [+V] heads. Head movement applies when an $X^0_{[+V]}$ is the predicate, as shown in (493).

(493) S-structure for Clauses with [+V] Predicates



In contrast, clauses headed by [-V] predicates are subject-final and show no evidence of head movement. I therefore analyzed the phrases with [-V] heads as being head-initial but specifier-final. Head movement was tied to those projections which are specifier-initial (i.e. [+V]). The full structure for nominal phrases (where both NP and DP are [-V] phrases) is diagrammed in (494), showing that all the arguments and modifiers are on the right.

(494) The Specifier-final Structure of Nominal Phrases



This contrast in structure between projections headed by [±V] heads is apparently theoretically inconsistent. While both the Verb Movement and Subject Adjunction proposals for VSO clause structure have corresponding proposals for the structure of

nominals, neither proposal is workable for QZ. The proposed nominal structure (494) lacks parallelism with the adopted clause structure (492). We saw in Chapter 11 that both Irish and Chamorro also display different word order in clauses with non-verbal or [-V] predicates, so this may be a general property of VSO languages. My analysis has the merit of tying the difference in word order required in clauses headed by [-V] predicates to the underlying difference in the structure of those phrases.

A second thrust of Part II was to analyze the various Ā-Dependencies. QZ requires that focus phrases, *wh*-phrases, and negative indefinite pronouns be fronted to a position before the verb, yet below the complementizer. This consistent requirement that semantic operators be fronted allows the scope relations to be readable at S-structure. I showed that the fronting of *wh*-phrases and negative indefinite pronouns follows basically from the *Wh*-Criterion and the Negative Criterion (May 1985, Rizzi 1991, Haegeman & Zanuttini 1990, Zanuttini 1991). Since all the cross-linguistic differences in how questions are formed cannot be fully accounted for by the *Wh*-Criterion, however, a parameterized account was proposed in the Appendix to Part II.

This parameterization was necessitated by several facts: the position for fronted *wh*-phrases in QZ is adjoined to PolP (more normally IP) directly below $C^0_{[+wh]}$ and only one such phrase may be fronted (with no others being allowed in situ). I claimed that the restriction to a single fronted phrase follows from the minimal government relationship needed between a $C^0_{[+wh]}$ and the fronted *wh*-phrase. This government relationship includes a strict adjacency requirement, which accounts for the fact that adverbs may not intervene. This same minimal government relationship holds between a $C^0_{[+foc]}$ and a focused phrase, as well as between the Aspect-verb complex in I^0 and the subject (thus also ruling out left-adjunction to VP and V^{max} by adverbials, etc.).

In contrast to those minimal government relationships, the negative constructions require the more normal Specifier-head agreement relationship between a fronted

negative indefinite pronoun and a negative head. This Specifier-head agreement relationship is also responsible for assigning Case to the possessor by the head noun within the NP, as manifested by the *x-* prefix appearing on alienably possessed nouns when a possessor is present. This need to have both a minimal government relationship and a Specifier-head agreement relationship at work in different parts of the syntax led to a slightly odd looking clause structure (e.g. the specifiers of CP and IP are not normally used and an adjoined position is required below C^0 instead).

Despite these structural inconsistencies, it was pleasing to see that only a few principles or constraints are needed to account for a large portion of the syntax. For instance, both the null subject allowed when it is coreferent with the possessor of the object[2] and the hierarchy of DP types[3] are at work in the special number marking constructions just as they are in regular clauses, making construction-specific constraints unnecessary. Also, appeal was made to the Empty Category Principle (ECP) to account for the lack of focusing movement from the possessor or the object of preposition positions and for the inability to separate the special number marking constructions in these same positions. Over and over again, the same principles or constraints were used to account for the various properties of the constructions being considered. My goal of providing a coherent analysis of a large portion of the syntax of QZ was thus achieved.

[2]Though what licenses the null subject in this configuration is still a mystery.
[3]Including the fact that only a nonpronominal may antecede the null third person pronoun.

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