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A MINIMALIST ACCOUNT OF OPTIONAL
WH-MOVEMENT

by

Kristin E. Denham

A dissertation submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

University of Washington

1997

Approved by



Chairperson of Supervisory Committee

Program Authorized
to Offer Degree

Linguistics

Date

August 14, 1997

UMI Number: 9806971

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Abstract

A MINIMALIST ACCOUNT OF OPTIONAL
WH-MOVEMENT

by Kristin E. Denham

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Wh-movement has been assumed to be a parametrized fact about language, and, thus, whether a language has overt *wh*-movement or not has been assumed to be invariant within a language. Also, Chomsky's recent Minimalist Program only allows overt movement that is motivated by the presence of a strong feature. Languages with weak *wh*-features do not have overt *wh*-movement. Under this version of the theory as well, there should be no instances of optional *wh*-movement within a language. In this dissertation, however, I show that an Athabaskan language, Babine-Witsuwit'en, has two methods of *wh*-question formation—leaving the *wh*-word in situ or fronting it. I argue that this kind of optionality can be successfully explained using Minimalist mechanisms.

Languages that have been claimed to exhibit optional *wh*-movement, or superficially look as if they do, are shown to not have true *wh*-movement (movement to Spec of CP). Rather, I argue that the fronting is motivated by features other than *wh*-features and that the *wh*-phrases move to projections other than CP. I then argue that Babine-Witsuwit'en (and perhaps Ancash Quechua and Malay) *do* exhibit optional *wh*-

movement by demonstrating how the positions of their *wh*-phrases differ from those of non-*wh*-phrases; by ruling out topicalization, focus, and clefting; and by illustrating that the *wh*-phrases in these languages can violate island configurations. An explanation for this optionality is provided by assuming that, in these languages, C can be optionally selected from the numeration. Interrogative Cs in Babine-Witsuwit'en are shown to motivate movement, but not affect interpretation. A separate typing phrase is shown to carry features which type the clause as interrogative or declarative and to mark scope. I then show how this proposal fits into a broader view of *wh*-movement by examining languages with *wh*-movement and languages without, as well as languages with multiple *wh*-movement. As a consequence of the analysis of optional *wh*-movement proposed here, my examination of these diverse language types without optional *wh*-movement provides new insight into the role of *wh*-movement in general in a Minimalist theory of syntax.

TABLE OF CONTENTS

Chapter 1: Introduction	1
1.0 Overview	1
1.1 The Minimalist Program	3
1.1.1 The Framework	3
1.1.2 Move F and Feature Checking	4
1.1.3 Interpretability	5
1.1.4 Attract/Move and Economy Considerations	6
1.1.5 Clausal Architecture, Merge, and Move	8
1.1.6 Formal Features of C	12
1.2 Optionality	13
1.2.1 The Theoretical Problem	13
1.2.2 Optionality in the Minimalist Program	14
1.2.3. Other Discussions of Optional <i>Wh</i> -Movement	16
1.3 Outline of the Chapters	17
Chapter 2: Apparent Optional <i>Wh</i>-Movement	19
2.0 Overview	19
2.1 Akan	24
2.2 Gĩkũyũ	27
2.3 Kiswahili	29

2.4 Igbo	31
2.5 Egyptian Arabic	32
2.6 French	37
2.7 Summary: Focus, Topicalization, and Clefting	41
2.8 American Sign Language	42
2.8.1 ASL Phrase Structure	42
2.8.2 Simple <i>Wh</i> -Questions	43
2.8.3 Doubling is Focus	44
2.8.4 In-Situ and Non-Doubled Fronted <i>Wh</i> -Phrases	49
2.8.5 Complex <i>Wh</i> -Questions	50
2.8.6 Doubling in Direct and Embedded <i>Wh</i> -Questions	54
2.8.7 Summary of ASL <i>Wh</i> -Questions	58
2.9 Summary and Conclusions	58
Chapter 3: True Optional <i>Wh</i>-Movement	61
3.0 Overview	61
3.1 Babine-Witsuwit'en	61
3.1.1 Background Information on Babine-Witsuwit'en	61
3.1.2 Optional <i>Wh</i> -Movement in Simple Questions	62
3.1.3 Optional <i>Wh</i> -Movement in Complex Questions	65
3.1.4 Clefting	67

3.1.5 Extraction from Islands.....	68
3.1.6 Constraints on Optional <i>Wh</i> -Movement in Complex Questions.....	69
3.2 Ancash Quechua	75
3.3 Malay	76
3.4 Summary and Conclusions.....	78
Chapter 4: Explaining Optional <i>Wh</i>-Movement.....	79
4.0 Overview.....	79
4.1 Poole’s Optionality Explained by Shortest Move.....	79
4.2 Arguments For and Against LF <i>Wh</i> -Movement.....	82
4.2.1 Arguments for LF <i>Wh</i> -Movement	83
4.2.2 Arguments Against LF <i>Wh</i> -Movement	86
4.3 Optional Selection of C.....	90
4.4 The Role of C and a Question Projection	95
4.5 Separating <i>Wh</i> -Movement and Scope	98
4.6 The Nature of QuP/TyP	100
4.7 Babine-Witsuwit’ en’s TyP Requirement.....	105
4.8 Indirect Questions	111
4.8.1 Subcategorization.....	111
4.8.2 Indirect Questions in Babine-Witsuwit’ en.....	113
4.9 Summary and Conclusions.....	117

Chapter 5: C in Languages with and without <i>Wh</i>-Movement	118
5.0 Overview.....	118
5.1 English <i>Wh</i> -Movement	119
5.1.1 Simple <i>Wh</i> -Questions	120
5.1.2 Complex <i>Wh</i> -Questions.....	122
5.1.3 Complex Questions with Multiple <i>Wh</i> -Features	125
5.2 Chinese <i>Wh</i> -Questions	127
5.3 C in American Sign Language	133
5.4 Languages with Multiple <i>Wh</i> -Movement.....	137
5.5 Summary and Conclusions.....	141
Chapter 6: Adjunct/Argument Asymmetries and Residual Issues	144
6.0 Overview.....	144
6.1 Pragmatic Saliency in Babine-Witsuwit'en	144
6.2 Pragmatic Saliency and <i>Wh</i> -Islands in English.....	148
6.3 English Questions Containing Both Adjunct and Argument <i>Wh</i> -Phrases	157
6.4 Summary and Conclusions.....	162
Chapter 7: Summary and Conclusions	163
7.0 Overview.....	163
7.1 Summary.....	163

7.2 Conclusions	165
References	168

ACKNOWLEDGMENTS

Many people have had an impact on the creation of this dissertation. I would like to thank some of them here. Thanks to my committee members, especially Fritz Newmeyer, who could see through my very rough drafts to my point. I thank him for his detailed comments and suggestions on numerous versions of this thesis. Thanks to Heles Contreras for some great syntax classes, as well as comments on this thesis, and for being so kind. Very special thanks to Sharon Hargus. Without her there would be no Chapter 3 and this entire project would have taken a different turn. It was because of her field methods course that I finally got to do fieldwork, and I thank her for asking me to do research with her on Babine-Witsuwit'en, and for her help with all of the Witsuwit'en data.

The Witsuwit'en speakers, especially Mabel Forsythe, Lillian Naziel, and George Holland, were wonderful to work with, and I am eternally grateful that they were willing to share their knowledge of their language with me.

I would also like to thank my teachers and fellow students both at the University of Washington and the University of Arizona, who all helped in some way. Thanks to Donna Jo Napoli at Swarthmore College for her support, encouragement, and energy.

I am grateful for financial support from the Graduate Schools at the University of Arizona and the University of Washington, and National Science Foundation grants OPP-9307704 (to Sharon Hargus) and SBR-9223725 (to Joan Maling and Soowon Kim).

For help with the data in this thesis, I would like to thank the following people: Peter Cole for discussion of Quechua and Malay; Ronnie Wilbur, Mary Rose, Susan McBurney, and Lorna Rozelle for discussion of American Sign Language; John Mugane for help with Gikūyū; Seyed Maulana for help with Kiswahili; and Julia Herschensohn and Jurgen Klausenburger for discussion of French.

Thanks to Ruth Honour and David Miles for making things run smoothly in the Linguistics Department at UW, and for helping out as I did all this from Bellingham.

And thanks to Hugh for actually reading this dissertation, and for his unfailing support and encouragement.

DEDICATION

To my parents.

CHAPTER 1: INTRODUCTION

1.0 OVERVIEW

One of the most common descriptive differences across languages with respect to the behavior of *wh*-phrases is whether they remain in their canonical positions (in situ) at the surface or not. In languages such as English, the *wh*-phrases (question words and phrases which begin, primarily, with *wh*: *who*, *what*, *when*, *where*, *why*, and *how*) are overtly moved from their base-generated position to a clause-peripheral position, Spec of CP:

- (1) Who_i did Wilma see t_i?

In sentences with multiple *wh*-phrases, it has generally been assumed that the in-situ *wh*-elements undergo covert raising (at LF) to the Spec of CP. The S-structure and LF derivations of a multiple *wh*-question are illustrated below in (2) and (3) respectively:

- (2) Who_i t_i saw what?

- (3) [Who_i [what_j]] t_i saw t_j?

In languages like Chinese, *wh*-phrases are not moved overtly to Spec of CP, but remain in their base-generated positions:¹

- (4) Zhangsan kandao shenme?
Zhangsan saw what
'What did Zhangsan see?'

¹ Throughout, I use the English-centric terms *wh-word*, *wh-phrase*, etc. in a general way to refer to the family of question words in information-seeking questions in any language, and I use the term *wh-movement* to refer to the fronting of these words to Spec of CP.

Huang (1982) proposed that in Chinese (and other languages with in-situ *wh*-words), *wh*-elements raise at LF to Spec of CP. This raising can account for scope facts in Chinese, as well as provide a more universal account of *wh*-movement.

The idea that all languages share certain principles and that differences between languages arise as a result of parameterization stems from Chomsky (1981a, 1981b, 1982, and other work), while Huang (1982) first proposed parameterization of *wh*-movement. Since Huang, *wh*-movement has been assumed to be a parametrized fact about language, and, thus, whether a language has overt *wh*-movement or not has been assumed to be invariant within a language. We should not expect to find, then, a language which allows a *wh*-phrase to either stay in situ or to front. Also, Chomsky's recent Minimalist Program allows only overt movement when it is motivated by the presence of what he calls a 'strong feature,' so languages with weak *wh*-features do not have overt *wh*-movement. Under this version of the theory as well, there should be no instances of optional *wh*-movement within a language. I return to the ideas behind *wh*-movement and optionality in the Minimalist Program in section 1.2.

Thus, we do not expect any languages with both types of *wh*-question formation. In this dissertation, however, I investigate an Athabaskan language, Babine-Witsuwit'en, that appears to have two methods of *wh*-question formation—leaving the *wh*-word in situ or fronting it. I argue that this kind of optionality can be successfully explained using Minimalist mechanisms. Additionally, the work presented here documents the behavior of *wh*-movement in a language (again, Babine-Witsuwit'en) whose syntax has been little

studied. So, in addition to the theoretical insights Babine-Witsuwit'en has allowed me, some amount of this endangered language will have been recorded and preserved.

1.1 THE MINIMALIST PROGRAM

1.1.1 The Framework

The Minimalist Program continues the trend in syntactic theory initiated in the late 1970s dedicated to eliminating construction-specific rules from the theory, adopting the notion that all grammars stem from a set of universal structures and operations. In the Principles and Parameters model, operations such as Move- α , a general rule of movement, apply freely and are constrained only by wellformedness conditions which apply to the S-structure and LF representations. The Minimalist Program relies on economy principles to evaluate derivations. Levels of representation which are not conceptually necessary are eliminated. Thus, the intermediate levels of D-structure and S-structure no longer exist, and all wellformedness conditions apply to the interface levels, PF and LF. PF is the level that interfaces with the articulatory-perceptual (A-P) system for speech perception and production. LF interfaces with the conceptual-intentional (C-I) system that relates meaning to the LF entities.

A derivation begins with a group of items, called the *numeration*, selected from the lexicon. Only derivations that have identical numerations may be compared. The point at which a derivation splits into the A-P and C-I interfaces is called Spell-Out by Chomsky. After Spell-Out, the numeration can no longer be accessed, so what is present

at this point is pronounced. However, additional movement operations may take place after Spell-Out (covertly).

In Minimalism, economy considerations require derivations to reach these interface levels in the most economical way. Grammaticality depends on a comparison of derivations, not on the evaluation of a particular derivation in isolation. The economy considerations Chomsky assumes changed from his 1993 to his 1995 versions² of the theory, and after the 1993 work Chomsky drops the economy conditions Shortest Move, Greed, Procrastinate. As these become relevant in the text, I will define them and discuss Chomsky's reinterpretation of them in the 1995 work.

1.1.2 Move F and Feature Checking

In Minimalism, all movement operations are triggered by the need to check the morphosyntactic features of one item against those of another. The way this happens differs in Chomsky (1993) and Chomsky (1995). Chomsky (1993) assumes that features can be either strong or weak, and he stipulates that no strong features are allowed at LF. Weak features must be checked as well, but this can take place after Spell-Out. Economy considerations allow these weak features to be checked as late as possible in the derivation. Failure to check off features leads to an uninterpretable structure at the C-I interface, a "crashing" derivation.

² Chomsky's "A Minimalist Program for Linguistic Theory" was published in 1993 and again in 1995. Throughout, I will refer to "A Minimalist Program for Linguistic Theory" as Chomsky (1993) and "Categories and Transformations" as Chomsky (1995).

In Chomsky (1995) Move α becomes Move F, where F is a feature. Chomsky states this principle in the following way:

- (5) F carries along just enough material for convergence.

It is properties of the phonological component, says Chomsky, that require the lexical material to raise along with the features.

1.1.3 Interpretability

In Chomsky (1995) the idea of Interpretability is also added. +Interpretable features receive an interpretation at LF while –Interpretable features do not. Thus, +Interpretable features survive after being checked while –Interpretable features do not. This distinction allows an explanation of multiple agreement facts. In French, for example, a DP may check its ϕ -features, namely those features of gender and number, in more than one position. An example from Marantz (1995) is given below:

- (6) Les filles sont recontrées au cinéma.
 the girls are_{pl} met_{fem, pl} at the movie theater
 ‘The girls are met at the movie theater.’

The DP *les filles*, the underlying object, raises to the subject of the auxiliary verb. It lands in an A’-position to check gender and number ϕ -features with the passive participle, but must also check features in the subject position. Multiple agreement cases like this one suggest that some features do not disappear after they have been checked.

Interpretable features include categorial features, ϕ -features of nominals, and *wh*-features. Case and agreement features, however, are –Interpretable, so must be eliminated before LF convergence.

Chomsky states that features of the target are always –Interpretable and so must be deleted. However, features of lexical items may be +Interpretable. Interpretable features need not enter into a checking relation, according to Chomsky, and they survive to LF. So, for example, *wh*-phrases have Interpretable *wh*-features which remain at LF, while the features of the target C are –Interpretable. Interpretability does not replace feature strength, however. Chomsky posits that *wh*-in-situ languages have weak *wh*-features (what he calls ‘Q-features’) in C, so checking does not take place until LF. In sum, if a feature is present in C, it must be checked off. If the language has a strong *wh*-feature, it must be overtly checked off. If it has a weak *wh*-feature, it may be checked later in the derivation, at LF.

1.1.4 Attract/Move and Economy Considerations

The basic conceptual changes introduced in the Minimalist Program are that constituents must move for a reason, and that grammaticality depends on a comparison of derivations. The primary economy principles introduced in the Minimalist Program are Shortest Move, Procrastinate, and Greed. Derivations with the same lexical items are compared, but if one violates one of these economy principles, then it will fail, leaving only the shortest and least complex derivation.

Shortest Move takes over much of the work previously done by Relativized Minimality (Rizzi 1990), Subjacency, and the Head Movement Constraint. Shortest Move simply requires a constituent to move to the first position of the appropriate kind up from its source position. Marantz (1995) gives the following examples—(7a) is a Head Movement Constraint violation, (7b) is a super-raising violation, and (7c) is a superiority violation—each of which is now ruled out by Shortest Move, since the elements that have moved are not making the shortest possible moves:

- (7) a. *Have John will t left by the time we get there?
 b. *John is likely for it to seem t to have left.
 c. *What did you persuade who to buy t?

In (7a), *have* cannot skip the position occupied by *will* to move to a higher head position.

In (7b), *John* skips the subject position occupied by *it*, which is not allowed. And in (7c), *what* skips an intervening A-bar position. I will return to a discussion of sentences like (7c) in Chapter 5.

The economy principle Procrastinate prefers derivations that postpone movement until as late as possible in a derivation. Any overt movement, then, is a violation of Procrastinate. Derivations may violate Procrastinate in order to converge, however. So in English, main verbs do not raise to Tense before Spell-Out and so are pronounced within the VP. In languages such as French, however, main verbs do raise to Tense before Spell-Out. English verbs obey Procrastinate by waiting as long as possible (until LF) to check off their tense features, but French verbs must violate Procrastinate in order to converge. This difference between French and English is that French tense features are

“strong” and must be checked overtly, while English tense features are “weak” and need not be checked overtly.

The economy principle Greed states that a constituent must move to satisfy its own requirements; it may not move to satisfy the requirements of some other constituent or target.

Chomsky (1995) refines the economy conditions. The most substantive change relevant here is that Greed is abandoned. It is no longer the features of the lexical items that must be checked, but rather the features of the target that must be checked. However, I will argue in Chapter 5 that Greed remains a necessary principle.

In Chomsky (1995), Procrastinate and Shortest Move are replaced by Attract F, which is given below:

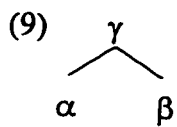
- (8) *K attracts F* if F is the closest feature that can enter into a checking relation with a sublabel of K.

For convenience, I will sometimes still refer to Shortest Move, though I will not be assuming that it is a distinct economy principle.

1.1.5 Clausal Architecture, Merge, and Move

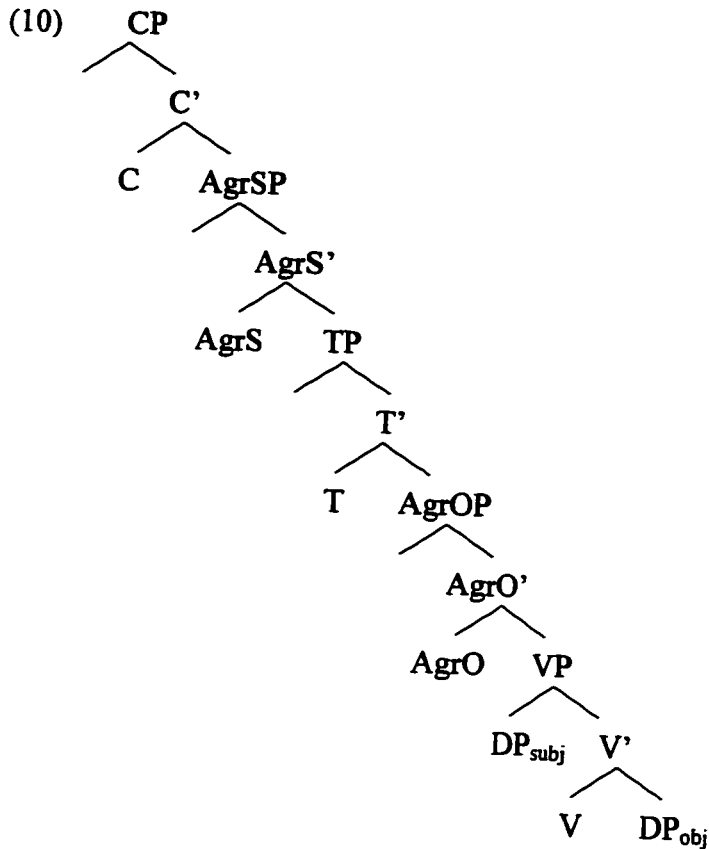
In the Minimalist Program, there is no phrase-structure component, and X-bar theory is no longer available. The X-bar relations fall out, however, from generalized transformations (GT), Merge and Move, which create phrase structure. Merge is the operation that builds phrase structure. It takes two syntactic objects, which may be words or other clusters of features, and combines them to form a new syntactic object. Move

copies one of the constituents of a phrase marker and merges it with that same phrase marker. A generalized transformation first targets a syntactic object α , adds an empty element external to the targeted object, then another syntactic object β is substituted for this empty element, creating the following structure γ :



Thus, the X-bar relations are not an explicit part of the grammar, but are a consequence of the structure-building mechanisms.

The basic transitive clause structure I assume throughout this dissertation is the following:



It should be stressed that the type of tree structure given in (10) represents a structure that never exists at any particular moment since, in a Minimalist theory, the structure-building operation Merge is interleaved with the overt movement processes. Also, other functional projections may be present, including, but not likely limited to, a Negation Phrase, a Topicalization Phrase, and an Aspect Phrase. We will see in Chapter 4 that a Typing Phrase is also present in some languages. And whether a particular projection is right- or left-branching will obviously vary depending on the language. I am assuming here the structure proposed in Chomsky (1993) in which agreement projections still exist. In Chomsky (1995) agreement projections are abandoned in favor of a “light verb” projection, and all checking takes place in the specifier(s) of this light verb and T.

Nothing in this dissertation hinges on the particular clausal architecture adopted here, however. I adopt the phrase structure of Chomsky (1993) because the consequences of the Agr-less structures remain less well worked out.

Functional heads such as Agr, T, and C are listed in the lexicon along with words. The functional categories of Agr and T contain tense and agreement features that must be checked off by the corresponding features on a verb that raises to these categories. Agr and T also contain Case and ϕ -features that must be checked off by the features of DPs that raise to their specifier positions. Morphosyntactic features are realized in the form of inflectional affixes in the lexicon. And, as mentioned above, Chomsky suggests that differences in feature strength determine whether something moves overtly or covertly across languages. So, in the sentence *Julie likes bananas*, the lexical item *bananas* carries an Accusative feature (among others). This feature raises and checks off the Accusative feature in the head of the Agreement Object Phrase (AgrOP).

There are many details concerning feature-checking and phrase-structure construction that I leave unmentioned because they will not come into play here.

1.1.6 Formal Features of C

Chomsky assumes a functional category C, which determines clause type. In interrogative clauses, it contains the feature Q, which is Interpretable. The strong Q feature is satisfied by a feature that Chomsky calls F_Q which he equates with [wh]. He says that F_Q is “probably a variant of D” (Determiner). F_Q raises to the checking domain of Q only if it needs to eliminate the strong feature of Q, in which case an entire *wh*-phrase pied-pipes and is substituted in [SPEC,Q]. F_Q itself is Interpretable and does not need to be checked. Chomsky assumes that languages differ in strength of Q.

Chomsky says that if Move takes place, either substitution or adjunction may also occur. If the operation is substitution, F_Q raises to [SPEC,Q] by overt *wh*-movement which pied-pipes a full category. The result is standard *wh*-movement. If the operation is adjunction, INFL-to-Q raising takes place, as in Chomsky’s example below, in which *did* adjoins to Q:

(11) did [_{IP} John give a book to Mary]

In this dissertation, I do not deal with *yes/no*-question formation. Therefore, I consider only movement operations which raise, and by substitution in a Specifier position, check off a Q- feature (which I will refer to as a *wh*-feature). I will modify Chomsky’s assumptions about the presence and positions of these *wh*-features in Chapter 4.

1.2 OPTIONALITY

1.2.1 The Theoretical Problem

Optionality is prohibited in all recent Chomskyan versions of syntax. Chomsky (1981a) proposed what is now called *Principles and Parameters* theory, the idea that universal grammar consists of a small finite set of principles which are invariant across languages. Some aspects of language obviously vary across languages, forcing the language-learner to choose based on the evidence from the linguistic environment. Such choices are called ‘parameters.’ With *wh*-movement, for example, a child upon hearing their native language, either “flips on” the *wh*-movement switch or does not. As outlined briefly in the previous section, Chomsky and others have recently taken a particularly ambitious view of Principles and Parameters. According to this view, particular syntactic constructions of individual languages do not have any basic reality of their own, but rather are the product of that language’s parameter settings as given by the principles of universal grammar. Baker (1995) sums it up by saying that apart from our knowledge of English words (or any other language) and their individual syntactic properties, knowledge of syntax amounts to little more than knowledge of where the language puts the check marks in the principles given by universal grammar. Thus, no child should have the option to either have *wh*-movement or not have it. It should be invariant within a language.

There have been some attempts to explain the problem of apparent optionality. Some have argued that there is no optional movement, while others have argued that

optionality exists in the grammar and have attempted to account for it. These proposals are outlined below.

1.2.2 Optionality in the Minimalist Program

As discussed above, Chomsky (1993, 1995) proposes that all movement operations should be motivated by a feature-checking operation. According to Chomsky, in the case of *wh*-movement, either C carries a strong feature, in which case there is overt movement, or a weak feature, resulting in covert (LF) movement. The feature values are parameter settings in a language. Therefore, within a language, each movement operation should be uniform, and thus, there should be no optional movement.

Some have acknowledged the existence of optionality in language and have proposed ways to account for it within (early versions of) the Minimalist Program. Fukui (1993) proposes a way to deal with optionality based on the Parameter Value Preservation Measure given below:

- (12) *The parameter value preservation (PVP) measure*
 A grammatical operation (Move α , in particular) that creates a structure that is inconsistent with the value of a given parameter in a language is costly in the language, whereas one that produces a structure consistent with the parameter value is costless. (400)

The PVP insures that the parameter settings for a language are maximally maintained. A costly application of Move- α requires some driving force, such as the Case Filter or Spec-head agreement, while a costless application does not need a driving force and can be truly optional. Fukui illustrates the PVP by examining the head parameter in English and

Japanese. So, in English, a verb precedes its object, and in Japanese, the verb follows its object:

(13) a. English: $V^0 > Y^{\max}$

b. Japanese: $Y^{\max} > V^0$

The PVP predicts that an operation that destroys the parameter settings in (13) will be more costly than one that does not. That is, leftward movement of an object in English needs some driving force, but rightward movement can be optional. The opposite is true in Japanese—leftward movement of an object requires no driving force and can be optional, but rightward movement is constrained and needs some driving force.

Fukui's proposal makes strong predictions that cannot be maintained, I believe. It predicts that all head-final languages should exhibit optional object movement like Japanese since any leftward movement of an object should be optional according to the PVP. In Chapter 3, I will show that this is not the case. In Babine-Witsuwit'en, a head-final language, non-*wh*-objects cannot front freely and seem to do so only when focused. Only the *wh*-words optionally front.

A second proposal to explain optionality comes from Poole (1994). He argues that instances of optional movement leave a trace, but fail to form a chain, while obligatory movement leaves a trace and forms a chain. This distinction between optional (non-chain forming) and obligatory (chain-forming) movement is captured, he argues, by the distinction between Move- α and Form Chain within the Minimalist Program. Poole notes that Chomsky (1993) claims that the basic transformational operation (Generalized Transformation) should be Form Chain rather than Move- α , though Move- α still remains

for Poole. While Chomsky assumes that Move- α also forms a chain, Poole does not. Poole also argues that any operation that consists of only Move- α , with no instances of Form-Chain, is not counted by Economy of Derivation and is, therefore, costless. This distinction between Move- α and Form-Chain allows for a derivation in which some element has been moved to be as economical as a derivation in which the element was left in situ. Poole argues that Stylistic Fronting in Icelandic and Semantically Vacuous A'-Movement in Japanese are both instances of Move- α without Form Chain, making the optional movements in these languages legitimate and costless. Poole's proposal is stipulative and difficult to test empirically. Stylistic Fronting in Icelandic and A'-Movement in Japanese are very different from optional *wh*-movement in Babine-Witsuwit'en. For example, the Stylistic Fronting in Icelandic is crucially head movement rather than XP movement. I return to a discussion of Poole's analysis in Chapter 4.

1.2.3 Other Discussions of Optional *Wh*-Movement

Some have argued that there is no optional *wh*-movement, and have tried to explain the cases of apparent optionality by other means. Mahajan (1990a) claims that *wh*-movement in Hindi, which appears to be an optional *wh*-movement language, is not movement to CP, but is instead adjunction of a *wh*-phrase to IP. This movement is motivated by the quantificational properties of the *wh*-phrase and is akin to QR. Cheng (1991) questions whether overt fronting in optional fronting languages is really *wh*-movement. She claims that a language has overt *wh*-movement only if the *wh*-word moves in order to type a clause as interrogative. Thus, movement of *wh*-words for

topicalization or clefting is not *wh*-movement. She argues that “fronted” *wh*-words in Egyptian Arabic, Bahasa Indonesian, and Palauan are base-generated as the subjects of cleft constructions or are topicalization constructions. I follow the spirit of Mahajan’s and Cheng’s analyses in Chapter 2, showing that many languages that appear to have *wh*-movement in fact do not.

1.3 OUTLINE OF THE CHAPTERS

In Chapter 2, I examine languages which have been claimed to have optional *wh*-movement, or superficially look as if they do. I show that these are not true instances of *wh*-movement (movement to Spec of CP), but that the fronting is motivated by features other than *wh*-features and the *wh*-phrases move to projections other than CP. In Chapter 3, I argue that Babine-Witsuwit’en, Ancash Quechua, and Malay do exhibit optional *wh*-movement by showing how the positions of their *wh*-phrases differ from those of non-*wh*-phrases; by ruling out topicalization, focus, and clefting; and by illustrating that the *wh*-phrases in these languages can violate island configurations. In Chapter 4, I provide an explanation for this optionality by assuming that C can be optionally selected in some languages and I then examine the consequences of this proposal. In Chapter 5, I explain how the proposal to optionally select C fits into a broader account, examining languages with *wh*-movement and languages without. Chapter 6 is a discussion of apparent adjunct/argument asymmetries in *wh*-questions in English and Babine-Witsuwit’en, and

the role of pragmatics in explaining these differences. Chapter 6 also returns to some residual issues from Chapters 4 and 5. Chapter 7 contains a summary and conclusions.

CHAPTER 2: APPARENT OPTIONAL *WH*-MOVEMENT

2.0 OVERVIEW

In this chapter, I investigate a number of languages which at first glance may appear to have optional *wh*-movement. I show that the fronting in these languages is not optional, but is motivated by specific features in various functional projections. The languages I discuss are from diverse language families: several languages of the Niger-Congo family (Kiswahili, Gĩkũyũ, Igbo, and Akan), Egyptian Arabic, French, and American Sign Language.

None of the analyses in this chapter constitute complete analyses of *wh*-movement in each language. I do not investigate all question types or restrictions on all possible positions of *wh*-phrases. Instead, I look at the relevant data and suggest possible analyses of the *wh*-movement in these languages.

I will argue in Chapter 4 that optional movement in truly optionally *wh*-movement languages can be accounted for by optional selection of C in the numeration. In the languages to be discussed below, I show that optional selection of C cannot account for the data. I argue that the fronting in these languages is either a result of focus, topicalization, or *wh*-clefting. Hence, the features motivating the movement are not *wh*-features in Spec of CP, but focus or topicalization features in distinct focus and topicalization projections. As discussed in Chapter 1, all movement in the Minimalist Program is motivated by feature-checking, so, for example, the topicalization of a

particular word in an English sentence occurs because that word raises to check off a Topicalization (TOP) feature in a Topicalization Phrase. Focused elements behave similarly in some languages, raising to check off a FOC feature in a Focus Phrase. Similarly, clefting is a common method of focusing a constituent across languages. Thus, I assume that with cleft sentences as well, some focus feature must be present, and the fronting is a result of movement which is motivated by the need to check off a strong focus feature.

It should be mentioned here that this approach to topicalization and clefting is very different from that proposed in the 1970s. Chomsky (1977a) argued that all unbounded island-sensitive rules are instances of “Move *wh*.” He claimed that *wh*-movement is what underlies not only typical *wh*-questions, but also restrictive and nonrestrictive relative clauses, direct and indirect questions, comparatives, topicalization, and cleft sentences. Chomsky suggested that because a topicalization phrase can precede an auxiliary in C, the landing site of the topicalized phrase must be the Specifier of C. In Chomsky’s recent versions of the theory, however, there are different motivating factors for movement and the arguments that topicalization and clefting are instances of *wh*-movement are no longer valid. For example, the fact that topicalized elements precede an auxiliary is not evidence that they are in a CP projection, since there could be any number of projections preceding Agr. Because the emphasis is now on motivation for movement—different types of features motivate raising to check those features—it would simply be stipulative to propose that a target *wh*-feature is checked by the feature of a

non-*wh* topicalized NP. Also, there is a big difference between the features of *wh*-phrases and topicalized phrases. *Wh*-phrases are inherently marked with *wh*-features, while NPs are not inherently marked as topicalized. So a *wh*-feature of a *wh*-phrase always accompanies a *wh*-phrase and remains until LF for interpretation. However, NPs do not, of course, always come with topicalization features. Topicalization features are only present in sentences that are topicalized. This difference in inherent features separates out topicalization from *wh*-movement. Other differences between topicalization (and clefting) and *wh*-movement become apparent throughout the rest of this chapter.

Müller & Sternefeld (1993) argue that topicalization should not be analyzed as involving *wh*-movement (movement to Spec of CP). One piece of evidence they give is that topic islands are much stricter than *wh*-islands in the Germanic languages. The contrast in German is illustrated below:

- (1) a. *Radios_i glaube ich [CP gestern_j hat [IP Ede t_j t_i repariert]].
 radios_{ACC} believe I yesterday has Ede repaired
- b. ??Radios_i weiß ich nicht [CP wie_j (daß) [IP man t_j t_i repariert]].
 radios_{ACC} know I not how that one repairs

However, extraction of a *wh*-phrase across a topic- or *wh*-island is always bad, as shown in (2a) and (2b) respectively:

- (2) a. *Was_i glaubst du [CP gestern_j hat [IP Ede t_j t_i repariert]].
 radios_{ACC} believe you yesterday has Ede repaired
- b. *Welches Radio weiß du nicht [CP wie_j (daß) [IP man t_j t_i repariert]].
 which radio_{ACC} know you not how that one repairs

Müller & Sternefeld argue that any theory of topicalization must account for the contrast between topic islands and *wh*-islands illustrated in (1), and the contrast between topic extraction and *wh*-extraction from a *wh*-island, as shown in the contrast between (1b) and (2b).

They also show that a topic can cooccur with V/2 in German, as in (3a), while a *wh*-phrase cannot, as in (3b):

- (3) a. Ich glaube [_{CP} den Fritz_i hat [_{IP} sie t_i gesehen]].
 I believe the Fritz has she seen
- b. *Ich sagte [_{CP} wen_i hat [_{IP} sie t_i gesehen]].
 I said who has she seen

This fact (and others) suggests, they argue, that topics are “V-oriented” while *wh*-phrases are C-oriented.

These asymmetries between the behavior of topics and *wh*-phrases lead them to conclude that topicalization does not involve movement either to Spec of CP or adjunction to IP, but rather that topics are specifiers of their own topic phrase.

Meaning distinctions are further evidence of the differences between topicalization and focus on the one hand and *wh*-movement on the other. Consider that in sentences involving topicalization or focus, the fronted version has a different meaning from the in-situ version. This is important because a crucial aspect of Minimalist syntax is that all syntactic operations must be minimal in derivational cost. Thus, the shortest and least complex derivations will be the only ones to succeed and yield a grammatical derivation. Under a Minimalist approach, it is problematic if two sentences with non-

identical surface forms have identical interpretations because it seems to suggest that optionality can exist in the computational system. In the languages discussed in this chapter, each pair of related sentences differs in meaning, which suggests that the derivations being compared are not identical. One contains a focus or topicalization feature (which survives to LF because it is +Interpretable), the other does not. I return to the relevance of meaning differences in 2.9 and in Chapter 4, section 4.3.

These two terms—focus and topicalization—are sometimes used nearly interchangeably in the literature. Traditionally, however, they refer to quite different phenomena. Focus is traditionally said to be the “new” information, rather than the “old” or “presupposed” information in a sentence. Aissen (1992) says simply that a focused NP is interpreted like the clefted NP in the following English sentence: *It was Sam that left*, while a topic is “what the sentence is about” (43). Rochemont (1986) also argues that the “new” versus “old” information definition is too simplified, but it would take us too far afield to go into the debate about topic and focus here. For the most part, considering focus to be new and/or emphatic information and topic to be old information or “aboutness” will suffice for our purposes here. In English, focus is not marked syntactically, but is marked by stress on the focused element. Consider the dialogue below:

- (4) A: What did Jack cook for Jill?
 B: He cooked LASAGNA for Jill.

Lasagna is the focused element and receives more stress because it is the new information in this sentence.

A topic, on the other hand, typically represents an entity which has already been introduced into the discourse, and it generally occurs in sentence-initial position. In many sentences, the semantic subject is also the topic, but in cases where it isn't, the topic may be moved or "topicalized" to the beginning of the sentence, as in the following example:

(5) Jack, Jill thinks I like.

My aim here is not to sort out whether certain languages have focus or topicalization, but I will suggest that many of them involve one or the other. Further research should investigate more thoroughly the distinction between focus and topicalization in the languages discussed here.

The first languages discussed below are all members of the Niger-Congo family. The optional fronting in these languages will be shown to be focus-movement or topicalization rather than *wh*-movement.

2.1 AKAN

Akan, a member of the Kwa family, which is in turn a member of the Niger-Congo family, exhibits two strategies of question formation: *wh*-phrases in situ or at the beginning of a clause, as shown below, in examples from Saah (1988):

(6) a. Kofi kɔɔ he
 Kofi go-PST where
 'Where did Kofi go?'

- b. εhe na Kofi kɔɔe
 where FOC Kofi go-PST
 ‘Where did Kofi go?’

Saah says that because the *wh*-phrase appears in what he calls “object position” in (6a), it appears in the objective case without the prefix *ε-*, while in (6b), the *wh*-phrase takes the nominative case because it occurs in sentence-initial position. Saah notes that there is a slight semantic difference between the two versions. The sentences with clause-initial *wh*-phrases are more emphatic than those in which the *wh*-phrase is in situ, thus drawing attention to or “focusing” the fronted *wh*-phrase. The focus particle *na* is also an additional clue that what we have here is focus movement, not *wh*-movement. Saah gives examples where the fronted version is less acceptable because a focus reading is inappropriate. For example, sentence (7a) below is a fixed expression used as a greeting. Fronting of *dεn* ‘what/how’ is less preferred, as shown in (7b):

- (7) a. Wo ho te dεn?
 you Poss self be-PRES what/how
 ‘How are you?’

- b. *Dεn na wo ho te
 what/how FOC you Poss self be-PRES

Saah claims that because (7a) is a fixed expression, it cannot change its point of emphasis, and a clause-initial *wh*-phrase is therefore unacceptable. Likewise, there are some questions in which the fronted *wh*-phrase is preferred because a focus reading is more appropriate:

- (8) a. Adɛn nti na wobaa ha?
 reason why FOC you-come-PST here
 'Why did you come here?'
- b. *Wobaa ha adɛn nti?
 you-come-PST here reason why

Saah says that when a *particular* reason is being asked for, the *wh*-phrase is preferred in sentence-initial position.

Also, the focus particle *na* is the same particle used to focus any constituent, regardless of whether it is a *wh*-phrase. All major categories in Akan can be moved to sentence-initial position and focused by attaching *na*. The (b) examples of (9) and (10) below show non-*wh* words in this focus position (from Saah (1983) and Boadi (1974)):

- (9) a. Mebaa ha nɛra.
 I-come-PST here yesterday
 'I came here yesterday.'
- b. Me na mebaa ha nɛra.
 I FOC I-come-PST here yesterday
 'I was the one who came here yesterday.'
- (10) a. Kofi bɔɔ Ama.
 Kofi hit-PST Ama
 'Kofi hit Ama.'
- b. Ama na Kofi bɔɔ no.
 Ama FOC Kofi his-PST her
 'It was Ama who Kofi hit.'

Also, *ɛyɛ* 'it is' may optionally occur in both statements and questions, creating a clefted sentence with the focus particle *na*, as shown below in (11b) and (12b) (Saah (1988)):

- (11) a. Kofi kɔɔ Kumase.
Kofi went Kumase
'Kofi went to Kumase.'
- b. eyɛ Kumase na Kofi kɔɔɛ?
it was Kumase FOC Kofi went
'It was to Kumase that Kofi went.'
- (12) a. Kofi kɔɔ he?
Kofi go where
'Where did Kofi go?'
- b. eyɛ ɛhe na Kofi kɔɔɛ?
it was where FOC Kofi went
'Where was it that Kofi went?'

It seems clear from the above data that fronting an element in Akan is motivated by a focus feature, not a *wh*-feature. The fact that non-*wh*-phrases also front and require the same particle *na* indicates focus-movement, not *wh*-movement.

2.2 GĪKŪYŪ

Bergvall (1983) discusses *wh*-movement in the Bantu language GĪkŭyŭ. In GĪkŭyŭ, *wh*-phrases are possible either in situ or at the beginning of the clause, as shown below:

- (13) a. Maheire o kĭng'ang'i?
they-gave who crab
'Who did they give a crab?'
- b. Noo maheire kĭng'ang'i?
FP-who they-gave crab
'Who did they give a crab?'

Note that when the *wh*-phrase is fronted, a focus particle *ne* (+ *o*, resulting in *noo*) must be present.

In complex questions—questions with more than one clause—the *wh*-phrase may appear either in situ or fronted as well, as in Bergvall’s example below, and again the focus particle must be present:

- (14) a. [Ūgwīra [Ngūgī oigire maheire kīng’ang’i o:]]?
 you-think Ngugi said they-gave crab who
- b. [Noo; ūgwīra [Ngūgī oigire maheire kīng’ang’i t_i]]?
 FP-who you-think Ngugi said they-gave crab

‘Who do you think Ngugi said they gave a crab to?’

The same focus particle is employed in non-*wh*-constructions:

- (15) Nī-maheire Kamau kīng’ang’i.
 FP-they-gave Kamau crab
 ‘They gave Kamau a crab.’

A more accurate translation of this sentence is something like, “It is the case that they gave Kamau a crab” (John Mugane, personal communication). Thus, there is no reason to believe that Gikūyū exhibits optional *wh*-movement. The fronting in Gikūyū *wh*-questions appears to be a straightforward example of a focus construction, used both in sentences with *wh*-phrases and without. In both sentence types, a phrase and its accompanying focus feature raise to check off a strong focus feature in a Focus Phrase.

2.3 KISWAHILI

According to Haiman (1985) *wh*-phrases in Kiswahili may also appear either in situ or in sentence-initial position. The following examples are from Perrott (1957). (16) shows an in-situ *wh*-phrase and (17) shows a fronted *wh*-phrase:

- (16) A-li-fika lini?
 3sg-past-arrive when
 'When did s/he arrive?'
- (17) Kwa nini chakula ki-me-chelewa?
 why food 3sg-perf.-late
 'Why is the food late?'

Welmers (1973) also says that *wh*-phrases may optionally occur in sentence-initial position. However, he claims that for Swahili and other Bantu languages, when a *wh*-phrase is fronted, it has a topicalized reading. This is correct according to the native speaker I consulted. The in-situ versions are most common and most natural and the fronted versions may only be used in special circumstances, such as in telling a story—some specific context for the fronted word must have already occurred in the discourse. The fronted words are, therefore, not new information, but occur initially to function as topic. The following examples (18b) and (19b) are unacceptable without some prior context. The more neutral versions are given in (18a) and (19a):

- (18) a. Unatoka wapi?
 you-go where

- b. *Wapi unatoka?
where you-go

‘Where are you going?’

- (19) a. Unasoma nini?
you-read what

- b. *Nini unasoma?
what you-read

‘What are you reading?’

Though Bokamba (1976) calls the questions with fronted *wh*-phrases “focused” *wh*-questions, I believe topicalization is a more accurate description of what is occurring in Kiswahili. The *wh*-phrase topics in Bokamba’s sentences (20b) and (21b) below have probably already occurred in the discourse and more specific information is being requested:

- (20) a. Beya pesaka mokunda mazono na nani?
Beya gave letter yesterday to whom
‘To whom did Beya give a letter yesterday?’

- b. Na nani Beya pesaka mokunda mazono?
‘To whom, specifically, did Beya give the letter yesterday?’

- (21) a. Beya pesaka Nzuzi mazono inki?
Beya gave Nzuzi yesterday what
‘What did Beya give Nzuzi yesterday?’

- b. Inki Beya pesaka Nzuzi mazono?
‘What, specifically, did Beya give Nzuzi yesterday?’

Syed Maulana (personal communication) reports, however, that *lini* ‘when’ and *kwa nini* ‘why’ are somewhat better than other *wh*-phrases in sentence-initial position:

(22) a. Alifika lini?
s/he-arrived when

b. Lini alifika?

‘When did s/he arrive?’

(23) a. Chakula kimechelewa kwa nini?
food it is late why

b. Kwa nini chakula kimechelewa?

‘Why is the food late?’

Maulana says that the fronted versions of these two *wh*-expressions have become more common in the last couple of decades. He suggests that it is because of the influence of English.

What seems clear is that optional *wh*-movement (movement of a *wh*-phrase to Spec of CP) is not at work in Kiswahili *wh*-questions, though topicalization features in TopP may result in preposed *wh*-phrases.

2.4 IGBO

Wh-phrases in Igbo may occur in situ or fronted at the beginning of the clause (Goldsmith (1981)):

(24) a. Ì lilù gini
you ate what
‘What did you eat?’

b. Gini kà í lilù
what that you ate
‘What did you eat?’

Goldsmith glosses the morpheme *kà* as ‘that’, but Welmers (1973) calls it a marker of topicalization. Welmers also notes that both orders in (24) are possible, but says the “topicalized” order in (24b) is preferred. The facts here seem very much like those in Akan. I think the fronting in Igbo is more akin to focus than topicalization. The fronted element is typically not old information, but new information. And as in Akan, *ò bù* ‘it is’ may optionally precede the fronted question word, forming a cleft, which is also a focus construction:

- (25) *Ò bù gíni ka í lílù*
 it is what that you ate
 ‘What is it that you ate?’¹

Thus, it appears that *wh*-phrases in Igbo are fronted as a result of focus features in a FocP—the *wh*-phrase fronts in order to check off this focus feature.

2.5 EGYPTIAN ARABIC

Wh-phrases in Egyptian Arabic, though not in Standard Arabic, may either occur in situ or fronted. Examples below are from Kenstowicz and Wahba (1983):

- (26) a. *Fariid ištara ʔeeh?*
 Fariid buy what

¹ There is another method of question formation in Igbo, discussed in Goldsmith (1981) and Welmers (1973). This method takes the form of a relative clause and uses a generic word/complementizer *kèdú* preceding the noun phrase. See Goldsmith (1981) for further discussion.

- b. ?eeh illi Fariid ištaraah?
 what that Fariid buy-it

‘What did Fariid buy?’

- (27) a. Fariid ištara ?ayy kitaab?
 Fariid buy which book

- b. ?ayy kitaab Fariid ištaraah?
 which book Fariid buy-it

‘Which book did Fariid buy?’

- (28) a. Fariid raah feen?
 Fariid where went

- b. Feen Fariid raah?

‘Where did Fariid go?’

Kenstowicz and Wahba state that when an object *wh*-phrase appears in fronted position, it is associated with a resumptive pronoun when the *wh*-phrase is an NP, while no resumptive pronouns appear with adverbial *wh*-phrases. The resumptive pronoun appears as an enclitic to verbs, nouns, prepositions, and the complementizer *inn* ‘that’. There is no overt resumptive pronoun with subject *wh*-phrases. Also, the complementizer *illi* must occur after the argument *wh*-phrases *miin* ‘who’ and *?eeh* ‘what’, but does not occur after *feen* ‘which’ nor any of the adjunct *wh*-phrases. Following Cheng (1991), I assume here that argument and adjunct *wh*-phrases front for different reasons in Egyptian Arabic. She claims that the fronting of *wh*-arguments is *wh*-clefting, while the fronting of *wh*-adjuncts is topicalization. Her arguments are outlined below.

Cheng points out the similarities that relative clauses and cleft sentences share with the *wh*-fronting constructions in Egyptian Arabic. Notice that all of the constructions must have the complementizer *illi* 'that':

relative clause:

- (29) *Il-raagil illi Mona shaafit-uh*
 the-man that Mona saw-him
 'the man that Mona saw'

cleft:

- (30) *(Dah) Muhamad illi giḥ*
 this Mohammed that came
 'It is Mohammed who came.'

wh-question:

- (31) a. *Miin illi Mona darabit-uh*
 who that Mona hit-him
 'Who did Mona hit?'
 b. *Eeh illi Mona ?arit-uh*
 what that Mona read-it
 'What did Mona read?'

Illi, which Wahba (1984) treats as a complementizer, occurs in all of the above constructions. It is, however, distinct from the complementizer *inn* used in embedded clauses, as Cheng points out:

- (32) *Mona iftakarit inn Fariid saafir.*
 Mona thought that Fariid left
 'Mona thought that Fariid left.'

In addition to the above surface similarities in relative clauses, clefts, and *wh*-questions, the examples below in (33) and (34) show that relativization is acceptable out of both a

relative clause and out of a *wh*-question. Cheng argues that the lack of island violations in *wh*-fronting sentences, like those in (34), supports her claim that the fronted *wh*-phrase in a *wh*-question is base-generated in this position, just as it is in relatives clauses and clefts, like those in (33), and that no *wh*-movement is involved.

- (33) a. dah il-beet illi baba ye'raf il-raagil illi bana-ah
 this the-house that father knows the-man that built-it
 'It is the house that my father knows the man who built it.'
- b. dah il-beet illi baba kaan bi-yes?al miin illi bana-ah
 this the-house that father was asking who that built-it
 'This is the house that my father was asking who built it.'
- (34) a. anhi kitaab illi Mona te'raf miin illi sara?-uh
 which book that Mona know who that stole-it
 'Which book does Mona know who stole?'
- b. miin illi Mona te'raf feen huwwa raah
 who that Mona knows where he went
 'Who does Mona know where he went?'

Cheng argues that the fronting of *wh*-arguments in Egyptian Arabic, as in (31) and (34), is the result of *wh*-clefting, rather than *wh*-movement. Such cleft sentences are not full clefts but reduced clefts in the sense of McCloskey (1979). Cheng's reduced cleft structure (based on McCloskey's) is given below:

- (35) [CP [DP miin_i] [CP OP_i illi [IP Mona shaafit-uh_i]]
 who that Mona saw-him
 'Who did Mona see?'

This example differs from a full cleft like the English *It is a bagel that Hugh wants to eat* in that (35) has no copula and has an NP subject. However, Cheng argues, in (35) there is

still a subject-predicate relationship since the *wh*-word *miin* ‘who’ is the subject of the predicate *illi Mona shaafit-uh* ‘that Mona saw him’. Given such a *wh*-cleft analysis, Cheng claims that the presence of *illi* in *wh*-fronting sentences, as well as relative clauses and clefting, is predicted: *illi* is used in clauses in which a predicate sentence is created.² Thus, *wh*-fronting of arguments in Egyptian Arabic is clefting, not *wh*-movement to CP.

Cheng argues, however, that *wh*-adjunct fronting is not *wh*-clefting, but topicalization.³ The complementizer *illi* is not permitted in either a non-*wh*-topicalization sentence or a sentence with a fronted *wh*-adjunct, as illustrated below:

wh-adjunct fronting:

- (36) a. Ma’a miin Mona raahit il-Qahirah
 with whom Mona went to-Cairo
 ‘With whom did Mona go to Cairo?’

non-*wh* topicalization:

- b. Fi-l-shari’ dah Mona kaanit bitdawwar ’ala sha??ah
 on-the-street DEM Mona was looking for apartment
 ‘On that street, Mona was looking for an apartment.’

Cheng argues that if we were to assume a *wh*-movement analysis of adjunct *wh*-fronting, as does Wahba (1984), then we could not explain why *illi* is prohibited in these kinds of sentences. Cheng speculates about why adjuncts are not allowed in the clefting construction with *illi*, but leaves this as an open question.

² However, *illi* is not required when the *wh*-phrase contains *?ayy* ‘which’. Perhaps this has to do with its inherent presuppositionality. Thus, *which* does not cleft, but is instead part of a focus structure. Clefting would be redundant with a *wh*-phrase that is inherently focused. If, however, *which* is always part of such a focus structure, it raises the question of why other languages allow clefting with *which*. Cheng does not deal with this issue and I leave it for future research. These facts about *?ayy* ‘which’ are reminiscent of the data in Akan, discussed in section 2.1—when a particular reason or thing is being asked for, the *wh*-phrase is preferred sentence-initially in a focused position.

³ Cheng notes that some speakers prefer *wh*-adjuncts to always remain in situ.

In sum, Cheng argues that *wh*-fronting in Egyptian Arabic is the result of either *wh*-clefting (for argument *wh*-phrases) or topicalization (for adjunct *wh*-phrases). Under Minimalist assumptions, *wh*-clefting would be triggered by the presence of a focus feature in FocP and topicalization by a topicalization feature in a TopP.⁴ I, therefore, assume that the fronting of *wh*-phrases in Egyptian Arabic is not movement motivated by the need to check off a *wh*-feature in Spec of CP.

2.6 FRENCH

There is apparent optional *wh*-movement in spoken French. *Wh*-phrases may occur either in situ or fronted in simple questions. When the *wh*-phrase occurs sentence-initially, *est-ce que* is required:⁵

- (37) a. Qu'est-ce que tu fais?
 what is-it that you do
 'What are you doing?'
- b. Tu fais quoi?
 you do what
 'What are you doing?'

The fronted version in (37a) is clearly not the result of simply optionally moving the *wh*-word in (37b). The literal translations are different and different forms of the *wh*-phrases

⁴ Though cleft sentences across languages seem to result in focusing some constituent, it is not clear how clefting works under Minimalism. Presumably, the fronted element raises to check off a focus feature, but how this movement coordinates with the selection of *it* and some form of *be* remains unanswered.

⁵ I do not include a discussion of stylistic inversion here (in which the main verb and subject invert: *Que fais-tu* 'What do you?'). This strategy of question formation is no longer very common in spoken French.

are required in each. Note that the *wh*-word (as opposed to the *wh-est-ce-que*-phrase) is required in the in-situ position while the longer *wh*-phrase is required in the fronted position.

(38) a. Qu'est-ce que tu fais?
 what is-it that you do
 'What is it that you are doing?'

b. *Tu fais qu'est-ce que?

(39) a. Tu fais quoi?
 you do what
 'What are you doing?'

b. *Quoi tu fais?

The fronting in French *wh*-questions appears to be a straightforward instance of *wh*-clefting versus in-situ *wh*-question formation. Langacker (1965, 1972) suggests that questions with *qui est-ce que*, *qu'est-ce que*, etc. are the interrogative counterparts of cleft sentences since non-*wh* cleft sentences are similarly constructed. Some non-*wh*- and *wh*-cleft pairs from Langacker are given below:


(40) a. C'est un loup qui court là-bas.
 it is a wolf that run over-there
 'It's a wolf that's running over there.'

b. Qu'est-ce qui court là-bas?
 what is it that run over-there
 'What is it that's running over there?'

(41) a. C'est Pierre qu'elle voit.
 it is Peter that she sees
 'It's Peter that she sees.'


b. Qui est-ce qu'elle voit?
 who is it that she sees
 'Who is it that she sees?'

Let's assume, then, that French does not require *wh*-movement, but often employs *wh*-clefting. Notice, however, that there is still fronting within the *wh*-cleft, as illustrated in the derivation below of the sentences in (40):

(42) C'est quoi qui court là-bas. → Qu'est-ce qui court là-bas?


The *wh*-word fronts in (42) and inversion takes place.

Wh-questions may be clefted in the same way in English. For example, the following derivation in (43) mirrors the French one in (42):

(43) It's who that's running over there. → Who is it that's running over there?


Presumably, this fronting takes place to satisfy a strong focus feature. The focus is evidenced by the focused interpretations of these clefted *wh*-sentences in both languages.

Let's look at how the selectional properties of verbs in French affect the restrictions on movement. Fronting is required with verbs that take interrogatives, such as *demander* 'ask':

(44) a. Jean a demandé [ce que Marie a fait].
 John has asked what Mary had done
 'John asked what Mary did.'⁶

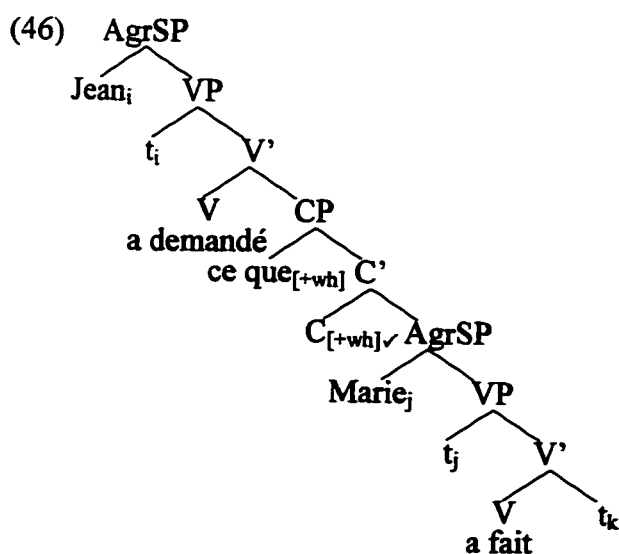
b. *Jean a demandé [Marie a fait quoi/ce que].

⁶ It is well known that *que/quoi* cannot begin an embedded question. Instead *ce* plus a relative clause must be used. Why this should be the case is not clear.

However, a matrix verb which cannot take an interrogative exhibits a very different pattern. The *wh*-phrase remains in situ and may not front to the beginning of the embedded clause:

- (45) a. Jean pense [que Pierre aime qui]?
 John thinks that Peter likes who
- b. *Jean pense que/ce que/ce qui Pierre aime?

Thus, only verbs that take interrogatives allow *wh*-phrases to front in the embedded clause. This fronting occurs so that the *wh*-feature of C may be checked off, as illustrated below:^{7,8}



Wh-phrases may front to matrix sentence-initial position with verbs that take [-wh] complements, but in these cases, the full *est-ce-que*-phrase is required:

⁷ In this and all other trees here, I use *t* to represent the position something has moved from, though I am assuming the copy theory of movement, following Chomsky.

⁸ I return to how such subcategorization works in Chapter 4.

(47) a. Qui est-ce que Jean pense que Pierre aime?

b. *Qui Jean pense que Pierre aime?

The fronting in (47a) is again an instance of *wh*-clefting. There is no *wh*-feature to be checked, only a focus feature in FocP, so *qui* raises to check off the focus feature thus forming a cleft.

So, the generalization seems to be that a *wh*-phrase must always stay in situ unless the verb takes an interrogative. In this case, the *wh*-phrase fronts in order to check off an interrogative *wh*-feature in C. French, therefore, does not have overt *wh*-movement except when the properties of the verb require it. The patterns of the checking of C in English and French are summarized in the table below:

(48)

	C selected from numeration	C projected from certain verbs
English	✓	✓
French	∅	✓

In sum, French does not have optional *wh*-movement, but a *wh*-phrase and its accompanying feature raise only to check off a *wh*-feature projected from an interrogative verb. Also, as illustrated above, a *wh*-phrase may appear in initial position in a cleft construction. This fronting occurs in order to check off a strong focus feature in a FocP.

2.7 SUMMARY: FOCUS, TOPICALIZATION, AND CLEFTING

I have argued above that some languages with apparent optional *wh*-movement instead involve focus or topicalization. Thus, in *wh*-questions in such languages, the *wh*-

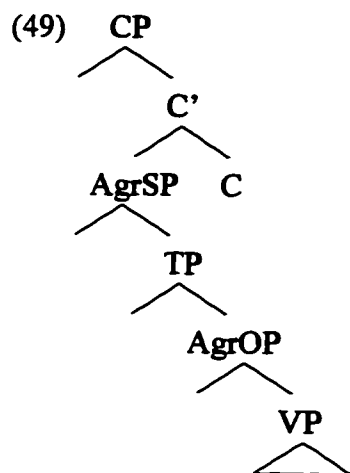
elements are in situ, and fronting occurs in order to check off features in the functional projections FocP or TopP.

In the next section, I examine *wh*-constructions in American Sign Language and show that they too involve focus movement.

2.8 AMERICAN SIGN LANGUAGE

2.8.1 ASL Phrase Structure

American Sign Language is another language which appears to have optional *wh*-movement, at least in some dialects. However, there is some disagreement about the positions of the *wh*-signs in ASL, due, in part, to varying speaker judgments. And even when the same data are involved, there is much disagreement about the correct analysis of *wh*-questions and of phrase structure in general for ASL. Lillo-Martin (1990), Petronio (1993), and Wilbur (1995) argue that *wh*-movement is leftward to Spec of CP. Petronio and Wilbur also argue, however, that the head of CP occurs sentence-finally (while the Spec occurs sentence-initially). Aarons et al. (1992) and Aarons (1994) argue that all *wh*-movement is rightward and that the Spec of CP is in sentence-final position. This lack of agreement about these basic issues makes further analysis of ASL questions difficult. In what follows, I assume with Petronio (1993) and Wilbur (1995) that the head of CP occurs at the right margin of the clause, but Spec of CP occurs at the left margin of the clause. Word order is SVO; an ASL partial tree structure is given below:



2.8.2 Simple *Wh*-Questions

Lillo-Martin (1990) says that *wh*-phrases are found both in situ and fronted in simple questions. Examples from this work and Petronio (1993) are given below.

in situ:

(50) MARY SEE WHO⁹
'Who did Mary see?'

(51) LEAVE MY SHOES WHERE?
'Where did I leave my shoes?'

fronted:

(52) WHO MARY SEE
'Who did Mary see?'

(53) WHERE LEAVE MY SHOES?
'Where did I leave my shoes?'

⁹ Signs are written in uppercase English glosses with approximately the same meaning as the ASL sign. Also, *wh*-questions always occur with a brow furrow, which is not included in the transcription.

In a third strategy, known as doubling, a *wh*-phrase occurs both sentence-initially and sentence-finally:

(54) WHO JOHN LIKE WHO?
‘Who does John like?’

(55) WHERE LEAVE MY SHOES WHERE?

Based on an analysis which assumes Spec of CP to be at the left margin of the clause, (52) and (53) exhibit optional *wh*-movement. For some ASL researchers, the doubling exhibited in (54) and (55) is also said to involve *wh*-movement. For example, Lillo-Martin (1990) says that a sentence like (54) is *wh*-movement with a copy of the moved *wh*-phrase (a resumptive pronoun) left in the original position. She gives no additional support for this claim, however, and I think there is more evidence in support of doubling constructions as focus constructions, as argued by Petronio (1992, 1993). I provide such evidence in the next section.

2.8.3 Doubling Is Focus

Petronio (1992), (1993) discusses the doubled construction at length, and argues that *wh*-constituents in direct *wh*-questions are syntactically treated as foci. She notes that ASL signers state that *wh*-doubling in direct *wh*-questions makes the question more emphatic and focuses the *wh*-constituent being questioned.

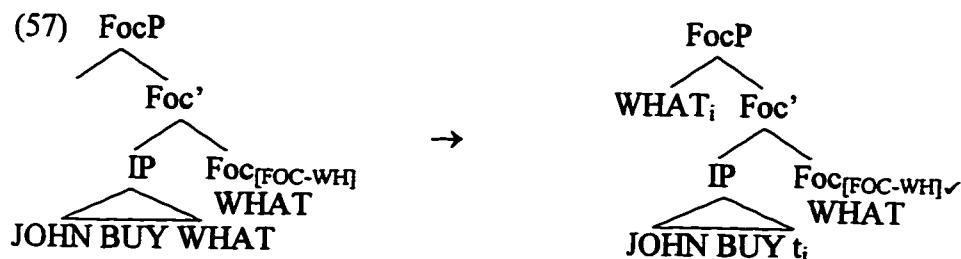
Petronio (1993) argues that there is a sentence-final focus position in ASL. Focused modals and negatives, as well as *wh*-phrases, can appear in this rightmost position and have a focused interpretation. Petronio calls this focus projection CP, but

here I call it FocP since it is solely for focused constituents. I will illustrate below how having a FocP in questions with doubled *wh*-phrases can better explain the data above in (54) and (55).

Assume, then, that in the following sentence, the rightmost *wh*-phrase is base-generated in Foc, which bears a focus feature [FOC-WH].

- (56) WHAT JOHN BUY WHAT
'What did John buy?'

In the representation of (56) below, the first WHAT must move to Spec of FocP to check off the FOC-WH-feature in Foc:

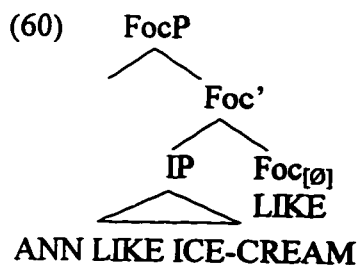


I assume that *wh*-phrases in any language are inherently marked as focused, as suggested by Rochemont (1978), (1986) and Horvath (1981), and therefore have a FOC-WH-feature. Non-*wh*-phrases which are focused, however, are not inherently focused and, therefore, do not have a FOC-WH-feature and have no need to raise to Spec of FocP. These focused non-*wh*-phrases have a lexical item in the right head of FocP, but nothing needs to move to the Spec of FocP. Consider Petronio's examples of sentences with focused non-*wh*-phrases below:

- (58) ANN WILL WIN WILL

- (59) ANN LIKE ICE-CREAM LIKE

Sentences (58) and (59) differ from sentences with doubled *wh*-phrases because they contain no inherently focused lexical items. A [FOC-WH] feature may be present in a FocP, but it is not required. The presence or absence of a strong focus feature is not a parameter setting and varies depending on whether a focused *wh*-word or phrase occurs in any particular sentence. So if a sentence contains a *wh*-phrase, it also contains a FOC-WH feature since *wh*-phrases are inherently focused. If no *wh*-phrase is present, no FOC-WH feature is present. In (59), the focused element LIKE is base-generated in Foc just as in a doubled *wh*-focus construction, but the double of the focused element has no need to move to Spec of FocP because there is no feature to be checked off in the head of FocP, as illustrated below:

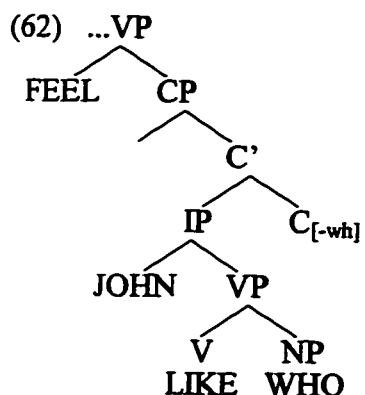


I have not yet explained why *wh*-words and phrases ever occur in situ if they are inherently focused. They may occur in situ because it is the nonlexical features which must be checked off, which is an instance of Attract F, not the features of the lexical items themselves, which would be an instance of Greed. In the following question, for example, there is no FocP, so the *wh*-phrase WHO remains in situ:¹⁰

- (61) BILL FEEL JOHN LIKE WHO
 'Who does Bill think John likes?'

¹⁰ I return to a discussion of complex questions in 2.8.5.

FEEL does not take an interrogative, so a [-wh] feature is in C.¹¹ The tree structure for (61) is given below:



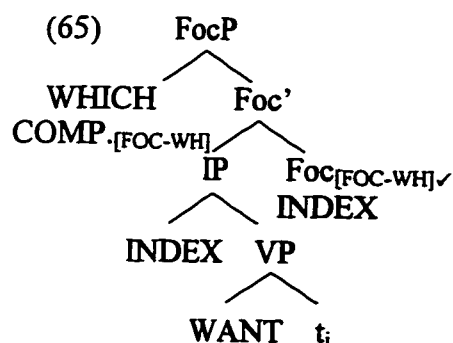
The *wh*-word WHO has a +Interpretable FOC-WH feature, which will remain and be interpreted, but being a feature of a lexical item, it has no need to be checked off. In Chapter 4, I argue that the same is true in general for certain *wh*-phrases in situ. Though they carry a *wh*-feature, if no *wh*-feature is present in C, the *wh*-phrases need not raise either overtly or covertly, but will nonetheless be interpreted as interrogative since the *wh*-feature remains at the level of interpretation.

Further evidence for Petronio's focus position and for a FOC-WH feature comes from her examples in which a *wh*-phrase may appear in sentence-initial position when a subject clitic appears in focus position:

¹¹ The [+wh] and [-wh] features used here do not correspond to strong and weak features, but rather the type of complement needed. In Chapter 5, I revise these features so that a verb like ASL's FEEL, which does not take an interrogative complement, requires a C bearing no features: C_[0], while a verb like WONDER, which requires an interrogative complement, takes a C with a *wh*-feature: C_[wh].

- (63) WHAT _aJOHN BUY _aINDEX¹²
 ‘What did John buy (he)?’
- (64) WHICH COMPUTER _aINDEX WANT _aINDEX
 ‘Which computer does she want (she)?’

In (63) and (64), there is a FocP present which carries a FOC-WH-feature. The subject clitic _aINDEX occupies the head of FocP, Foc. The FOC-WH-feature in this head of FocP is then checked off by raising the *wh*-word WHAT, with its inherent FOC-WH-feature, to Spec of FocP. Thus, the doubling construction need not always be two *wh*-constituents, but can also consist of both a *wh*- and non-*wh*-constituent. A partial representation for sentence (64) is given below:



Therefore, something must occupy the head of FocP, but it does not need to be a *wh*-phrase. The raising of a *wh*-word or phrase is determined by the presence of a FOC-WH feature in the head of FocP, whether that be a *wh*-phrase or a non-*wh*-phrase such as INDEX in (64).

¹² Following ASL convention, a lowercase subscript represents spatial loci. The subscript generally corresponds to third person agreement (he, she, it) or the locative *there*.

In this section, I have argued that sentences containing doubled *wh*-phrases are focus constructions. The *wh*-phrase raises to check a Foc feature in FocP, not a *wh*-feature in C.

2.8.4 In-Situ and Non-Doubled Fronted *Wh*-Phrases

In this section, I return to the questions in which the *wh*-phrase is fronted, but there is no doubling, as in (52) and (53). I will argue that these are uncommon constructions, and we may, therefore, maintain that there is no optional *wh*-movement in ASL.

The two most common strategies of question formation (according to Ronnie Wilbur (personal communication)) are the “in-situ” versions, like in (50) and (51), (though she argues that the *wh*-phrase is not in situ, but in C), and the doubled versions in (54) and (55). Wilbur believes the fronted versions in (52) and (53) are not very common, while Aarons (1994) says that Lillo-Martin’s (1990) examples with a fronted *wh*-phrase are ungrammatical for her consultant.¹³ Wilbur suggests that those signers that do make use of the strategy of fronting a single *wh*-phrase (with no doubling) do so because of the influence of Signed English. Petronio (1993) also acknowledges that some signers accept sentences with a fronted *wh*-phrase while others reject it. The signers that

¹³ Aarons, however, does allow some sentences with a single fronted *wh*-phrase, though the non-manual marking (brow raise) must not extend over the whole clause. I leave these data for future research. She also suggests that some sentences which appear to have a single fronted *wh*-phrase may, in fact, have a reduced *wh*-sign at the end of the clause, and are, therefore, actually doubled constructions:

(i) *WHO STEPHANIE LOVE

‘Who does Stephanie love?’

(ii) WHO STEPHANIE LOVE (REDUCED WH-SIGN)

‘Who does Stephanie love?’

do use this strategy, however, may have a strong C and therefore have *wh*-movement. I do not propose an analysis here of their dialect of ASL because it appears to be a minority dialect and the strategy is one, perhaps, not used by native signers. Thus, we may maintain that American Sign Language does not have optional *wh*-movement for most signers.

2.8.5 Complex *Wh*-Questions

Further evidence for my claim that *wh*-phrases may not freely front to Spec of CP in ASL is provided by their behavior in complex questions. There are restrictions on the movement of *wh*-phrases in complex questions. In the examples below from Lillo-Martin (1990), the question word cannot occur fronted in either the embedded clause or the matrix clause:

(66) a. BILL FEEL JOHN LIKE WHO

b. *BILL FEEL WHO_i JOHN 'LIKE' t_i

c. *WHO_i BILL FEEL JOHN 'LIKE' t_i

'Who does Bill think John has a crush on?'

(67) a. BILL FEEL JOHN LEAVE WHY

b. *BILL FEEL WHY_i JOHN LEAVE t_i

c. *WHY_i BILL FEEL JOHN LEAVE t_i

'Why does Bill think John left?'

The *wh*-word WHY may, however, appear in the fronted position if it originates in the higher clause:

(68) WHY_i BILL FEEL t_i JOHN LEAVE?

‘Why does Bill think John left?’

Lillo-Martin (1990) and Petronio (1993) claim that with a verb like WONDER, which requires an interrogative complement, fronting in the embedded clause is required:

(69) a. JOHN WONDER WHO_i BILL ‘LIKE’ t_i

b. *JOHN WONDER BILL ‘LIKE’ WHO

‘John wonders who Bill has a crush on.’

Here as well, the *wh*-phrase is not permitted to front out of the clause:

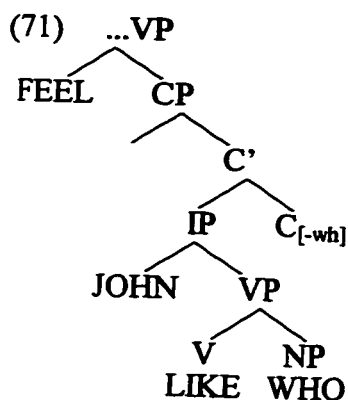
(70) *WHO_i JOHN WONDER BILL LIKE t_i

‘John wonders who Bill has a crush on.’

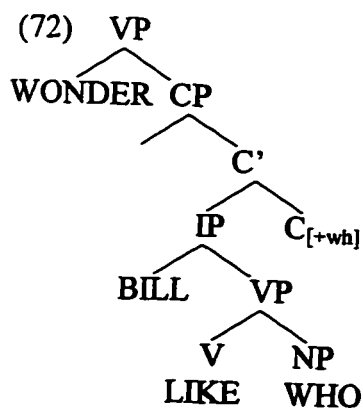
To summarize the complex question data, in direct questions, fronting is not allowed either to the embedded clause or the matrix clause, while in embedded questions, fronting is required. These data can be explained if we simply assume that *wh*-phrases raise only to check off strong features projected from the verb (WONDER, for example), as suggested for French.¹⁴ If no strong *wh*-feature is projected by the verb, movement is impossible, as in (66b) and (66c), because, in these examples, there is no motivation for the *wh*-word WHO to move. The verb projects a [-wh] feature, so there is no strong

¹⁴ As mentioned, I discuss in Chapter 4 how to handle subcategorization in the Minimalist Program.

feature to be checked off.¹⁵ Therefore, the *wh*-phrase can only occur in situ, as the tree structure below for (66a) indicates:¹⁶



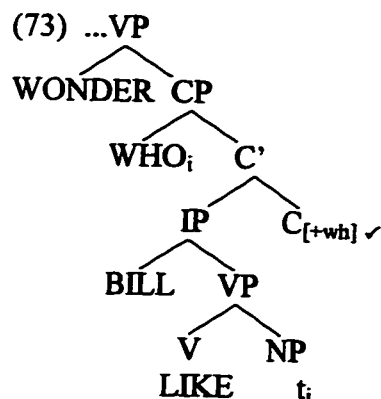
A pre-SPELL-OUT tree structure for a sentence with matrix verb **WONDER**, as in (69), is shown below in (72). The verb takes only interrogative complements and so projects a [+wh] feature in C:



This strong *wh*-feature must be checked off, so the *wh*-phrase **WHO** raises overtly to check off the feature, as shown below:

¹⁵ Alternatively, perhaps no CP is projected since there is no need for one. I argue later that this is likely the case, not only for ASL but for all languages.

¹⁶ Irrelevant words and traces of movement will not be illustrated in the trees. I use IP (and put the subject there) for ease of exposition.



The *wh*-phrase cannot move further because there is no other strong *wh*-feature to be checked, thus explaining the ungrammaticality of (70).

This proposal explains why a *wh*-phrase must occur fronted in the embedded clause with a verb like WONDER, but must remain in situ with a verb like FEEL.

(66c) and (70) are both ungrammatical because a *wh*-feature never appears in matrix position and there is, therefore, no need for the *wh*-phrase to raise for checking. In (66c), no strong *wh*-feature is present at all. Thus, the only grammatical derivation is one in which the *wh*-phrase remains in situ. In (70), a *wh*-feature is projected by the verb, but is then eliminated when the verb raises to the beginning of the embedded clause. Further raising results in the ungrammatical (70).

Thus far I have shown that movement of *wh*-phrases in complex questions in ASL is motivated solely by the *wh*-features selected by the verb. Otherwise, there are no strong *wh*-features and therefore there is no *wh*-movement.

2.8.6 Doubling in Direct and Embedded *Wh*-Questions

In this section I address doubling in direct and embedded questions. As shown in (66), repeated here, *wh*-phrases in indirect questions may occur in situ, but may not be fronted in either the embedded or matrix clauses:

- (66) a. BILL FEEL JOHN LIKE WHO
 b. *BILL FEEL WHO_i JOHN 'LIKE' t_i
 c. *WHO_i BILL FEEL JOHN 'LIKE' t_i

'Who does Bill think John has a crush on?'

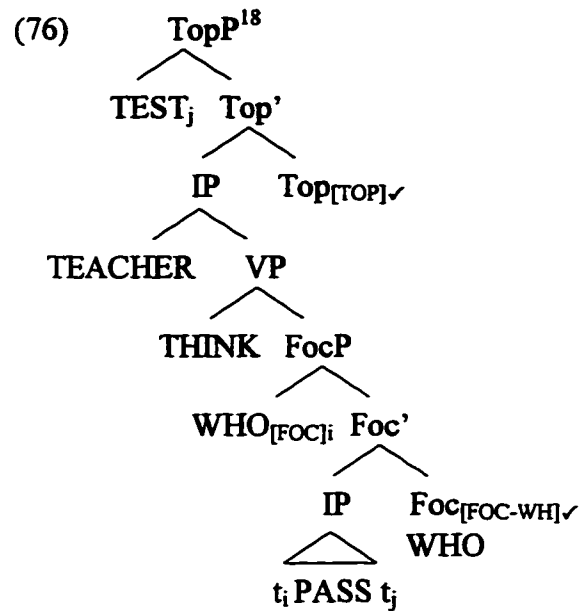
As explained above, the fronting is prohibited because no *wh*-features are present in the functional projection, so there is no raising. However, doubling is allowed in such constructions:

- (74) TEST TEACHER THINK WHO PASS WHO¹⁷
 'Who does the teacher think passed the test?'

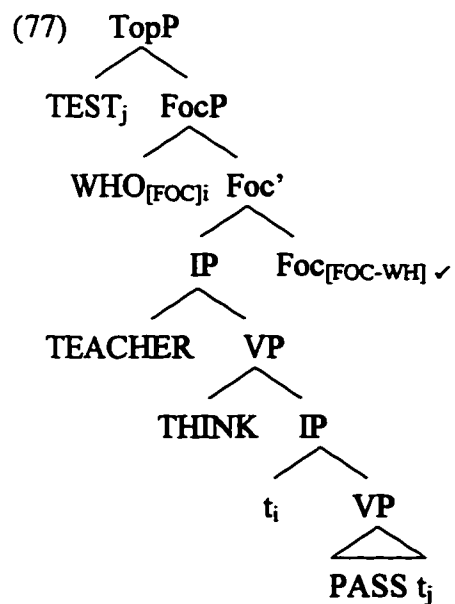
- (75) TEST WHO TEACHER THINK PASS WHO
 'Who does the teacher think passed the test?'

The difference between (74) and (75) is where [FOC-WH] is located—in either the higher or lower FocP. The tree in (76) corresponds to (74) in which [FOC-WH] is in a FocP in the lower clause:

¹⁷ TEST is topicalized in this example, though I do not believe it is required to. Topicalization is marked by brow raise and an uplifted chin throughout the articulation of the topicalized element.



The tree in (77) corresponds to sentence (75) in which [FOC-WH] is in a FocP in the higher clause:



¹⁸ The TopP is right-headed in this illustration by analogy with FocP and CP. I have no independent evidence that it is right-branching.

Verbs that take interrogative complements do not allow doubling, however, as shown by the ungrammaticality of (78c) and (79c):

(78) a. BILL DON'T-KNOW WHY FAIL

b. *BILL DON'T-KNOW FAIL WHY

c. *BILL DON'T-KNOW WHY FAIL WHY

'Bill doesn't know why he failed.'

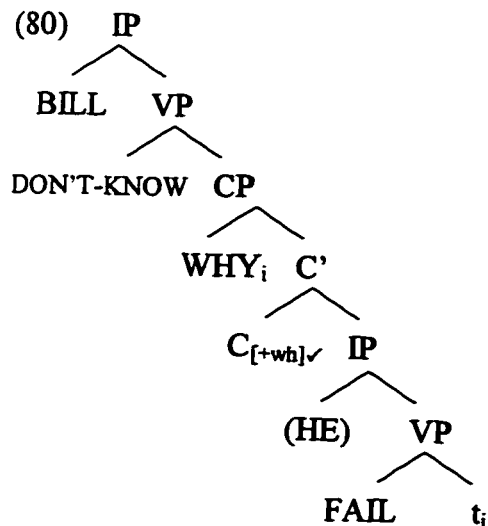
(79) a. ANN KNOW WHO WON

b. *ANN KNOW WON WHO

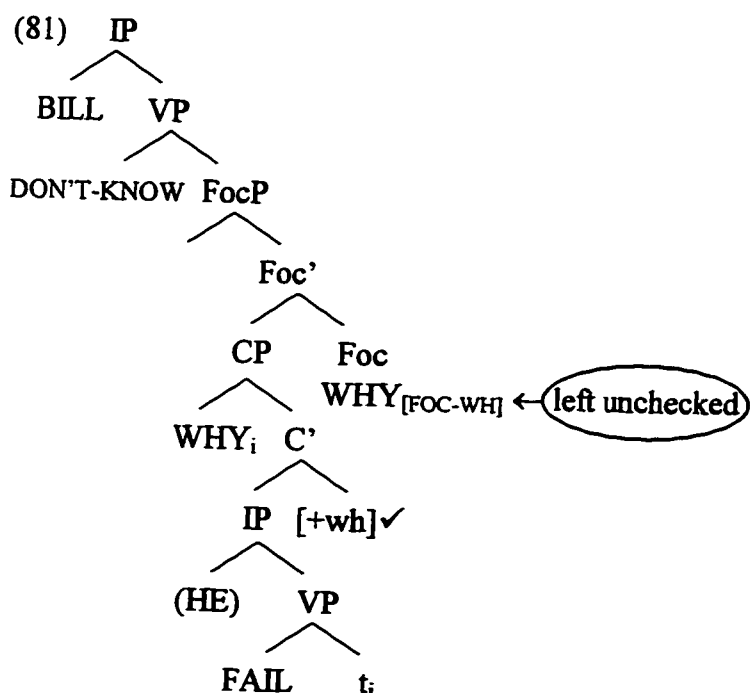
c. *ANN KNOW WHO WON WHO

'Ann knows who won.'

In (78a) and (79a), a single C is projected by the verb, which takes an interrogative, and its features are satisfied by the raising of the *wh*-phrase, as illustrated below for (78a):



(78b) and (79b) are ruled out because the *wh*-feature in C is not checked off if the *wh*-phrase remains in situ. Doubling is prohibited in embedded questions as in (78c) and (79c) because both a FocP and a CP are present. When the *wh*-phrase raises to check off the *wh*-feature projected by the verb, the FOC-WH feature is left unchecked and the derivation is blocked. The phrase structure tree for sentence (78c) is illustrated below:



The FOC-WH feature left unchecked in Foc causes the derivation to crash. I assume that once a lexical item's features have served to check off the features in a functional projection, the lexical item and its features are frozen in place.

We have seen here that the only instances of *wh*-movement in ASL result from the need to check off features projected by the verb. Otherwise, *wh*-phrases remain in situ, or raise to check a focus feature.

2.8.7 Summary of ASL *Wh*-Questions

The ASL data can be explained by assuming that there is no *wh*-movement in ASL except when strong *wh*-features are projected from the verb. Other *wh*-fronting (doubling) is the result of focus movement.

In this section, I provided a more thorough analysis of *wh*-questions than offered for the other apparent optional *wh*-movement languages discussed in this chapter. Partly, this is because the facts are more complicated, and partly, it should serve as an illustration of ways to pursue further analysis of other languages that involve apparent optional *wh*-movement.

2.9 SUMMARY AND CONCLUSIONS

In this chapter, I have examined a diverse group of languages which appear to exhibit optional *wh*-movement, and I have shown that none of them, in fact, do. The fronting in these languages is a result of the checking off of topicalization or focus features, not *wh*-features in C.

We have seen throughout this chapter that in many of the sentences in which a *wh*-phrase is fronted, the meaning is different—more emphatic, typically—than in the sentences with the *wh*-phrase in situ. I have used meaning as a sort of diagnostic in determining whether a language has optional *wh*-movement. If the meaning of the fronted version is more emphatic or if the fronted element is a topic, I have taken that as

evidence that a focus or topicalization feature is present in the construction. In many languages, there is overt morphological evidence for a topic or focus marker (Akan, Gĩkũyũ, Igbo, for example), or there is some sort of external evidence that the fronting occurs because of the presence of a FocusPhrase (ASL). It is not, however, implicit in my proposal that there will always be syntactic evidence for such a phrase, although, ideally, independent evidence would be optimal. Thus, I am suggesting that if two sentences with the same lexical items differ in meaning in some way then they are not likely to be related by an optional process. And likewise, if two sentences with the same lexical items have identical meanings and are discourse equivalents, then they are most likely related by some optional process. None of the languages discussed in this chapter can optionally front *wh*-elements to form *wh*-questions which have the same meaning as those questions with *wh*-elements in situ, and I am suggesting that these languages do not exhibit optional *wh*-movement strategies. We will see in the next two chapters that even in languages with optional *wh*-movement, the movement is not optional in a strict sense. That is, the two numerations contain different lexical items, so the arrays being compared differ.

I did not discuss any languages in this chapter that involve “scrambling,” but I would like to suggest that the fronting (or scrambling) in these languages as well is motivated by some feature and is not an optional process. For example, objects in German can be scrambled to a position to the right of the subject. Langer (1995) argues that sentences with scrambled objects in German have different meanings from sentences with the canonical word order. He proposes that the relevant feature forcing movement in

these cases is a focus feature. Thus, the derivations being compared are not identical—one contains a focus feature that must be checked off. And when the feature of the functional projection is checked off, the focus feature of the lexical item remains and is interpreted at LF. Miyagawa (1997) argues that scrambling in Japanese is motivated by “something like focus,” and is not an optional process. Similar analyses could be extended to other languages with scrambling phenomena.

CHAPTER 3: TRUE OPTIONAL *WH*-MOVEMENT

3.0 OVERVIEW

In this chapter, I show that Babine-Witsuwit'en, an Athabaskan language spoken in Northern British Columbia, has optional *wh*-movement, unlike the languages examined in the previous chapter. I show that the *wh*-fronting is the result of neither topicalization, clefting, or focus movement, and that it exhibits island violations characteristic of moved constituents.

In 3.1, I thoroughly investigate *wh*-questions in Babine-Witsuwit'en. In 3.2, I briefly discuss Ancash Quechua, and in 3.3, Malay.

3.1 BABINE-WITSUWIT'EN

3.1.1 Background Information on Babine-Witsuwit'en

For the most part, word order is fairly rigid in Babine-Witsuwit'en.¹ The basic word order is SOV, as is the case in most Athabaskan languages. This is illustrated in the following examples.^{2,3}

¹ All of the data here comes from fieldwork conducted by me and/or Sharon Hargus. The data are representative of the Witsuwit'en dialect of Babine-Witsuwit'en. The speakers are from Smithers and Moricetown, British Columbia.

² I do not give complete morpheme-by-morpheme glosses of all the verbal information. All verbs in Babine-Witsuwit'en have tense and are inflected for subject. There is no case marking.

³ The Babine-Witsuwit'en examples are all presented in the practical orthography, originally developed by Hank Hildebrant and modified by Sharon Hargus in agreement with the Hagwilget and Moricetown Bands.

- (1) Mary dilhtsen yik'ěntsiy'
Mary 3s.refl.brother 3s.loves.3s⁴
'Mary loves her own brother.'
- (2) Lillian tl'as 'iyilekh.
Lillian dress 3s.makes.3s
'Lillian is making a dress.'
- (3) Silhtsen Mabel yunt'iy'.
1s.brother Mabel 3s.likes.3s
'My brother likes Mabel.'
- (4) Lillian bitsē' lhalhde' Mabel yīn'ē'n.
Lillian 3s.daughter yesterday Mabel 3s.saw.3s
'Lillian's daughter saw Mabel yesterday.'

3.1.2 Optional *Wh*-Movement in Simple Questions

Object question words may occur in sentence-initial position, as in (5a), though they may also remain in situ, as in (5b). The meaning of the (a) and (b) versions is the same, and their discourse properties are identical as well:⁵

- (5) a. Ndu Lillian yunkēt?
what Lillian 3s.bought.3s
- b. Lillian ndu yunkēt?
- 'What did Lillian buy?'

⁴ "3srefl" here stands for third singular reflexive, marked by *d-*. This contrasts with the other third singular marking *b-* in (4).

⁵ The related Northern Athabaskan language Slave also has optional *wh*-movement in simple questions, though the behavior of *wh*-phrases in complex questions is different from that of Babine-Witsuwit'en. Babine-Witsuwit'en does not have direct and indirect discourse like Slave and other Athabaskan languages do. See Rice (1989) for an excellent discussion of *wh*-questions in Slave. There is also some variation in the position of *wh*-phrases in Navajo, another Athabaskan language, though the behavior overall is very different, containing clitics and making use of direct and indirect discourse. See Schaubert (1979) and Willie (1991) for discussion of *wh*-questions in Navajo.

Non-*wh* NPs do not have this freedom of movement in Babine-Witsuwit'en. A sentence corresponding to (5) with no *wh*-word allows only SOV order:

(6) a. Lillian dus yunkēt
Lillian cat 3s.bought.3s

b. *Dus Lillian yunkēt.

'Lillian bought a cat.'

(6b) can only have the unlikely meaning that a cat bought Lillian. Along the same lines, in sentences like the following, where both subject and object are capable of doing the liking, fronting the object simply results in that NP becoming the subject:

(7) Lillian George yunt'iy'.
Lillian George 3s.likes.3s
'Lillian likes George.'

(8) George Lillian yunt'iy'.
'George likes Lillian.'

The object can precede the subject, but when it does, it is interpreted as focused and must be followed by the focus marker *'en* (for human singular), *'enī* (for human plural), or *'iy*⁶ (for nonhumans). (These are also personal pronouns.)

(9) George 'en Lillian yunt'iy'.
George FOC Lillian 3s.likes.3s
'It's George that Lillian likes.'

(10) Dus 'iy George yunkēt.
cat FOC George 3s.bought.3s
'It's a cat that George bought.' (not a dog)

⁶ There is some variation in pronunciation across speakers for the nonhuman marker, some pronouncing it as *'e*. *'iy* is the more conservative pronunciation.

Also, a fronted *wh*-phrase and a focused NP can both appear initially in the same sentence:

- (11) Hoo', lhēs 'iy nts'ē Lillian yunkēt.
 No bread FOC where Lillian 3s.bought.3s
 'No, where did Lillian buy the bread?' (not the fish)

However, two non-*wh*-elements may not be focused:

- (12) a. *Lhēs 'iy Friday 'iy Lillian yunkēt.
 bread FOC Friday FOC Lillian 3s.bought.3s

- b. *Friday 'iy lhēs 'iy Lillian yunkēt.

'Lillian bought the bread Friday.'

These facts suggests that *wh*-fronting and NP focusing are distinct processes motivated by different features, and they have distinct landing sites (Spec of CP and Spec of FocP respectively).

Adjunct *wh*-phrases may also occur either in situ or fronted, as shown in (13) and (15), but the non-*wh* counterparts do not generally occur in the fronted position, as shown in (14) and (16):⁷

- (13) a. Sharon *book* nts'ēn'a yik'iyetalhdic?
 Sharon book how 3s.will read.3s

- b. Nts'ēn'a Sharon *book* yik'iyetalhdic?

'How will Sharon read the book?'

⁷ There is some variability with adjuncts. Sentential adverbials have more freedom of position, as in many languages:

- (i) a. Lillian biyez lhkan 'iwhanetadelh
 Lillian her daughter tomorrow 3s.will return
 b. Lhkan Lillian biyez 'iwhanetadelh
 'Lillian's daughter will return tomorrow.'

(14) a. Sharon *book* 'agh yik'iyetalhdic.
 Sharon book quickly 3s.will read.3s

b. *'Agh Sharon *book* yik'iyetalhdic.

'Sharon will read the book quickly.'

(15) a. Sharon *stsēghe'* nts'ēn'a yilhtl'ol?
 Sharon's hair how 3s.braided.3s

b. Nts'ēn'a Sharon *stsēghe'* yilhtl'ol?

'How did Sharon braid my hair?'

(16) a. Sharon *stsēghe'* dzikh yilhtl'ol.
 Sharon hair crooked 3s.braided.3s

b. *Dzikh Sharon *stsēghe'* yilhtl'ol.

'Sharon braided my hair crooked.'

3.1.3 Optional *Wh*-Movement in Complex Questions

The optional fronting of both argument and adjunct *wh*-phrases also occurs in complex questions.⁸ Example (17) shows the three possible positions for an argument *wh*-phrase: in situ, fronted in the embedded clause, or fronted in the matrix clause:

(17) a. George [Lillian *ndītnī booktah* yik'iyelhdic] yilhnī?
 George Lillian which book 3s.read(opt).3s 3s.told.3s⁹

⁸ By *complex questions*, I mean questions made up of more than one clause.

⁹ "Opt" here marks an optative verb. The optative mode is similar to the future tense, but expresses desire or potential while the future indicates an intended action.

- b. George [nditnī booktah Lillian yik'iyelhdic] yilhnī?
 c. Nditnī booktah George [Lillian yik'iyelhdic] yilhnī?¹⁰

‘Which book did George tell Lillian to read?’

The corresponding orders, however, are not allowed in non-*wh*-sentences:

- (18) a. George [Lillian ggī book yik'iyelhdic] yilhnī?
 George Lillian that book 3s.read(opt).3s 3s.told.3s
 b. *George [ggī book Lillian yik'iyelhdic] yilhnī?
 c. *Ggī book George [Lillian yik'iyelhdic] yilhnī?

‘George told Lillian to read that book.’

The same is true with adjuncts. The *wh*-phrases may occur fronted, while the non-*wh*-adjuncts may not:

- (19) a. George [Lillian bicay nts'ë noolyekh] wika' 'inīnzin?
 George Lillian 3s.grandson where 3s.play(opt) 3s.wants
 b. Nts'ë George [Lillian bicay noolyekh] wika'nīnzin?

‘Where does George want Lillian’s grandson to play?’

- (20) a. George [Lillian bicay 'ats noolyekh] wika'nīnzin.
 George Lillian 3s.grandson outside 3s.play(opt) 3s.wants
 b. *'Ats George [Lillian bicay noolyekh] wika'nīnzin.
 outside George Lillian 3s.grandson 3s.play(opt) 3s.wants

‘George wants Lillian’s grandson to play outside.’

¹⁰ *Tah* seems to be able to occur with any *wh*-phrase. It does not appear to affect the meaning. It is not required in (17).

The fact that *wh*-phrases may occur either in-situ, fronted in the embedded clause (in complex questions), or fronted in the matrix clause, while non-*wh*-phrases must stay in their canonical positions provides evidence that the movement at work in the *wh*-constructions is neither scrambling nor topicalization. If it were either of these kinds of movement, it should be expected to apply to non-*wh*-phrases as well.

3.1.4 Clefting

Additional evidence that *wh*-movement is responsible for the fronting of *wh*-phrases like those above comes from the fact that clefting is distinct from *wh*-fronting. The verb *'it'iw* 'it is' is required when an NP is clefted, as is the emphatic particle *hin*:

- (21) a. Ggin dinī budiclhye
 that man 1s.know.3s
 'I know that man.'
- b. Ggin dinī budiclhye hin 'it'iw
 that man 1s.know.3s EMPH it is
 'It is that man that I know.'

But with a *wh*-phrase in fronted position, no form of 'be' is necessary, nor is the emphatic *hin*. And again, in (22b), for example, the fronted *wh*-word is not emphatic. The meaning is the same as in (22a):

- (22) a. Ggin dinī mbī yudīlhye?
 that man who 3s.know.3s
 'Who does that man know?'
- b. Mbī ggin dinī yudīlhye?
 'Who does that man know?'

3.1.5 Extraction from Islands

If *wh*-movement (which I am assuming to be movement to Spec of CP) occurs in the clauses above with fronted *wh*-phrases, rather than their being base-generated in this position, the relevant structures should exhibit a sensitivity to syntactic principles governing movement operations. The *Wh*-island Constraint is inapplicable in Babine-Witsuwit'en since there is a restriction against having more than one *wh*-phrase per sentence. However, extraction out of sentential subjects is bad, as expected:

- (23) a. George mbī yudīlhye Lillian yilhggi?
George who 3s.know.3s Lillian 3s.surprised.3s

‘That George knows who surprised Lillian?’

- b. *Mbī_i George t_i yudīlhye Lillian yilhggi?

‘Who that George knows surprised Lillian?’

Extraction from coordinate structures is also unacceptable:

- (24) a. George tl’ah mbī hibīn’ē’n?
George and who 2s.saw.3p

‘You saw George and who?’

- b. *Mbī George tl’ah hibīn’ē’n?

‘Who did you see George and?’

We have evidence, then, that the fronted *wh*-phrases are moved to the fronted position rather than base-generated there, since they obey island constraints seen in many languages.¹¹

¹¹ Rice (1989) suggests that certain fronted *wh*-phrases in the related Athabaskan language Slave are base-generated in Spec of CP. This cannot be the case in Babine-Witsuwit'en.

3.1.6 Constraints on Optional *Wh*-Movement in Complex Questions

As noted above, in questions with more than one clause, the *wh*-phrase may occur in any of three positions—in situ, fronted in the embedded clause, or fronted in the matrix clause—and the optional movement may occur with both argument and adjunct *wh*-phrases.

(25) a. George [Lillian ndītnī booktah yik'iyelhdic] yilhnī?
George Lillian which book 3s.read(opt).3s 3s.told.3s

b. George [ndītnī booktah Lillian yik'iyelhdic] yilhnī?

c. Ndītnī booktah George [Lillian yik'iyelhdic] yilhnī?

‘Which book did George tell Lillian to read?’

(26) a. George [Pat nduwa c'ilhtiy lhc'itnī yunkēt] nītah?
George Pat why gun different 3s.bought.3s 3s.say

b. George [nduwa Pat c'ilhtiy lhc'itnī yunkēt] nītah?

c. Nduwa George [Pat c'ilhtiy lhc'itnī yunkēt] nītah?

‘Why did George say Pat bought a different gun?’¹²

In complex questions, the main clause subject typically occurs first while the main clause verb typically occurs sentence-finally, as shown in the examples above. However,

¹² Any of the sentences in (25) and (26) can also be *yes/no*-questions. For some speakers, the *yes/no*-question marker *lec* (or *tol* for some speakers) is required sentence-finally, but for others, no marker is required. The preferred method of *yes/no*-question formation for complex questions is a two-sentence structure like the one below:

(i) George nyudilhkit lec? Sharon nts'ēwh witsatayelh?
George 3s.ask.2s Q Sharon when 3s.will come
‘Did George ask you? When is Sharon coming?’

there are two other possibilities. The main subject and verb may occur adjacent to each other either sentence-initially as in (27) and (29) or sentence-finally as in (28) and (30):

- (27) George nītah [Pat nduwa c'ilhtiy lhc'itnī yunkēt]?
 George 3s.said Pat why gun different 3s.bought.3s
 'Did George say why Pat bought a different gun?'
 '*Why did George say Pat bought a different gun?' (George said it because someone asked him.)
- (28) [Pat nduwa c'ilhtiy lhc'itnī yunkēt] George nītah?
 Pat why gun different 3s.bought.3s George 3s.said
 'Did George say why Pat bought a different gun?'
 '*Why did George say Pat bought a different gun?'
- (29) George nītah [Mabel nts'ēn'a 'it'ēn k'its honye]?
 George 3s.said Mabel how work to 3s.went
 'Did George say how Mabel went to work?'
 '*How did George say Mabel went to work?' (George said it under his breath.)
- (30) [Mabel nts'ēn'a 'it'ēn k'its honye] George nītah?
 Mabel how work to 3s.went George 3s.said
 'Did George say how Mabel went to work?'
 '*How did George say Mabel went to work?'

In neither (27) nor (28) can *nduwa* 'why' take scope over the matrix verb, and in neither (29) nor (30) can *nts'ēn'a* 'how' take scope over the matrix verb. It may be the case that such constructions actually involve two independent clauses. For example, a better translation of (30) might be: Did George say so? How did Mabel go to work? However, only the more common method of question formation, in which the subject appears first and the verb last, will be discussed here.

Optional *wh*-movement also occurs in indirect questions,¹³ but in such sentences, the *wh*-phrase may not be fronted to the matrix clause:

(31) a. George [Lillian nditni tl'as yunt'iy'] udilhye.
George Lillian which dress 3s.like.3s 3s.knows

b. George [nditni tl'as Lillian yunt'iy'] udilhye.

c. *Nditni tl'as George [Lillian yunt'iy'] udilhye

'George knows which dress Lillian likes.'

(32) a. George [Sharon nduwa phone yilhtsiy] udilhye.
George Sharon why phone 3s.made.3s 3s. know

b. George [nduwa Sharon phone yilhtsiy] udilhye.

c. *Nduwa George [Sharon phone yilhtsiy] udilhye.

'George knows why Sharon called.'

The distribution of *wh*-words is the same for indirect questions headed by *ask* (*wonder* does not seem to exist in Babine-Witsuwit'en). However, fronting of the *wh*-word to the beginning of the embedded clause when the matrix verb is *wika c'odilhkit* 'ask' is less preferred for some speakers, indicated by the "?" preceding the (b) examples in (33) and

(34):

(33) a. George [Sharon ndu 'ilh'ikh] wika c'odilhkit.
George Sharon what 3s.does 3s.asked

b. (?)George [ndu Sharon 'ilh'ikh] wika c'odilhkit.

c. *Ndu George [Sharon 'ilh'ikh] wika c'odilhkit.

'George asked what Sharon is doing.'

¹³ By *indirect question* I mean a complex question with a matrix verb that takes an interrogative complement.

(34) a. Sharon [dus nts'ë holggīt] wika c'odilhkit.
Sharon cat where 3s.crawled 3s.asked

b. (?)Sharon [nts'ë dus holggīt] wika c'odilhkit.

c. *Nts'ë Sharon [dus holggīt] wika c'odilhkit.

'Sharon asked where the cat went (crawled).'

In addition to the restrictions resulting from choice of matrix verb, there appear to be some restrictions on the fronting of certain *wh*-words in complex questions for some speakers. This asymmetry is distinct, however, from that found in Slave, another Athabaskan language. Rice (1989), Saxon (1989), and Rochemont & Saxon (1993) conclude there is an adjunct/argument asymmetry in Slave, based on data such as the following. The argument *wh*-word *?ayii* 'what' in (35) may occur at the beginning of the matrix clauses, but the adjunct *judeni* 'where' in (36) may not:

(35) a. Raymond [Jane ?ayii náéhndí] kodihsho?
Raymond Jane what 3s.buy 3s.know

b. Raymond [?ayii [Jane e náéhndí]] kodihsho?
Raymond what Jane 3s.buy 3s.know

c. ?ayii Raymond [Jane e náéhndí] kodihsho?
what Raymond Jane 3s.buy 3s.know

'What does Raymond know Jane bought?'

(36) a. John [seya judeni rawozee] yudeli?
John 1s.son where 3s.hunt 3s.want

b. John [judeni [seya rawozee]] yudeli?
John where 1s.son 3s.hunt 3s.want

- c. *Judeni John [seya rawozee] yudełi?
 where John 1s.son 3s.hunt 3s.want

‘Where does John want my son to hunt?’

The conclusion for Slave appears to be that adjuncts may not front to matrix sentence-initial position, unlike in Babine-Witsuwit’*en* which, as shown, allows fronting of adjuncts. (See sentence (26).)

Note that the freedom of position illustrated in footnote 6 above with a non-*wh* adjunct does not extend into complex questions. That is, a non-*wh* adverb modifying the embedded clause may not precede the matrix subject:

- (37) a. George [dzitniits wik’ets Lillian ’iwhatayelh] ’itni.
 George this afternoon Lillian 3s.will arrive 3s.said

- b. *Dzitniits wik’ets George Lillian ’iwhatayelh ’itni.

‘George said Lillian will come this afternoon.’

Though there is no adjunct/argument asymmetry in Babine-Witsuwit’*en* like the one in Slave, there do appear to be some restrictions on the fronting of adjuncts. When certain *wh*-adjuncts (*nts’en’a* ‘how’, *nduwa* ‘why’, or *nts’ewh* ‘when’) originate in the lower clause, they may either occur in situ or at the beginning of the embedded clause, but they are sometimes less preferred at the beginning of the matrix clause. This is illustrated below for *nts’en’a* ‘how’:

- (38)a. George Lillian nts’en’a ’it’en k’its honye nītah?
 George Lillian how work to 3s.went 3s.said

- b. George nts’en’a_i Lillian *t*_i ’it’en k’its honye nītah?

c. ?Nts'ën'a_i George Lillian *t_i* 'it'ën k'its honye nītah?

'How did George say that Lillian went to work?'

When an adjunct *wh*-word such as *nts'ën'a* in (38) occurs fronted in the embedded clause, the question can be ambiguous. (38b) and (38c) can either question the manner in which Lillian went to work (for example, by car), or the manner in which George said it (for example, loudly). And it is only in such cases in which the *wh*-adjunct can logically modify both the embedded and matrix verbs that a fronted *wh*-phrase in the matrix clause is less acceptable. I return to an explanation of these scope facts and to an explanation for why (38c) is less preferred in Chapter 6.

Note also that when a *wh*-phrase can logically be associated with only the higher verb, it may not occur in the lowest position:

- (39) a. George nkēde' [Chris nyīz] nītah?
 George when Chris 3s.tall 3s.said
 'When did George say Chris is tall?'
 b. Nkēde' George [Chris nyīz] nītah?
 c. *George [Chris nkēde' nyīz] nītah?

We have seen in this section that Babine-Witsuwit'en exhibits optional *wh*-movement. *Wh*-phrases may either remain in situ or front to clause-initial position. I have shown that this fronting is neither the result of topicalization or focus, but that the raising is motivated by the need to check off a *wh*-feature in C. The movement has been

shown to obey constraints typical of *wh*-movement such as extraction from coordinate structures and extraction from sentential subjects. I return to a discussion and explanation of the facts in this section in chapters 4, 5, and 6.

3.2 ANCASH QUECHUA

Cole (1983) and Cole and Hermon (1994a) show that *wh*-movement in Ancash Quechua is optional. The *wh*-phrase may either appear in situ or at the beginning of the matrix clause, as shown below:

- (40) a. [José munan [María may-man aywanan-ta]]?
 Jose wants Maria where-to will go-ACC
- b. May-man_i [José munan [María e_i aywanan-ta]]?¹⁴
 where-to Jose wants Maria will-go-ACC

‘Where does Jose want Maria to go?’

- (41) a. María pi-wan-taq parlan?
 Maria who-with-Q speaks

- b. Pi-wan-taq María parlan.

‘Who is Maria speaking with?’

In complex questions, the *wh*-phrase can occur either in situ, fronted in the embedded clause, or fronted in the matrix clause:

¹⁴ Peter Cole (personal communication) says that the question morpheme *taq* may optionally occur after the *wh*-phrase when it is either in situ or fronted. It is, however, impossible in subordinate clauses.

(42) a. José munan [María may-man aywa-na-n-ta]?
 Jose wants Maria where-to go-nominalizer-3-accusative

b. José munan [may-man María aywa-na-n-ta]?

c. May-man José munan [may-man María aywa-na-n-ta]?

‘Where does Jose want Maria to go?’

Peter Cole (personal communication) believes that movement is completely optional in Ancash Quechua. The position of the *wh*-phrase does not affect the meaning at all and pragmatic context does not appear to affect which version is used. All versions of (49), for example, are interchangeable in discourse and are equally acceptable. Ancash Quechua, then, is another candidate for optional *wh*-movement. Most of my discussion will focus on Babine-Witsuwit'en's optional *wh*-movement, though it appears that extension of the analysis to Ancash Quechua is possible.

3.3 MALAY

Cole and Hermon (1994b) show that *wh*-phrases in Malay may also occur either in situ or fronted, as shown below:

(43) a. Ali memberitahu kamu tadi [Fatimah baca apa]?
 Ali informed you just now Fatimah read what
 ‘What did Ali tell you just now Fatimah was reading?’

b. Ali memberitahu kamu tadi [apa_i yang Fatimah baca t_i]?
 Ali informed you now what that Fatimah read

c. Apa_i (yang) Ali memberitahu kamu tadi [Fatimah baca t_i]?¹⁵

¹⁵ This example is not included in Cole & Hermon (1994), though I assume it is grammatical, based on the examples they do give, including the following:

(i) Siapa (yang) [Bill harap [yang t_i akan membeli baju untuknya]]?

Kader (1976) argues that *wh*-questions with *yang* ‘that’ in Malay do not involve syntactic *wh*-movement, but are instances of clefts or focus movement, with a structure like the following (from Cole and Hermon, 1994b):

(44) [It is who_i [OP_i that Bill hopes [t_i will buy clothes for him]]]

Cheng (1991) also argues that fronting in the related language Bahasa Indonesia is the result of a clefting operation, and is not fronting to Spec of CP. However, in Malay the presence of *yang* is optional. Thus, Cole and Hermon (1994b) assume that questions without *yang* are not clefts, as Cheng (1991) proposed for Bahasa Indonesia, but are instances of syntactic *wh*-movement. Cole (personal communication) believes that *wh*-movement in Malay is completely optional. The *wh*-phrase may stay in situ, move to the beginning of the embedded clause, or move to the beginning of the matrix clause and the resulting meanings are all identical. Malay, then, is another candidate, along with Babine-Witsuwit’*en* and Ancash Quechua, for optional *wh*-movement. My analysis in the following chapters will focus on Babine-Witsuwit’*en* because it is the language I am most familiar with and have the most data for. However, it appears as if Malay and Ancash Quechua function very similarly, and the analysis may likely be extended to account for their behavior as well. I leave that for future research.

who that Bill hope that will buy clothes for him
 ‘Who does Bill hope will buy clothes for him?’

3.4 SUMMARY AND CONCLUSIONS

In this chapter, I have argued that optional *wh*-movement exists in Babine-Witsuwit'en, and I have illustrated that *wh*-phrases but not non-*wh*-phrases may front to clause-initial position. This fronting does not appear to be the result of any other kind of fronting operation such as topicalization, focus, or clefting. That is, *wh*-features in C rather than topicalization or focus features motivate the fronting in Babine-Witsuwit'en. In addition, Babine-Witsuwit'en exhibits island violations characteristic of movement, suggesting the *wh*-elements are not base-generated in the fronted positions. I conclude that *wh*-movement exists in the language, but is optional.

I lack detailed data on Ancash Quechua and Malay, but the data I do have indicate that these languages behave more like Babine-Witsuwit'en than like the languages examined in Chapter 2. They merit much further study, but I suggest here that they too have optional *wh*-movement.

CHAPTER 4: EXPLAINING OPTIONAL *WH*-MOVEMENT

4.0 OVERVIEW

In the last chapter I gave evidence that Babine-Witsuwit'en exhibits optional *wh*-movement, that is, movement not motivated by focus or topicalization features. The *wh*-phrase may appear in situ or fronted with no apparent differences in meaning and no differences in pragmatic context, and extraction of the *wh*-phrases exhibits island constraints typical of movement. In this chapter, I account for this optional *wh*-movement through optional selection of C.

In 4.1, I return to Poole's proposal explaining optionality, and argue that the data may be explained instead by Shortest Move. In 4.2, I look at arguments for and against LF *wh*-movement and determine that there is no LF *wh*-movement. In 4.3, I argue that optional selection of C can account for Babine-Witsuwit'en's optional *wh*-movement. In 4.4, I argue that scope is marked from a projection distinct from CP in that language. In 4.5, I propose a restriction on feature clash in Babine-Witsuwit'en. And in 4.6, I discuss its formation of indirect questions.

4.1 POOLE'S OPTIONALITY EXPLAINED BY SHORTEST MOVE

In this section, I return to the proposal introduced in Chapter 1 of Poole (1990), in which he gives an account of certain cases of optionality, and I argue that the data can be explained by appealing to Shortest Move.

In Chomsky's recent work, *Shortest Move* takes over much of the work that had been done by Subadjacency, the Head Movement Constraint, and Relativized Minimality in earlier versions of Principles and Parameters theory. *Shortest Move* states that a constituent must move into the first position of the right kind up from its original position. Chomsky (1995) incorporates *Shortest Move* into the Minimal Link Condition which he then incorporates into the definition of Attract F, which says "K attracts F if F is the closest feature that can enter into a checking relation with a sublabel of K" (297).

In Chapter 1, I mentioned Poole's (1994) view of optional movement, which entails that economy conditions recognize a difference between Move- α and Form Chain. He argues that instances of optional movement leave a trace, but fail to form a chain, while obligatory movement leaves a trace and forms a chain. This distinction between optional (non-chain forming) and obligatory (chain-forming) movement is captured, he argues, by the distinction between Move- α and Form Chain within the Minimalist Program. Poole claims that any operation that consists of only Move- α , with no instances of Form-Chain, is not counted by Economy of Derivation and is, therefore, costless. This permits a derivation in which some element has been moved to be as economical as a derivation in which the element was left in situ. Poole argues that Stylistic Fronting in Icelandic and Semantically Vacuous A'-Movement in Japanese are both instances of Move- α without Form Chain, making such optional movements in these languages legitimate and costless.

Poole's primary reason for proposing that Form Chain rather than Move- α is the operation counted by Economy of Derivation comes from sentences which have

traditionally been assumed to involve successive cyclic movement. (1), in which the *wh*-phrase originates in the lower of two clauses and may land in the intermediate CP on its way to the matrix, is an example:

(1) Why do you think Bill hit Barney?

Poole assumes two possible derivations for (1). One derivation, shown in (2a), involves one-fell-swoop movement, and one involves successive cyclic movement, shown in (2b):

(2) a. [CP Why_i do [IP you think [CP [IP Bill hit Barney t_i]]]]

b. [CP Why_i do [IP you think [CP t'_i [IP Bill hit Barney t_i]]]]

Poole reasons that if Economy of Derivation counted applications of Move- α , (2a) would be the preferred derivation since it has one application of Move- α while (2b) has two applications of Move- α . However, under pre-Minimalist assumptions, (2a) should be ruled out because the trace is not antecedent-governed and the derivation has violated the ECP.

I also propose that (2a) is the preferred derivation, but for different reasons. As mentioned above, one-fell-swoop movement is allowed as long as it is the shortest move available. Under Minimalism, positions are not projected unless they are required, so a Specifier of CP position is not present in the embedded clause in (2). These assumptions allow us to avoid three undesirable steps. We can avoid having to stipulate, as Poole does, that Economy of Derivation counts Form Chain rather than Move- α , we can avoid making a distinction between Form Chain and Move- α , and we can avoid having to refer to antecedent government—government being eliminated in Minimalism. Thus, simply

assuming Shortest Move is preferable to Poole's stipulations about how to account for certain instances of optionality.

Shortest Move does not do all the work, however. The data in Chapter 3 cannot be accounted for by Shortest Move. In the next section, I introduce some background assumptions before introducing my proposal for how to account for optional *wh*-movement in section 4.3.

4.2 ARGUMENTS FOR AND AGAINST LF *WH*-MOVEMENT

Huang (1982) first proposed that *wh*-words in in-situ languages raise at LF. This proposal allowed for an explanation of scope and selection facts in Chinese and allowed for a unified cross-linguistic account of the behavior of *wh*-words.

Aoun & Li (1993b), on the other hand, proposed that in neither English nor Chinese do *wh*-elements need to raise at LF. Instead, they are coindexed and interpreted with respect to a question operator.

In the following two sections, I briefly summarize evidence both in favor of LF movement of *wh*-phrases and against it, and will come down on the side of there being no LF *wh*-movement.

4.2.1 Arguments for LF *Wh*-Movement

In languages such as Mandarin Chinese, *wh*-elements are not moved overtly to the Spec of CP. Thus, we have sentences like the following from Aoun & Li (1993b), with the *wh*-word in situ:

- (3) Zhangsan kandao shenme?
 Zhangsan saw what
 ‘What did Zhangsan see?’
- (4) Zhangsan zai na kandao ni?
 Zhangsan at where saw you
 ‘Where did Zhangsan see you?’

Huang (1982) proposed that *wh*-elements in situ raise at LF to Spec of CP. Huang’s evidence comes from selectional restrictions, weak crossover effects, locality conditions, and scope. For example, in English it is assumed that the scope of a *wh*-phrase is determined by overtly moving the *wh*-phrase to the Spec of CP. The selectional requirements of each verb are met at S-structure when the verb selects either a [+wh] or [-wh] CP head, resulting in pairs like the following:

- (5) Bea wonders what Evelyn sees.
- (6) What does Bea think Evelyn sees?

Wonder selects a [+wh] complement, so *what* appears at the beginning of the embedded clause. *Think*, however, selects a [-wh] complement, so *what* fronts to the beginning of the matrix clause.¹

¹ I return to a discussion of how subcategorization works in a Minimalist framework in section 4.8.

Huang points out that Chinese has the same scope interpretations, although the *wh*-phrases are in situ:

- (7) Ta xiang-zhidao ni maile shenme.
 he wonder you bought what
 ‘He wonders what you bought.’
- (8) Ta renwei ni maile shenme?
 he think you bought what
 ‘What does he think you bought?’

He suggests that the interpretations of (7) and (8) are derived by the raising of the *wh*-phrases at LF to Spec of CP. Thus, the LF representations of the Chinese sentences look very much like the English representations at S-structure. The parametric difference then comes down to the level at which selectional restrictions are met: at S-structure in English, at LF in Chinese.

Weak crossover effects have also been used as evidence for LF raising of *wh*-phrases. The examples below from English and Chinese are from Aoun & Li (1993b):

- (9) a. *What_i does his_i mother like x_i?
 b. *His_i mother likes everyone_i.
- (10) a. *Xihuan ta_i de ren kandao shei_i?
 like he DE man saw who
 ‘Who did the person that likes him see?’
 b. *Xihuan e_i de ren kandao shei_i?
 like DE man saw who
 ‘Who did the person that likes (him) see?’

The Chinese examples in (10) have the weak crossover effect just as the English examples in (9) do. Aoun & Li’s proposal is that (10a) and (10b) are ruled out at LF because the *wh*-phrases have raised, resulting in a violation of the Leftness Condition

(Chomsky 1977b, Higginbotham 1980) or the Bijection Principle (Koopman & Sportiche 1982). The LF representations of (10) are given below in (11):

- (11) a. [_{CP} shei_i [_{IP} [_{NP} [_{CP} xihuan ta_i de] ren] kandao x_i]]
 who like he DE man saw
- b. [_{CP} shei_i [_{IP} [_{NP} [_{CP} xihuan e_i de] ren] kandao x_i]]
 who like DE man saw

Scope interaction between *wh*-operators and quantifier phrases has been offered as further evidence for LF raising of *wh*-phrases by May (1985) and Aoun & Li (1989, 1991, 1993a). Consider the contrast between the sentences below (from Aoun & Li 1993b):

- (12) Who saw everything?
 (13) What did everyone see?

(13) is ambiguous, while (12) is unambiguous. This contrast is explained by Aoun & Li (1993a) by the *Minimal Binding Requirement* and *The Scope Principle*, which are given below:

- (14) **The MBR**
 A variable must be bound by the most local potential A'-binder.
 (A qualifies as a "potential" A'-binder for B iff A c-commands B and the coindexing of (A, B) would not violate the binding principles.)
- (15) **The Scope Principle**
 An operator A may have scope over an operator B iff A c-commands B or an A'-element in the chain headed by B.

The LF representations of (12) and (13) are shown below in (16) and (17) respectively:

- (16) [_{CP} who_i [_{IP} t_i [_{VP} everything_j [_{VP} saw t_j]]]]]
- (17) [_{CP} what_j [_{IP} everyone_i [_{IP} t_i [_{VP} t_j [_{VP} see t_j]]]]]]]

According to the Scope Principle, (16) yields the reading in which the *wh*-operator alone has wide scope. On the other hand, (17) allows either the *wh*-operator or the QP to have wide scope, because the *wh*-operator c-commands the QP and the QP c-commands the intermediate trace bound by the *wh*-operator at LF.

It has also been assumed that in-situ *wh*-elements in English multiple questions raise at LF. So in a sentence like the following, *what* raises at LF to the Spec of CP in which *who* is already located:

(18) Who wants what? → LF: [CP Who_i what_j [IP t_i [VP t_i wants t_j]]]]

Hence, the LF raising of in-situ *wh*-phrases seems to provide a unified account of in-situ *wh*-phrases across languages.

4.2.2 Arguments Against LF *Wh*-Movement

Aoun & Li (1993b) argue that there is no LF movement of *wh*-elements. They suggest instead that the *wh*-phrases remain in place at LF and are coindexed with a higher operator, such as the question operator proposed by Katz & Postal (1964), Baker (1970), van Riemsdijk & Williams (1981), Pesetsky (1987), Nishigauchi (1991) and Benmamoun (1991a, b). Because there is an operator in Spec of CP which is linked to the *wh*-phrase in situ, Huang's (1982) original evidence for LF *wh*-movement discussed above may be maintained, and the effects of the *wh*-phrase not actually moving at LF are not substantive.

Most of Aoun & Li's evidence for in-situ *wh*-phrases remaining in place throughout the derivation comes from the interaction of *only* with *wh*-in-situ. They argue

that moving a *wh*-phrase at LF will result in *only* being identified with the trace of the *wh*-phrase. This interpretation is ruled out, however, by the Principle of Lexical Association (Tancredi 1990) which is given below:

(19) Principle of Lexical Association (PLA)

An operator like *only* must be associated with a lexical constituent in its c-command domain.

The PLA accounts for the fact that postverbal objects associated with *only* cannot be moved overtly. For example, in (20), *who* cannot move when *only* is present:

- (20) a. Who_i does she know t_i?
 b. *Who_i does she only know t_i?

And an example from Chinese shows that an object cannot be topicalized if *only* is present:

- (21) *Mali_i, ta zhi xihuan t_i.
 Mary, he only likes

while the sentence is fine without *only*.

Aoun & Li then demonstrate that the PLA applies at LF as well. (22a) is ambiguous, but (22b) is not.

- (22) a. Someone loves every boy in the room.
 b. Someone only loves every boy in the room.
 (instead of loving everyone, boy and girl, in the room)

They argue that the lack of ambiguity in (22b) can be accounted for by the PLA—the object quantifier cannot cross *only* and adjoin to a position that c-commands the other quantifier. They also show that similar facts exist in Chinese.

These facts show that the interaction of *only* with QPs and *wh*-phrases can be accounted for if it is assumed that *wh*-phrases do not raise to Spec of CP at LF.

Hornstein (1995) tries to eliminate all LF A'-movement within a Minimalist framework. He focuses on eliminating quantifier raising, but also suggests eliminating LF *wh*-movement. He sees two reasons for eliminating QR. One is that QR has generally been treated as an adjunction process and, in his view, adjunction operations should be dispensed with completely, QR among them. Secondly, he notes that it is unlikely that QR adjunction operations are morphologically driven, as is required in Minimalism. Hornstein points out that both May (1985) and Aoun & Li (1993a) allow QR to adjoin a quantifier phrase to any XP. Thus, there is no specific landing site and no morphological trigger. Hornstein does not deny that abstract morphological Q-features can be invented to accommodate QR, but such features “are too easy to postulate and go against the grain of Minimalist concerns” (154). In this vein, he reanalyzes quantifier scope phenomena in Minimalist terms without invoking any form of adjunction or A'-movement, and instead treats quantifier scope as a property of A-chains. In multi-membered chains, he suggests, any member can be deleted and all but one must be. For example, in the ambiguous sentence below, either *who* or *every man* can take wide scope:

(23) Who does every man love?

Hornstein's LF structure for (23) is given below:

(24) $[_{CP} \text{who}_i [_{AgrS} \text{every man}_j [t_j [\text{love} [pro_j t_i]]]]]$

He argues that the copy left by moving the *wh*-word to Spec of CP can be interpreted as having the structure with an implicitly (bindable) pronoun. At LF, the copies must delete, leaving just one. So if the copy in Spec of CP is deleted, then *every man* has wide scope. If the in-situ copy is deleted, this results in the *wh*-word having wide scope.

The elimination of QR, he argues, allows a theory that ties together quantifier scope effects with binding, ACD structures, and scope of negation, and is more in line with Minimalist thinking.

Also, recall that in Minimalism all movement must be motivated. But if we assume LF movement of in-situ *wh*-phrases in questions with multiple *wh*-phrases in English, what could motivate the movement? The first *wh*-word has already raised to check the feature off, so no feature remains, and there is therefore no motivation for a second *wh*-element to raise.

Chomsky (1995) also seems to assume no LF *wh*-movement, suggesting that *wh*-in-situ elements make use of “something like unselective binding”(291) in determining their interpretations, as I have suggested.

Based on the evidence in this section, I will assume that there is no LF-raising of *wh*-elements. *Wh*-phrases either raise overtly to check off a [+*wh*]-feature in C, or they remain in situ and are coindexed with an operator in a higher position. Assuming no LF movement of *wh*-elements is much more in line with Minimalist assumptions, as suggested above.

With these assumptions in hand, I introduce a proposal in the next section to account for optional *wh*-movement.

4.3 OPTIONAL SELECTION OF C

Following up on a suggestion by Heles Contreras (personal communication), I propose that the optionality in *wh*-questions arises at the point of selection from the lexicon, rather than assuming the unsatisfying solution that the same *wh*-feature can either be both strong and weak within any given language. If we agree with Chomsky (1993) that feature strength is at the root of cross-linguistic variation, allowing variation *within* a language loses any explanatory value.

Optional selection of lexical items falls out naturally in the Minimalist Program. In addition to lexical items, the lexicon also contains, of course, functional categories, such as C. Thus, it is in the lexicon, I believe, (or more precisely, in the array selected from the lexicon, the “numeration”) where we are most likely to find optionality. Any item may be selected or not. Chomsky says that “there is no meaningful question as to why one numeration is formed rather than another—or rather than none, so that we have silence” (227). He likens this question to asking the question of why some integers are added together rather than others when doing addition. Or proposing that a theory of the mechanisms of vision explain why someone chooses to look at a sunset. The problem of choice of action is real, he says, but largely mysterious. It is not our task here to investigate lexical choice. So let’s assume that an interrogative C can either be selected or not for any particular derivation in some languages. If C appears in the numeration,

then it will have a *wh*-feature, prompting *wh*-movement. If *C* does not appear in the numeration, then no *wh*-movement takes place. Which items are optional varies across languages, however. In most languages, *C* is not optional, but other items may be.

This proposal accords well with Minimalist assumptions. In Chapter 3, I showed that two nonidentical sentences may have identical interpretations in Babine-Witsuwit'en. However, this situation should not arise under Minimalism because only the most economical derivation of an array of items succeeds. It may be explained, however, because of the fact that the arrays for the two sentences in an optional *wh*-movement language such as Babine-Witsuwit'en are not identical. One contains *C*, the other does not, so the derivations being compared are nonidentical and each succeeds because it is the most economical derivation for that particular array.

There are clearly other cases of optional choice, though these work a bit differently. For instance, Chapter 2 introduced the optional features TOP and FOC, which are selected if an element in a sentence is topicalized or focused. Where such features come into play, however, there is a difference in the meaning of the sentence with no fronted element and the sentence with the fronted element. This is because the sentence with a topicalized element, for instance, contains a topicalization feature in a TopP which has been checked off by raising a word or phrase which carries a Top feature. The topicalization feature of the lexical item(s) survives to LF where it is interpreted, and the meanings of the two sentences are, therefore, very different—one is topicalized, the other is not. However, in the languages discussed in this chapter we will see that the meaning of a sentence with an in-situ *wh*-phrase is identical to that with a fronted *wh*-

phrase. When a C is selected, a *wh*-phrase raises to check off its –Interpretable *wh*-feature. Contrary to sentence pairs containing optional topicalization or focus features, however, there is no meaning difference in these sentence pairs. This is due to the fact that a +Interpretable *wh*-feature is present on the *wh*-phrase whether the *wh*-phrase is in-situ or fronted. It is in this way that *wh*-questions are different from, say, sentences involving topicalization. *Wh*-features are inherent features of *wh*-phrases, while topicalization features are not inherent features of a particular type of lexical item.² Thus, interrogative Cs in Babine-Witsuwit'en motivate movement but do not affect interpretation.

We must, of course, make a distinction here between two kinds of C: an interrogative C and a declarative C. With Chomsky (1995), I assume that declarative C is listed in the lexicon and can be phonologically realized as *that*. I also assume that interrogative C is a distinct lexical entry. In English, it can appear as the overt lexical items *whether* and *if*, or simply as the feature [wh]. In what follows, when I refer to C being selected from the lexicon, I refer to an interrogative C, though I return to noninterrogative Cs in Chapter 5.

² Of course, some languages have topic (and focus) markers which appear whenever another lexical item is topicalized, but these act like overt instantiations of the optional topicalization feature.

Let's examine how optional selection of C can explain the facts in Babine-Witsuwit'en. As shown in Chapter 3, the *wh*-phrase in the following examples can occur in situ, fronted in the embedded clause, or fronted in the matrix clause:

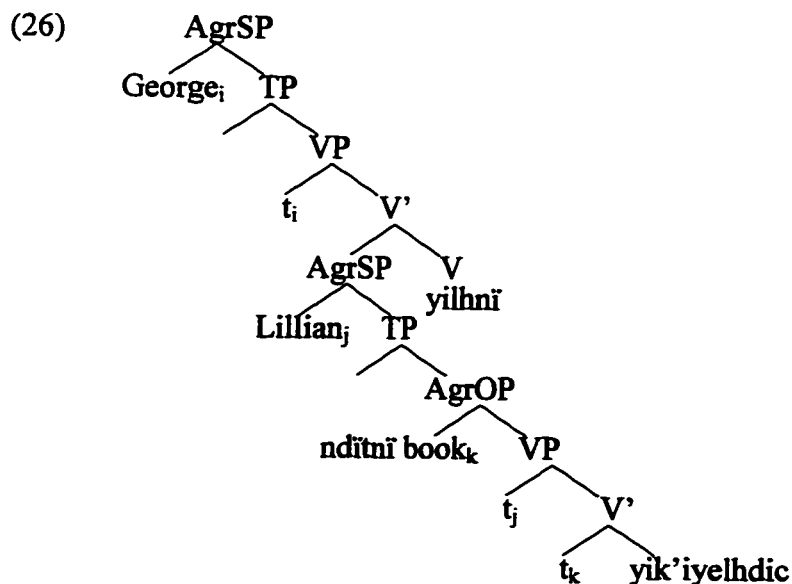
(25) a. George [Lillian nditnī book yik'iyelhdic] yilhnī?
George Lillian which book 3s.read(opt).3s 3s.told.3s

b. George [nditnī book Lillian yik'iyelhdic] yilhnī?

c. Nditnī book George [Lillian yik'iyelhdic] yilhnī?

'Which book did George tell Lillian to read?'³

If no C is selected, (25a) is the result, as the tree below illustrates:⁴

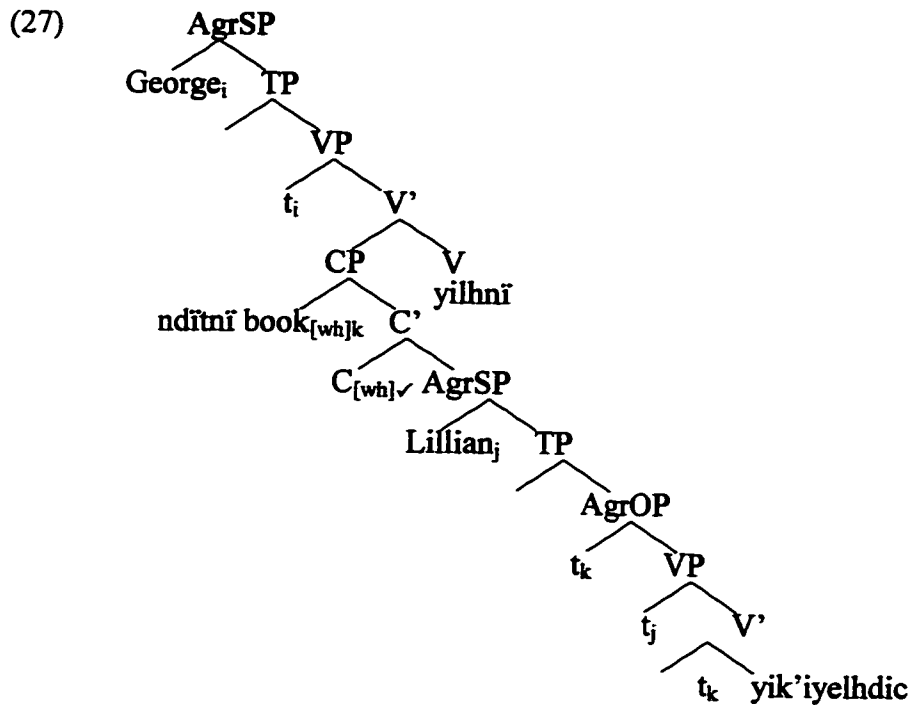


If a C is selected, either (25b) or (25c) results. In both cases, the *wh*-phrase raises to check off the strong *wh*-feature in C, but C can either be in the matrix or embedded

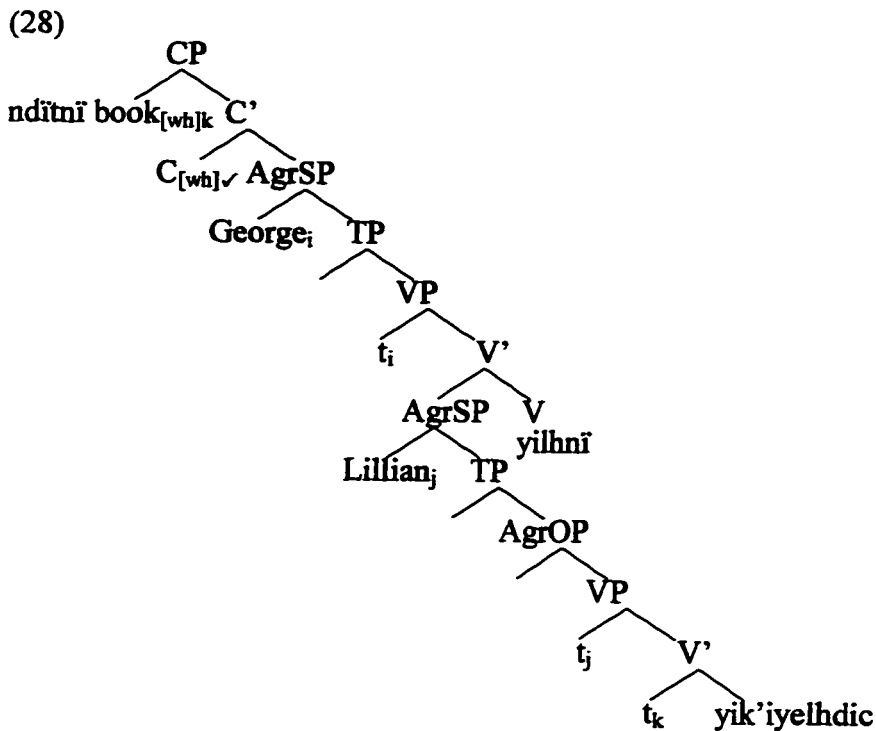
³ There are no infinitives in Babine-Witsuwit'en. *Yilhnī* in (25) can mean 'he/she said to him/her' as well as 'he/she told him/her'. The verb in the embedded clause is fully inflected and 'Lillian' is the subject of the embedded clause. Thus, the structure of the sentence is quite different from that of the English translation.

⁴ Only the relevant movement is shown. Case-checking of the subject and object is overt in Babine-Witsuwit'en, with the DPs raising to AgrSP and AgrOP respectively. The verb also raises through AgrO', T, and AgrS', checking off features, as assumed in Chomsky (1993).

clause. The trees corresponding to these two sentences are given below. In (27), the tree for (25b), C ends up in the embedded clause via Merge, and *nditni book* raises to check off the *wh*-feature:



And in (28), the tree for (25c), C ends up in the matrix clause via Merge, and *nditni book* raises to check off the *wh*-feature:



The initial proposal seems straightforward enough. In the following sections we examine some of the details.

4.4 THE ROLE OF C AND A QUESTION PROJECTION

In this section I examine the role of C in Babine-Witsuwit'en and propose a projection distinct from CP where features relevant for clausal typing and scope appear.

As we saw in Chapter 3, the overt position of the *wh*-phrase does not appear to determine scope in Babine-Witsuwit'en, Ancash Quechua, or Malay. Since the meaning is the same regardless of the position of the *wh*-phrase, the surface position of the *wh*-phrase cannot be the determiner of scope. The presence of C cannot be the determiner of scope either since we are assuming that C is not present when the *wh*-phrase is in situ.

These facts regarding scope fall out if we assume a scope marker/question projection, distinct from C, which is always present in a question. As I argued above, following Aoun & Li (1993b), the *wh*-elements are coindexed and interpreted with respect to a question operator in a higher position, and they receive a bound variable reading by virtue of the fact that they are bound by this operator in an A'-position. Proposals by Katz & Postal (1964), Baker (1970), and Pesetsky (1987) also suggest a question operator, though for them, it is located in CP.

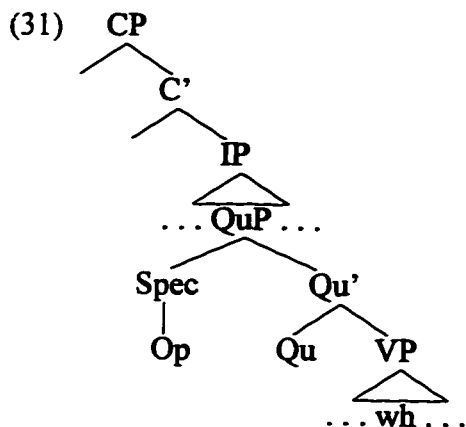
The following examples from Aoun & Li show a question morpheme in Chinese (29) and Japanese (30):

(29) Dare-ga ki-masu ka?
 who-NOM come-POLITE Q
 'Who will come?'

(30) Shei lai ne?
 who come Q
 'Who is coming?'

Presumably all languages have similar question licensers, though they may not be overt. Aoun & Li argue that these question markers are located in a question projection, QP. In their analysis of Chinese questions, they assume that the question projection occurs within the clause whose Spec position is filled by a question operator and whose head is filled by a question licenser (such as the overt marker *ka* in Japanese, *ne* in Chinese, or

the abstract marker *Qu* in a language like English). Aoun & Li's structure containing a QP is given below:⁵



The features in this *QuP* serve to type a sentence. Katz & Postal (1964) were the first to propose an element that serves to type a sentence. They proposed that there is a *Q* morpheme, which types the sentence as a question, and a *wh*-morpheme, which “specifies the element or elements of the sentence that are ‘questioned’” (89). Aoun & Li adopt this general idea and suggest that their *QuP* is instead an *XP* that can hold features producing other types of sentences, including indicatives, suggestions, etc., as well as questions. So, the head of *XP* can have any of the four combinations of the features $[\pm Q]$, $[\pm wh]$. If the features are $[+Q, +wh]$, a *wh*-question will be generated and a question operator will occur in the *Spec* position of this projection. Aoun & Li propose that the operator then moves to the *Spec* of *Comp* inside or outside the clause. $[+Q, -wh]$ will result in *yes/no*-questions, $[-Q, -wh]$ will result in statements, and $[-Q, +wh]$ will result in *wh*-

⁵ Their evidence that the *QuP/XP* projection is located between *IP* and *VP* comes from island effects in Chinese. Kim (1989, 1991) and Benmamoun (1991a,b) also propose *QuP/XP* projections. Kim suggests that Korean question morphemes originate within *IP*. The position of the *XP* no doubt varies across languages.

exclamatory statements (such as *How nice it is today!*). Chomsky and Lasnik (1977) also suggest that each clause must be identified as \pm WH, marking it as a declarative or relative clause ($-wh$) or direct or indirect question ($+wh$).

I think the essence of these proposals is basically correct. There is some evidence which suggests the presence of a projection distinct from CP which marks scope and houses question morphemes. Features that type the sentence are also present here. We now need to investigate whether there is additional evidence for the separation of CP and QuP.

4.5 SEPARATING *WH*-MOVEMENT AND SCOPE

We have established that there is no LF *wh*-movement. Instead, a question operator is linked to a *wh*-phrase. I have also suggested that this scope operator is in its own projection, distinct from CP, following Aoun & Li (1993b). However, what evidence is there for a projection distinct from CP which marks scope and which is the position for features relevant to question interpretations? There are two kinds of evidence. First, in languages which exhibit *wh*-movement, the position of the topmost *wh*-element is not always in the scope-taking position. McDaniel (1989) shows that in German and Romani, two languages with overt *wh*-movement, the *wh*-phrase can sometimes appear in a position lower than the position from which it takes scope, and there is a “scope-marker” (*was* in German, *so* in Romani) in the scope-taking position. This is known as partial *wh*-movement. Data from McDaniel (1989) is shown below in (32) and (33), first from German and then from Romani:

- (32) Was_i glaubt [_{IP} Hans [_{CP} [mit wem]_i [_{IP} Jakob jetzt *t*_i spricht]]]?
 ‘With whom does Hans believe Jacob is now talking?’
- (33) So_i [[_{IP} o Demiri mislinol [_{CP} [kas]_i [_{IP} i Arifa dikhĭa *t*_i]]]?
 ‘Whom does Demir think Arifa saw?’

She concludes, then, that scope assignment and *wh*-movement are independent in at least two languages which exhibit overt *wh*-movement.

Also, Reis & Rosengren (1992) argue that there is *wh*-movement in non-interrogative imperative sentences in German. Consider their example below:

- (34) Wen sag mir doch mal gleich daß Peter gestern besucht hat.
 whom tell me modal modal right away that Peter yesterday visited has
 ‘Tell me right away who Peter visited yesterday.’

The *wh*-word *wen* ‘whom’ does not take scope over the matrix clause. They conclude from examples like this one that scope assignment should be dissociated from *wh*-movement.

The second kind of evidence that there is a projection distinct from C which is where scope is marked follows from the discussion above. That is, assuming no LF *wh*-movement means that *wh*-elements in in-situ languages are obviously not in scope-taking positions either overtly or covertly. And we saw in Babine-Witsuwit’*en*, and will see again in the next section, that *wh*-phrases fronted in the embedded clause in complex questions take matrix scope. I have argued that the presence of C is optional, so if a language has no C, then there must be another projection in which the operator is located.

Based on such evidence, it seems clear that scope assignment and *wh*-movement are distinct operations and we should not presume that the position of the topmost *wh*-

phrase is the scope-marking position, even in *wh*-movement languages. I would like to suggest that each sentence contains a QuP, which contains elements that mark scope and sentence type.⁶ The variation across languages with respect to the position of *wh*-phrases is then a result of the presence or absence of interrogative C, which is distinct from the QuP found in many languages.

4.6 THE NATURE OF QUP/TYP

As suggested above, every sentence must be typed as either a declarative, a *wh*-question, a *yes/no*-question, or an exclamatory statement, (though other types, such as imperatives, exist in some languages.) This typing is accomplished by features in the head of QuP, which I now rename ‘TyP’ for Typing Phrase. As mentioned above, Aoun & Li (1993b) suggest that there are binary Q- and *wh*-features which make up the four sentence types. The purpose of the features in TyP is to type a clause, while the purpose of the operator in Spec of TyP is to mark scope. Some languages, such as German and Romani, have overt scope markers in the head position of TyP.⁷ Let’s consider here some of the possibilities in Babine-Witsuwit’en, as far as its Q- and *wh*-features are concerned.

The feature values in TyP for Babine-Witsuwit’en sentence types are given in table (35):⁸

⁶ Not every language has a QuP, however. I return to a discussion of parametric variation in Chapter 5.

⁷ In Chapter 5 I return to a discussion of these features in English and other languages.

⁸ I do not know the structure of exclamations in Babine-Witsuwit’en, so I do not include them here. Perhaps they contain a *wh*-feature, but no Q feature, as is the case in English, thus completing the paradigm.

(35)

sentence type	typing features
<i>wh</i> -question	Q, <i>wh</i>
<i>yes/no</i> -question	Q
declarative	no features

Q-features remain at LF and allow the sentence to be interpreted as a question.

The *wh*-features in the head position in Ty project an operator through Spec-head agreement, which then links to the *wh*-phrase(s) and marks scope.^{9, 10}

Let's consider some derivations in Babine-Witsuwit'en. If the *wh*-phrase stays in situ, the derivation parallels that in Chinese. That is, there is no CP present, but there is a typing phrase which houses the operator (in questions) and the typing features in the head.

The tree in (37) for (36a) illustrates the roles of these features:¹¹

(36) a. George [Lillian ndu yunkët] udilhye?
George Lillian what 3s.bought.3s 3s. know

b. George [ndu Lillian yunkët] udilhye?

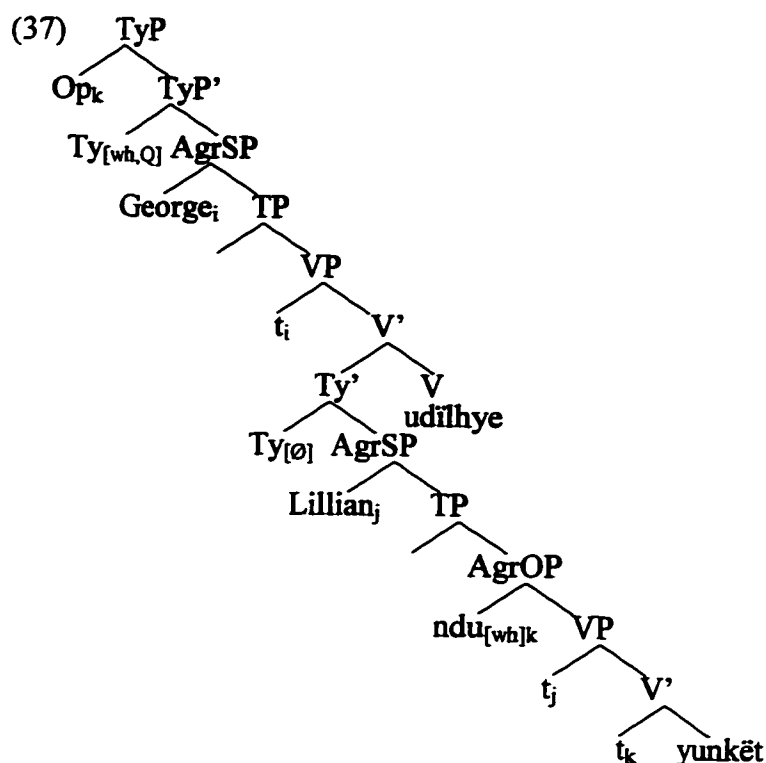
c. Ndu George [Lillian yunkët] udilhye?

'What does George know (that) Lillian bought?

⁹ Aoun & Li (1993b) suggest that overt Qu-markers, such as those in Japanese and Chinese, are a result of Spec-head agreement. The presence of the operator in Spec, they suggest, triggers the occurrence of an agreement marker in Comp. I believe the opposite is true. That is, the head of TyP is selected from the lexicon, carrying either an overt marker or the feature bundle indicating the type of question. If *wh*-question features are present ([Q,wh]), then a Spec position is projected and an operator appears there.

¹⁰ Presumably, the *wh*-feature in C also projects an operator into its Specifier position, thereby creating the position. This operator is replaced by the *wh*-phrase itself when it raises. This procedure is discussed for English in section 5.1.

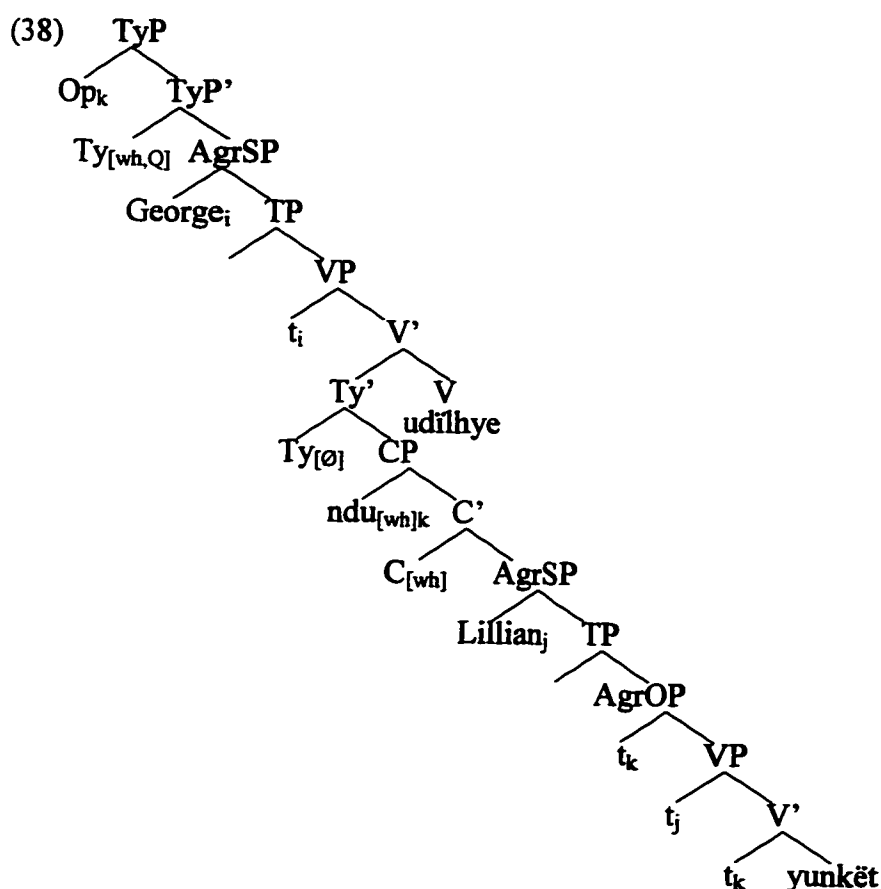
¹¹ As with all of the tree structures given here, the situation is idealized. Under derivationalist Minimalist assumptions overt movement is interleaved with structure-building. Thus, no such structure exists at any point in the derivation. Also, some of the necessary movements are not indicated here.



+Interpretable features in the head Ty type each clause.¹² According to Chomsky (1995), +Interpretable features may remain at LF, while –Interpretable features must be eliminated for convergence. This distinction is exactly the one we find between TyPs and CPs. A TyP like the one in the higher clause in (37) contains +Interpretable features that need not be checked and may thus survive to LF where they are interpreted. The *wh*-feature in the upper Ty in the matrix clause projects an operator into the Spec TyP position. This operator then links to the *wh*-word *ndu* ‘what’, which has a *wh*-feature, in the in-situ position, marking the scope of *ndu*. The *wh*-feature in a C, however, is a –Interpretable feature that must be checked before LF in order to insure convergence.

¹² I have suggested that every clause has a Typing Phrase. *Udilhye* ‘3s.knows’, being a verb that takes a proposition/sentence (as well as an interrogative), may occur with a clause headed by a declarative Ty head; that is, one with no features ([\emptyset]). I return to how subcategorization is realized in 4.8.1.

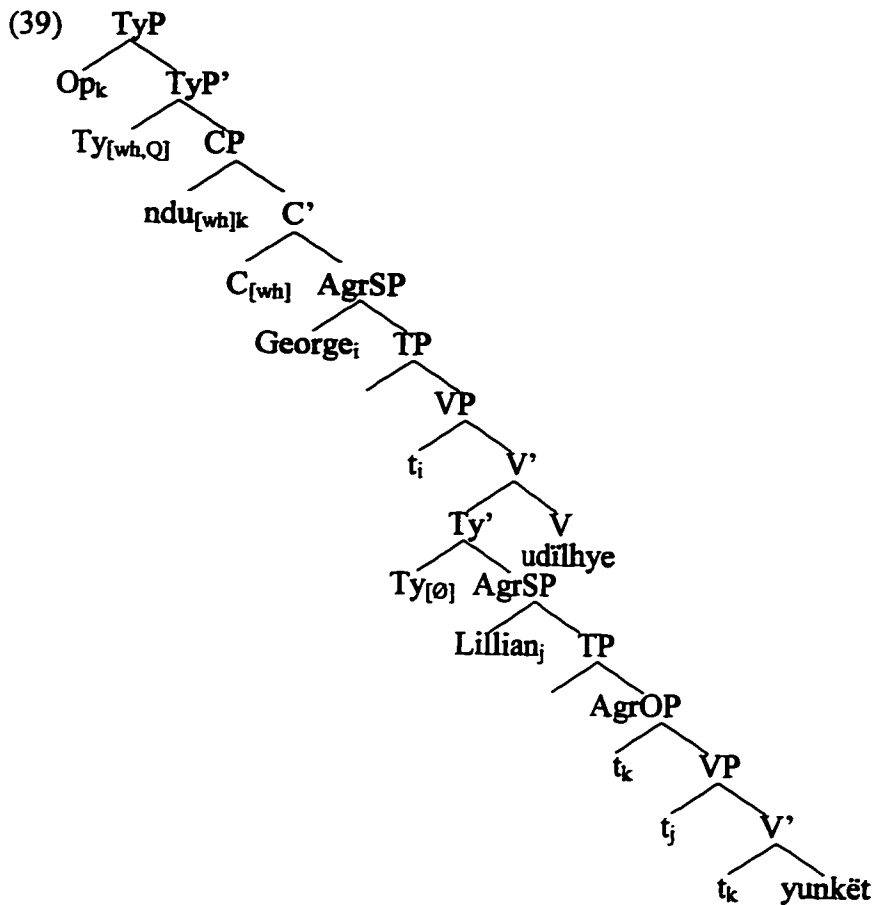
If a C is selected and ends up in an intermediate position via Merge, as in (36b), then the *wh*-phrase with its inherent *wh*-feature moves to check off the –Interpretable *wh*-feature in C and the *wh*-phrase is linked to an operator in the upper TyP, as shown below in (38):



As in all operator-variable relationships, the operator must link to a variable to avoid vacuous quantification.

And finally, if a C is selected and ends up in the higher clause of a biclausal structure, then the *wh*-phrase raises to check off this –Interpretable feature, as in (36c).

This structure is given in (39):



As noted above, this long-distance movement does not result in a Subjacency violation since that principle has been replaced by Shortest Move.¹³ No other A'-position is available, so *ndu* 'what' makes the shortest possible move to the higher Spec of CP.

Thus, optional selection of C and a typing projection in every clause can explain the varying positions of the *wh*-phrases in Babine-Witsuwit'en. *Wh*-questions have the same interpretation regardless of the position of the *wh*-phrase because the +Interpretable *wh*-feature which accompanies each *wh*-phrase is what survives to LF for interpretation. The -Interpretable *wh*-feature of C is irrelevant for interpretation, but simply must be

¹³ I do not discuss here whether Shortest Move can explain the Complex Noun Phrase Constraint, though I return to a discussion of *wh*-islands in Chapter 6.

checked off by a *wh*-feature. The addition of the typing projection introduced in this section enables us to account for the scope facts as well as providing a cross-linguistic perspective.

4.7 BABINE-WITSUWIT'EN'S TYP REQUIREMENT

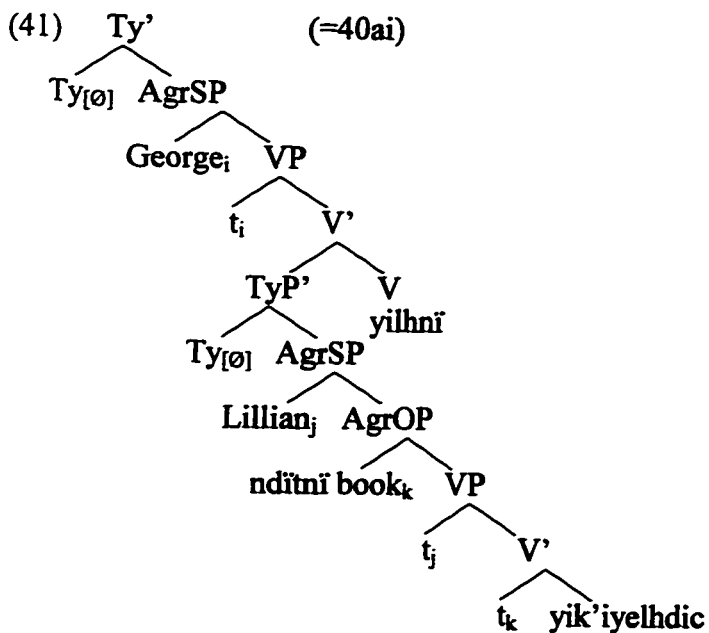
In this section, I investigate a restriction against feature clash in adjacent projections in Babine Witsuwit'en. As we have seen, when a *wh*-phrase is fronted in a biclausal structure, the result can only be a *wh*-question, not a declarative. Example (25) is repeated below with the *wh*-phrase in either of the three possible positions, along with the possible meanings:

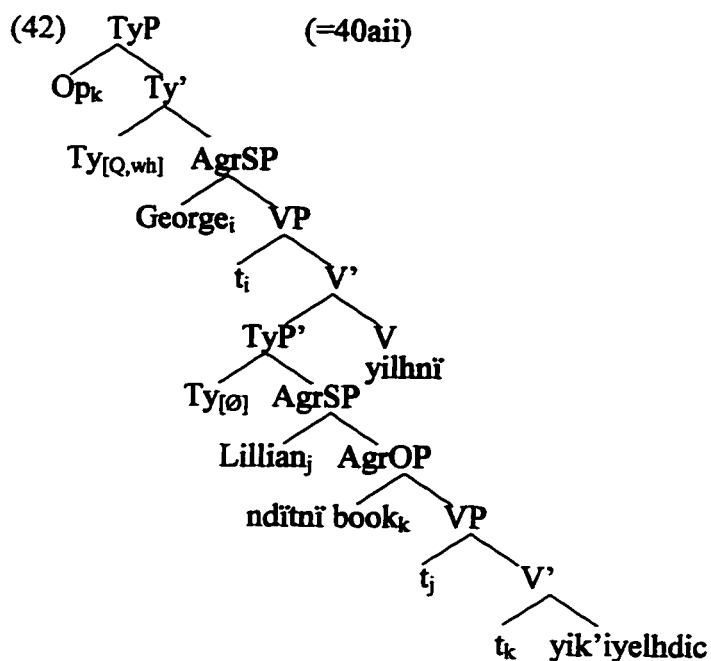
- (40) a. George [Lillian nditnī *book* yik'iyelhdic] yilhnī(?)
 George Lillian which book 3s.read(opt).3s 3s.told.3s
- (i) 'George told Lillian which book to read.'
 (ii) 'Which book did George tell Lillian to read?'
- b. George [nditnī *book* Lillian yik'iyelhdic] yilhnī(?)
- (i) 'George told Lillian which book to read.'
 (ii) 'Which book did George tell Lillian to read?'
- c. Nditnī *book* George [Lillian yik'iyelhdic] yilhnī(?)
- (i) *'George told Lillian which book to read.'
 (ii) 'Which book did George tell Lillian to read?'

As noted, a C cannot serve as a scope marker, given that a matrix *wh*-question interpretation is possible when C (and thus the *wh*-phrase) is in the embedded clause.

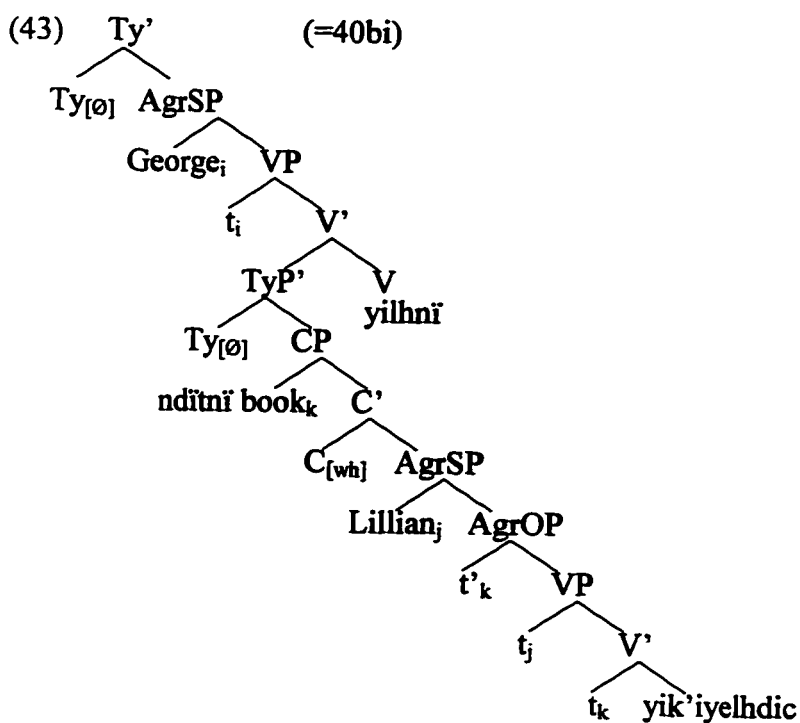
However, the fact that (40c), with the *wh*-phrase in matrix sentence-initial position, must

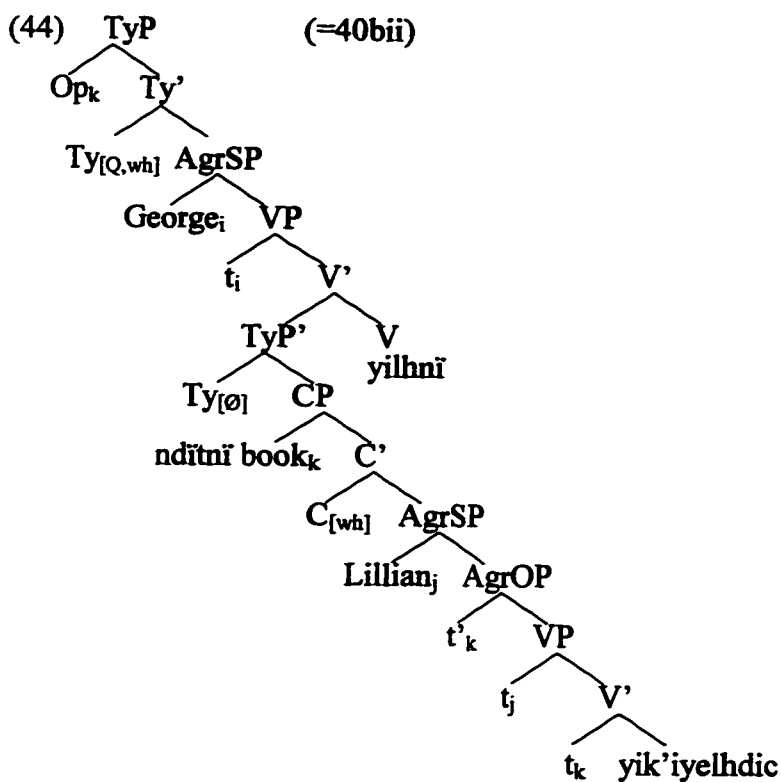
have a question interpretation suggests that the fronting does in some way insure a question interpretation. This is due to the clash of certain incompatible features, which I illustrate below in the tree structures for each sentence in (40). For (40a), the different interpretations are a result of the features in the upper TyP. The structure for (40ai) has no features in the head of Ty, so it is a declarative, while (40aii) has a Q-feature and a *wh*-feature in the head of Ty, and it is, therefore, an interrogative. No C has been selected in either sentence, so the *wh*-phrase remains in situ. The two derivations for (40a) are given below:



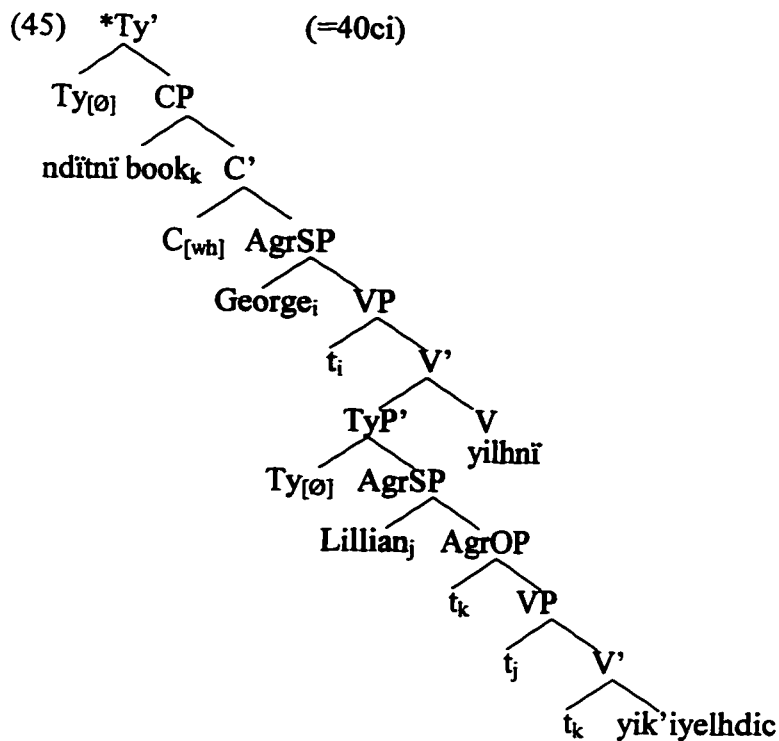


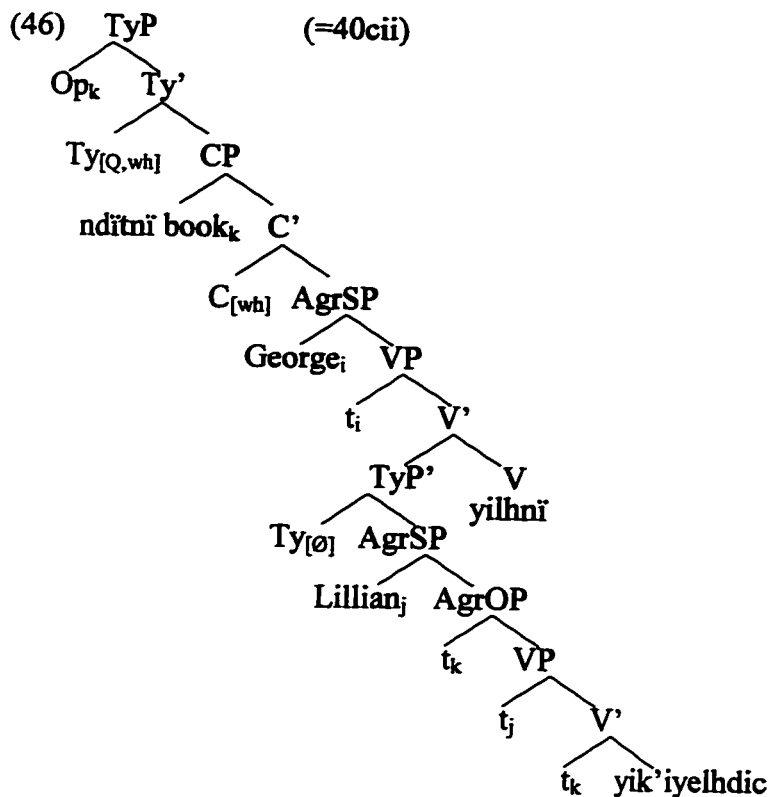
The only difference between the sentences in (40a) and (40b) is that a C has been selected in (40b), which ends up in the embedded clause by Merge operations. The two derivations for (40b) are given below. (40bi) contains no typing features, making it a declarative, while (40bii) contains Q- and *wh*-features in Ty, resulting in an interrogative:





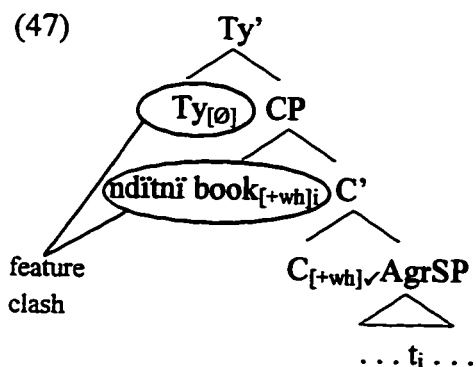
And finally, the derivations for the sentence (40ci) and (40cii) have a C in the matrix clause instead of the embedded clause, as shown below:



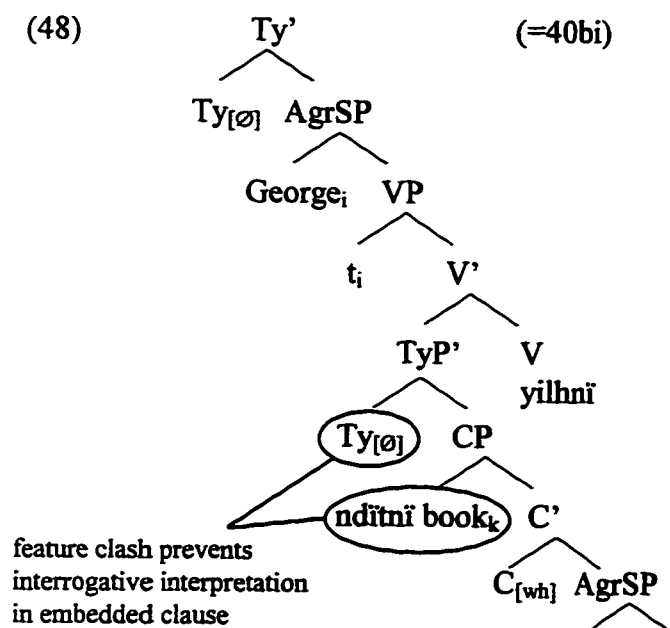


Now let's return to the question that was posed above: Why is it that when a *wh*-phrase occurs in the fronted position the interpretation of that sentence is an interrogative, rather than a declarative? That is, why is (40ci), shown in the tree in (45), unacceptable?

Feature clash is responsible: the feature Ty_[\emptyset] is incompatible with a *wh*-feature. As can be seen in (47), which is identical to part of the tree in (45), an empty Ty head is adjacent to a lexical item with a *wh*-feature, resulting in a feature clash:



Feature clash can also explain why interrogative interpretations are ruled out in the embedded clause in (40b). The trees for the two interpretations of (40b), given in (43) and (44), show that declarative TyP heads ($Ty_{[\emptyset]}$) are adjacent to a *wh*-phrase in the embedded clause. These incompatible features result in feature clash, preventing the embedded clauses from having interrogative interpretations. A portion of the tree in (43) is given below:



Appeal to clashes between *wh*- and non-*wh*-features serves to explain certain illicit derivations in other languages as well. Aleut, for example, has a restriction against having a [+*wh*] feature in subject position adjacent to a [-*wh*] feature, projected by a verb that takes [-*wh*] complements, in the head of C. The subject *wh*-word in Aleut must then move out of this position or the derivation crashes (see Denham 1995 for details).

If the prohibition against *wh*-feature clash is universal, it predicts that in any language in which a *wh*-phrase moves to sentence-initial position and the typing features [Q] and [wh] are present, the interpretation of that sentence should be a question. This seems to hold true. For example, we will see in Chapter 5 that in English, if Q- and *wh*-features are present sentence-initially, a *wh*-question results.

4.8 INDIRECT QUESTIONS

In this section, we look at how subcategorization is realized in a Minimalist framework. We will then see how optional selection of C can account for the facts in indirect questions in Babine-Witsuwit'en.

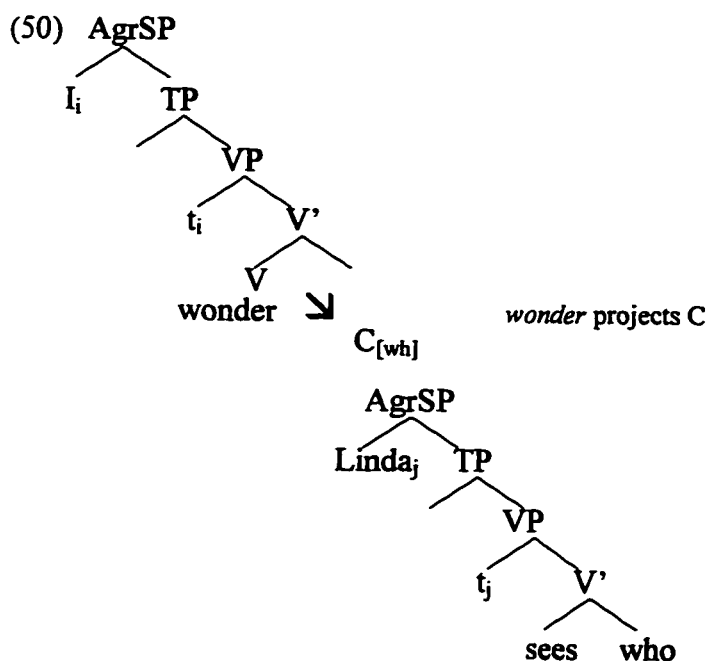
4.8.1 Subcategorization

It is well-known that certain verbs require certain kinds of complements. It has long been assumed that such verbal requirements are listed with each verb in its lexical entry. For example, *wonder* can take only interrogative complements, a fact which is indicated in its lexical entry: *wonder* [___ clause_[wh]].

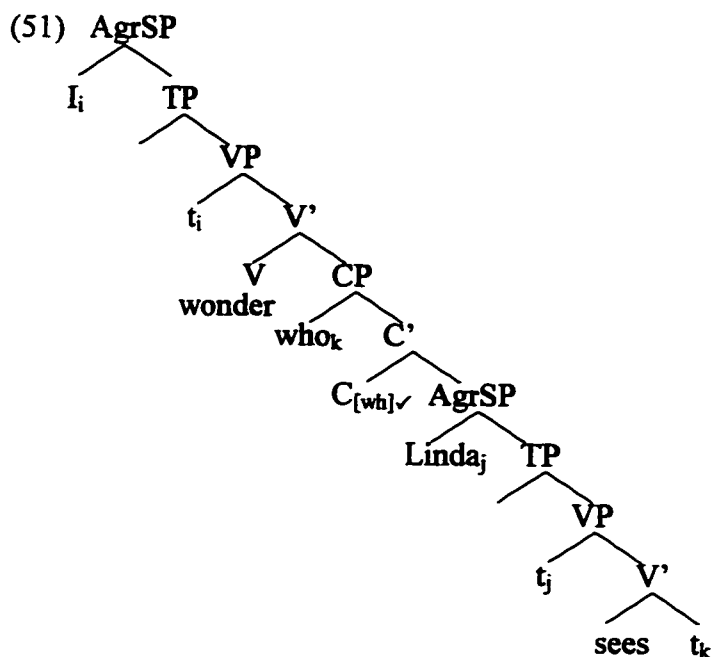
It is not at all clear how subcategorization facts are captured in the syntax of the Minimalist Program, however. I assume that verbal requirements are listed in lexical entries, as has been traditionally assumed. And if a verb requires an interrogative complement, that verb projects a C rightward after it has been selected from the numeration. Given that matrix clauses and embedded clauses in complex questions are created independently through Merge operations and then combined, a convergent

derivation is one in which the embedded question contains a feature that can check off the feature in C which must be checked. (50) and (51) illustrate the above mechanisms with respect to two stages of the derivation of the following sentence:

(49) I wonder who Linda sees.



Wonder requires a C, and so projects one rightward. The two clauses merge and *who* raises to check off the feature in C, as shown in (51):



Each clause is constructed from the bottom up, as assumed in Minimalism. However, the verbal subcategorization requirements permit rightward projection which leads to the linking of two clauses.

With these assumptions about the encoding of subcategorization in hand, we return to a discussion of indirect questions in Babine-Witsuwit'en.

4.8.2 Indirect Questions in Babine-Witsuwit'en

As we saw in Chapter 3, the fronting of *wh*-elements is optional in Babine-Witsuwit'en in indirect questions. Consider the examples below:

(52) a. Lillian [George mbi hibin'ē'n] udilhye.
Lillian George who 3s.saw 3s.knows

b. Lillian [mbi George hibin'ē'n] udilhye.

'Lillian knows who George saw.'

(53) a. George [Sharon ndu 'ilh'ikh] wika c'odilhkit.
George Sharon what 3s.does 3s.asked

b. George [ndu Sharon 'ilh'ikh] wika c'odilhkit.

'George asked what Sharon is doing.'

(54) a. Sharon [dus nts'ë holggīt] wika c'odilhkit.
Sharon cat where 3s.crawled 3s.asked

b. Sharon [nts'ë dus holggīt] wika c'odilhkit.

'Sharon asked where the cat went (crawled).'

A verb like *udilhye* 'know' or *wika c'odilhkit* 'ask' subcategorizes for an interrogative.

The question is why, if a *wh*-phrase must raise to check off a *wh*-feature projected from

the verb, we find that the *wh*-phrase may occur in situ.¹⁴ This is because in Babine-

Witsuwit'en, just as in true in-situ languages, there is no *wh*-feature projected by the verb.

C may be selected or not, both options leading to a convergent derivation, as in (53) and

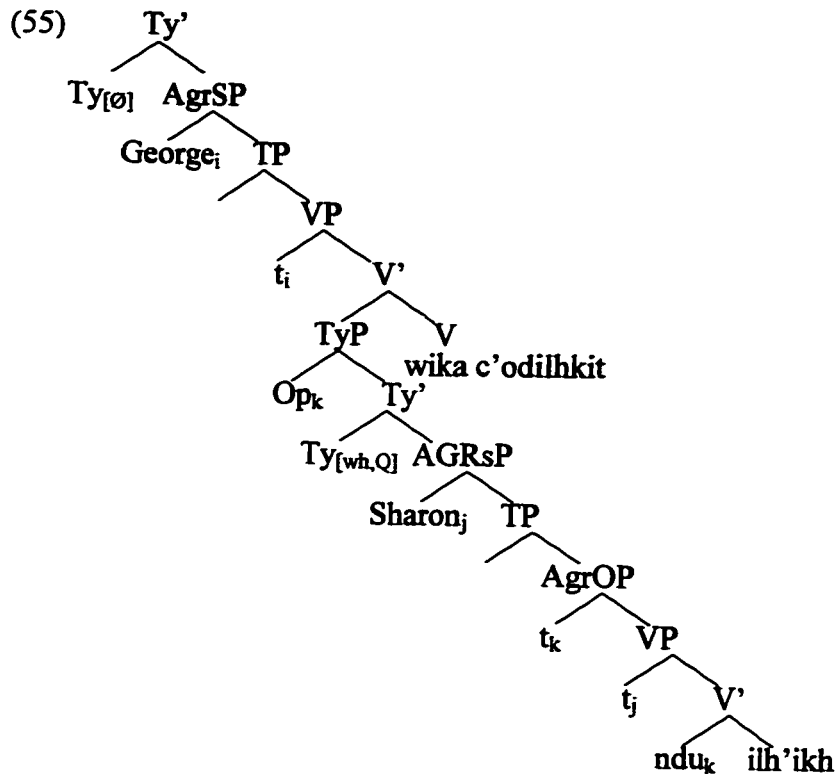
(54).

Subcategorization and typing features are encoded in other ways, however.

Bresnan (1972) notes that interrogative complements occur with intrinsically *interrogative* or *dubitative* predicates, such as *ask*, *inquire*, *wonder*, *doubt*, *debate*. Also, *cognitive* or *assertive* verbs like *say*, *assert*, *declare*, *announce* generally take indicative complements. I propose that these verbal subcategorization requirements are manifest in the features of TyP in Babine-Witsuwit'en and in other languages with TyPs. The tree in (55) is the phrase structure representation of (53a), in which no C is selected, so there is

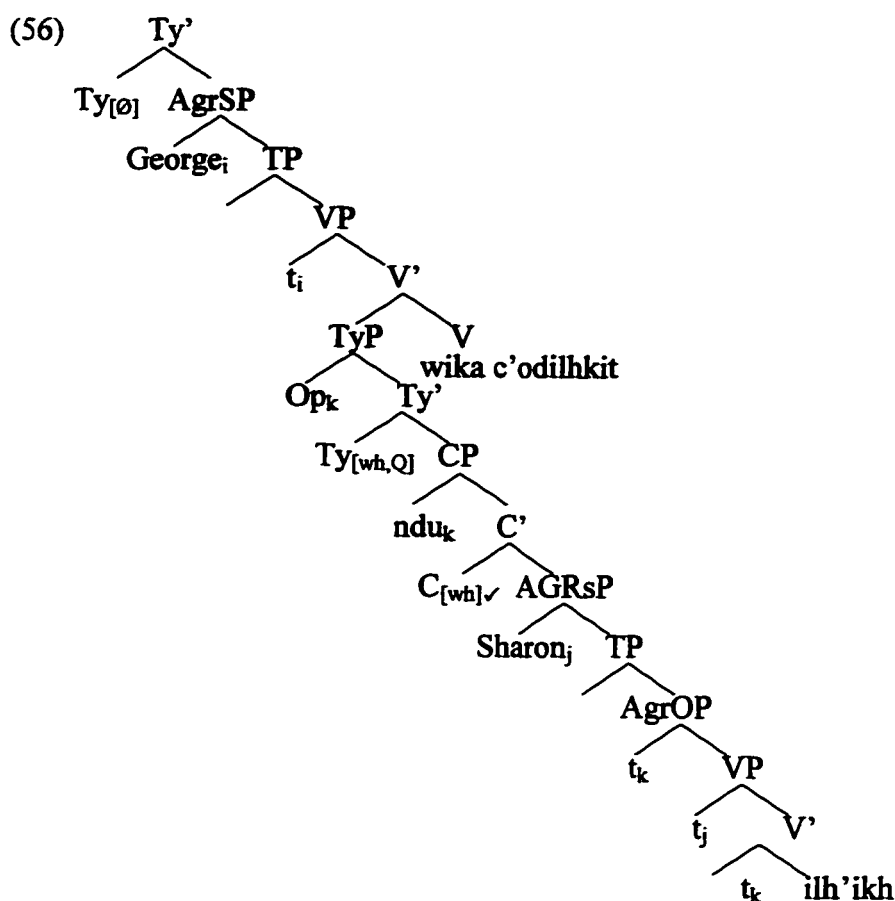
¹⁴ Some speakers appear to prefer the *wh*-word in situ rather than fronted in the embedded clause in indirect questions. I leave analysis of this dialect for future research.

no fronting of the *wh*-phrase. The *wh*-phrase remains in situ and is linked to the *wh*-operator in TyP, as shown below:



Thus, because the verb *wika c'odilhkit* 'ask' subcategorizes for an interrogative, it projects a TyP head containing a *wh*- and Q-feature. The *wh*-feature in Ty projects an operator into the Specifier position. The *wh*-feature in the *wh*-word *ndu* 'what' then links to the operator in Spec of TyP, marking the scope of the embedded question and linking the two clauses. No [wh] or [Q] features are in the matrix TyP, however, so the sentence is interpreted as a declarative.

In the tree for sentence (53b), no C is present, so the *wh*-phrase stays in situ, but is linked to the *wh*-operator in TyP, as illustrated below:



Here as well, *wika c'odilhkit* 'ask' projects a TyP head containing a *wh*- and Q-feature. In addition, a C has been selected, so *ndu* and its inherent *wh*-feature raise to check off the –Interpretable feature in C. Again, as in the representation in (55), no *wh*- or Q-features are in the matrix TyP, so the sentence is a declarative.

In this section, I have illustrated how subcategorization works in a Minimalist framework, and I have shown how subcategorization features in Babine-Witsuwit'en are projected onto Ty heads, typing clauses as interrogative and declarative. This proposal accords well with the idea that C is optionally selected.

4.9 SUMMARY AND CONCLUSIONS

In this chapter, I have proposed an analysis of optional *wh*-movement. In Babine-Witsuwit'en and perhaps Ancash Quechua and Malay, selection of C from the numeration is optional. I have also argued that *wh*-elements in situ overtly remain in position and do not raise to Spec of CP at LF. Rather, they are linked with a *wh*-operator in a typing projection, TyP, in clause-initial position, which marks scope and clause type.

The distinction between +Interpretable and –Interpretable features appears to be the relevant difference between features of Ty and features of C, respectively. The possible combinations of these sets of features can account for the positions and interpretations of *wh*-phrases in Babine-Witsuwit'en.

In the next chapter, I look at how these ideas accord with the data in languages that have *wh*-movement and those languages that do not.

CHAPTER 5: C IN LANGUAGES WITH AND WITHOUT *WH*-MOVEMENT

5.0 OVERVIEW

In this chapter, I examine languages that have *wh*-movement and those that do not. In particular, I take on the question of what determines whether a language may select C or not and what parameter settings are involved in this selection. We will also look at the cooccurrence restrictions between C and TyP.

In 5.1, I discuss English *wh*-movement. In 5.2, I consider Chinese, a language with no overt *wh*-movement. In 5.3, I return to the role of C in American Sign Language. And finally, in 5.4 I briefly examine languages with multiple *wh*-movement.

As we have seen, there are languages that allow optional selection of C and those that do not. Likewise, there are languages that project C from verbal heads and those that do not. Hence, there are the four parameterization possibilities depicted in Table (1) (along with an example of each instantiating language):

(1)

	C selected from numeration	C projected from certain verbs
English	✓	✓
Babine-Witsuwit'en	✓	∅
ASL, French	∅	✓
Chinese	∅	∅

I begin with a look at English.

5.1 ENGLISH *WH*-MOVEMENT

In English, C can be both selected from the numeration and projected from a verb.

There are four different feature combinations of *wh*- and Q that may appear with C, illustrated in Table 2:

(2)

$C_{[wh, Q]}$	$C_{[wh]}$	$C_{[Q]}$	$C_{[\emptyset]}$
<i>wh</i> -question	<i>wh</i> -exclamation	<i>yes/no</i> -question	declarative
Wh-feature must be checked by raising <i>wh</i> -phrase	Wh-feature must be checked by raising <i>wh</i> -phrase	No <i>wh</i> -feature to be checked	No <i>wh</i> -feature to be checked
Wh-feature projects operator to Spec position	Wh-feature projects operator to Spec position	No operator projected	No operator projected
Interpreted as question because of presence of Q feature	No Q feature present, so not interpreted as a question	Interpreted as a question because of presence of Q feature	No Q feature present, so not interpreted as a question

Two of the feature combinations result in interrogative sentences: $C_{[wh, Q]}$ and $C_{[wh]}$. A *wh*-question results if both *wh*- and Q-features are present in C, while a *wh*-exclamation results if only a *wh*-feature is present. The *wh*-feature must be checked off overtly by raising a *wh*-phrase and its inherent *wh*-feature to Spec of CP. A *wh*-feature in C also projects an operator into the Specifier position. However, this operator in Spec of CP is replaced by the *wh*-phrase itself when the *wh*-phrase raises to this position, as suggested by Aoun & Li (1993b).

If only a Q-feature is present in C, a *yes-no*-question results. There is no *wh*-feature to be checked, and there is no operator projected.

Finally, if no features are present at all in C, the sentence is a declarative.

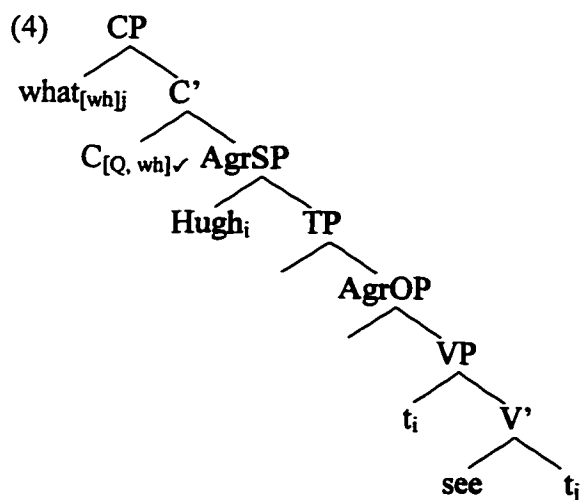
Because a C is selected for every clause in English, no separate typing phrase is required, and to have one would be redundant. That is, the features which type a clause are features of C, so there is no reason for duplicating that information in a TyP. It is, therefore, not the case that all languages have a TyP, rather only those languages that do not always select a C.

5.1.1 Simple *Wh*-Questions

In this section, we will see how C plays out in simple questions in English. First, let's consider a simple question with a single *wh*-word:

(3) What does Hugh see?

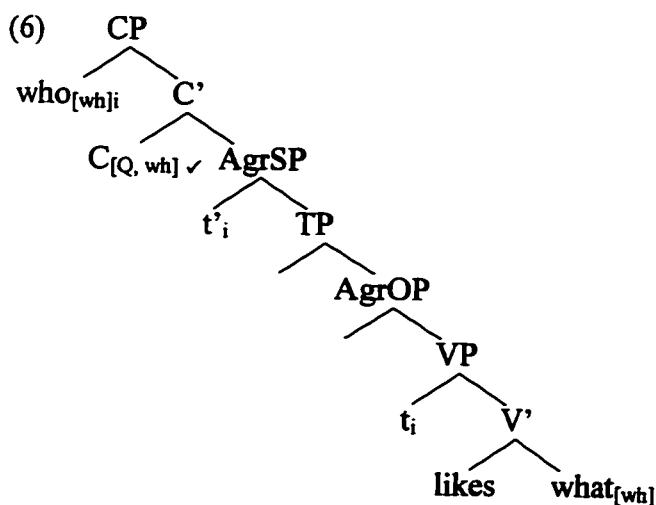
This sentence has the structure below:



What has raised overtly to check off the *wh*-feature in C. At LF, *see* raises to check off the V-features in the Agr and TP projections. The copy of *what* raises at LF to check off the features in AgrO.¹

In a simple question with more than one *wh*-phrase, only the one closest to the *wh*-feature in C raises. Consider the derivation in (6) of the following sentence:

(5) Who likes what?



The *wh*-feature in C has been checked off by the features of *who*, so *what* has no motivation to move until LF, when it must raise to AgrO to check off its Case features. *What* is linked to the operator *who* in Spec of CP and takes scope from that position. That this higher position is the scope-taking position is evidenced by the fact that the lower *wh*-word may not be interpreted as if it is in situ. That is, an appropriate answer to the question in (5) would be (7), but not (8):

¹ The copy theory of movement assumed in Chomsky (1993, 1995) allows for such “double checking.” The features of *what* as well as *what* itself raise overtly to check off the *wh*-feature in C. A complete copy of *what* and its features is left in the original position. These features are able to raise to check off the Agreement features in AgrO.

(7) John likes beans and Mary likes peas.

(8) John likes what.

It is not possible for *what* to raise instead of *who* in the derivation of (5). If *what* were to raise overtly, it would result in the ungrammatical example below. This kind of “superiority violation” was first discussed in Chomsky (1973):

(9) *What does who like?

This derivation is ruled out by Attract. Moving *who* is the shortest, most economical way to check off the feature in C. Moving *what* to check off the feature is a more costly derivation, so it fails.²

5.1.2 Complex *Wh*-Questions

In this section, we will see how the different selection properties of the verb result in varying positions for the *wh*-phrase in complex questions. Consider the following two sentences:

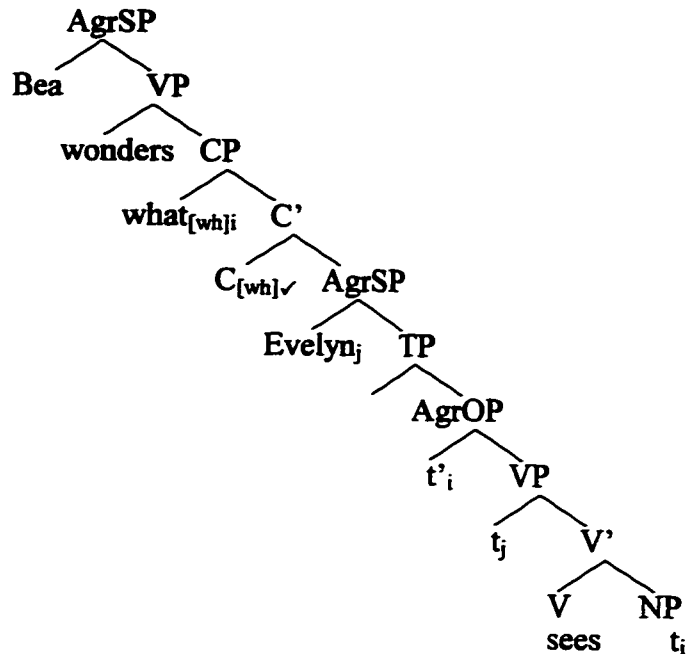
(10) Bea wonders what Evelyn sees.

(11) What does Bea think Evelyn sees?

In (10), *wonder* projects a C whose *wh*-feature is checked off by raising *what* when the two subtrees merge, as illustrated in (12):

² See footnote 5 for discussion of a possible acceptable interpretation of this sentence.

(12)

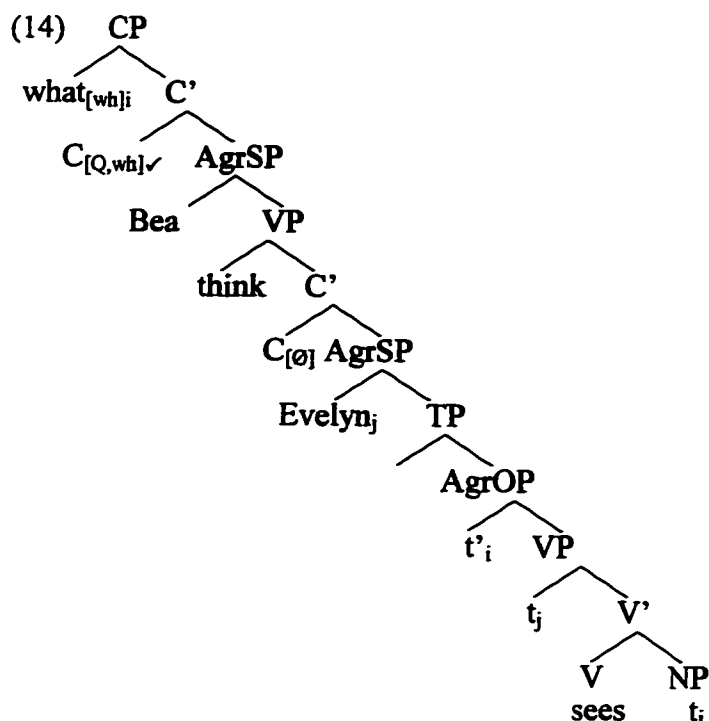


Consider, however, the following ungrammatical sentence:

(13) *What does Bea wonder Evelyn sees?

Such a sentence fails for the following reasons. If a $C_{[wh]}$ is present in the matrix clause, *what* may not raise to check this feature since *what*'s *wh*-feature has already served to check off the *wh*-feature in the lower clause, and it is, therefore, frozen in place.

In (11), *think* projects a noninterrogative C, indicated below by $C_{[\emptyset]}$. A tree structure for (11) is given below:



In (14), no A' Specifier positions are available for successive cyclic movement, so the *wh*-element makes the shortest move possible by moving in one fell swoop to the highest C to check its feature.

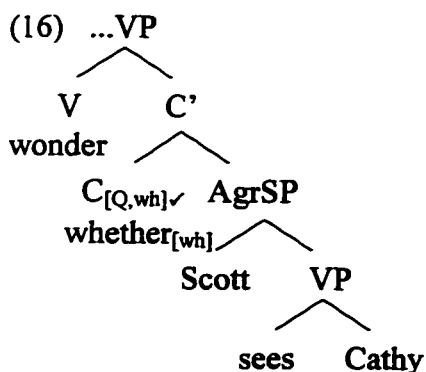
Thus, the differences between (10) and (11) are not the result of movement at different levels within the derivation, as has been traditionally assumed. The different positions of the *wh*-phrases in each sentence are simply a result of the verb's ability to project a *wh*-feature or not. If no feature is projected, there is no raising of the *wh*-phrase to the front of that clause.

5.1.3 Complex Questions with Multiple *Wh*-Features

Any account of *wh*-movement in English must explain the different extraction possibilities of complex sentences containing the complementizers *that* on the one hand, and *whether* and *if* on the other. Only the latter contain *wh*-features. While not *wh*-phrases, they may, however, satisfy a *wh*-feature in C. So, in (15), the verb *wonder* projects a C with features [wh] and [Q]:

(15) Do you wonder whether Scott sees Cathy?

Whether itself is able to satisfy the *wh*-feature in C, as (16) illustrates:

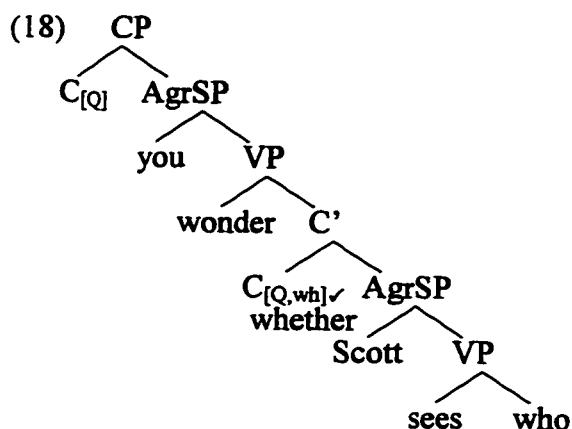


Similarly, in the following sentence, *whether* checks off the *wh*-feature projected from *wonder*, leaving *who* with no motivation to move. Raising of *who* to the embedded CP, therefore, results in ungrammaticality:³

(17) *Do you wonder who; whether Scott sees t_i?

³ In Chapter 6 I discuss *wh*-islands—for example, why *who* cannot raise to the matrix C in (17).

Because *whether* satisfies the *wh*-feature in the lower C, there are no remaining *wh*-features to check, so, having no motivation to raise, *who* must remain in situ, as in the tree below:



The following sentences are ungrammatical as well since *whether* cannot function as an operator:

(19) *Do you wonder whether Scott sees who?

(20) *Why do you wonder whether Scott sees what?

Wh-phrases in English must either appear in Spec of CP or be linked to a *wh*-phrase or operator that is. In (19) and (20), *whether* satisfies the *wh*-feature projected from *wonder*, but it is not able to license the in-situ *who* and *what*.

Now consider sentences with the C *that*, such as the following:

(21) Do you think that Scott sees Cathy?

(22) *Do you wonder that Scott sees Cathy?

That is a C with no features, so (21) is grammatical because *think* projects a $C_{[\emptyset]}$, which is satisfied by *that*. However, in (22) the presence of *that* is ungrammatical because *that* is unable to satisfy the *wh*-feature projected from *wonder*.

We have seen in this section how selection and projection of C from the verb can explain much of the data from English *wh*-questions without having to have rules or principles which apply only at certain levels within syntax.

5.2 CHINESE *WH*-QUESTIONS

Now let us consider a language, Chinese, in which C is never selected or projected. *Wh*-phrases, therefore, remain in situ and are linked to an operator in TyP, which types the sentence by means of *wh*- and Q-features. If a *wh*-feature is present, it projects an operator into Spec of TyP. I will illustrate below why Chinese has no *wh*-movement.

As noted in Chinese, unlike in English, *wh*-phrases remain in situ, regardless of the selection properties of the verb:

(23) a. Ta xiang-zhidao ni maile shenme.
 he wonder you bought what

b. *Ta xiang-zhidao shenme ni maile.

‘He wonders what you bought.’

(24) a. Ta renwei ni maile shenme?
 he think you bought what

b. *Shenme ta renwei ni maile?

‘What does he think you bought?’

Such data have been previously explained by Lasnik & Saito (1984) and Epstein (1992).

Lasnik & Saito claim that if a language has syntactic *wh*-movement, then a [+wh] Comp must have a [+wh] head at S-structure. They suggest the following syntactic parameter to account for the differences between the languages:

(25) \pm syntactic *wh*-movement

There is also a filter, they claim, which applies at LF:

(26) A [+wh] Comp must contain a [+wh] phrase.

However, Epstein points out that these two principles cannot explain the fact that a verb’s selectional restrictions must be met at S-structure in English, but at LF in Chinese. The following sentence is ungrammatical in English, but its Chinese equivalent is acceptable, as evidenced by the similar sentence in (23a) above, because *wonder*’s selectional requirements are not met overtly:

(27) *Bob wonders Rachel sees what.

Epstein proposes that an additional principle, adapted from Pesetsky (1989), yields the desired prediction, namely that selectional restrictions must be met earlier in English than in Chinese:

(28) *Earliness Principle*

Satisfy filters as early as possible on the hierarchy of levels D-structure > S-structure > LF

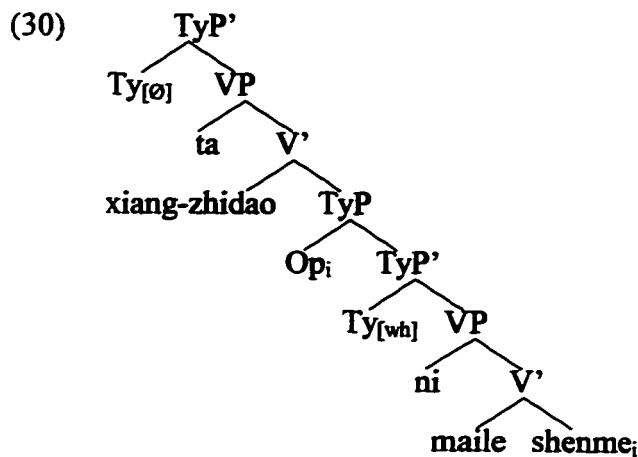
Since English has syntactic *wh*-movement, Epstein argues, the filters of a sentence such as the following can be satisfied at S-structure, and therefore *must* be, explaining the ungrammaticality of (27).

(29) Bob wonders what Rachel sees.

Chinese, on the other hand, lacks syntactic *wh*-movement, so the earliest the filter in (28) can be satisfied is at LF. Sentence (23a), is, therefore, well-formed.

An analysis employing the levels of D-structure and S-structure is impossible under Minimalist assumptions. These levels no longer exist and thus no filters or principles can apply to them.

The above facts can be explained given the full set of Minimalist assumptions by assuming that the difference between Chinese and English is simply that English has interrogative Cs, while Chinese has no interrogative Cs, as I have proposed. In English, the verb projects a C with a *wh*-feature. Chinese is neither able to select a C through the numeration nor to have one projected by the verb because it simply has no interrogative Cs available in the lexicon. A Chinese verb may, however, project a Ty head, typing the embedded clause as interrogative or non-interrogative. In this way, scope facts are accounted for by the question operator (projected from the *wh*-feature in Ty), which is linked to the *wh*-elements. The tree for (23a) is given below in (30):

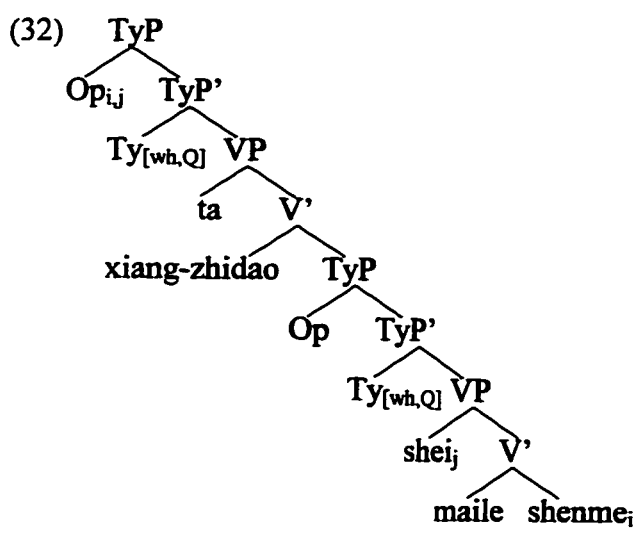


The present account, in which no interrogative Cs are available in Chinese, but features in Ty are available, can account for some additional Chinese facts. According to Huang (1982), the following Chinese sentence has three possible interpretations, depending on whether the *wh*-phrases have distinct scope or not (taken from Aoun & Li (1993b)):

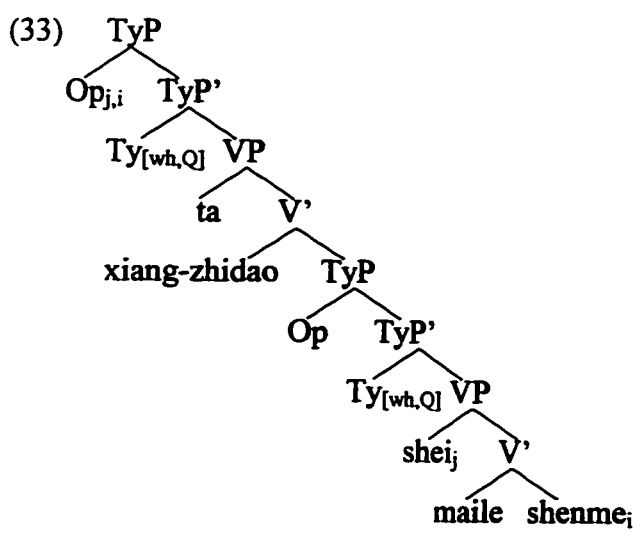
- (31) Ta xiang-zhidao shei maile shenme.
 he wonder who bought what
 a. 'Who does he wonder bought what?'
 b. 'What does he wonder who bought?'
 c. 'He wonders who bought what.'

These varying interpretations are the result of different feature combinations in TyP. Verbs may not project Cs in Chinese, so the verb *wonder* projects no C with a *wh*-feature, as discussed above. The interpretations in (31a) and (31b) result because the upper TyP contains the features [wh, Q], making the entire sentence a *wh*-question. The *wh*-words *shei* 'who' and *shenme* 'what' link to the *wh*-operator in the Spec of TyP which has been projected by the *wh*-feature in the head of TyP. The indices may occur in either order,

resulting in either *shei_i* ‘who’ or *shenme_j* ‘what’ taking wide scope, as in the interpretations in (31a) and (31b) respectively. (32) below is the tree for (31a):

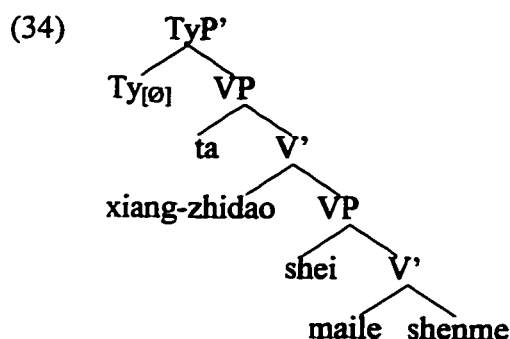


And (33) is the tree for (31b). Note that the indices of the operator in the Spec of TyP are reversed compared to (32):



Because Chinese verbs project neither Cs nor Tys, the only interpretation allowed in the embedded clause is with *shei* ‘who’ taking wide scope over *shenme* ‘what’, as in (31c).

The tree for (31c) is given in (34):



Because there is no operator, *shei* ‘who’ and *shenme* ‘what’ are simply interpreted in the order in which they occur overtly.⁴

⁴ As in English, the interpretation in (d) below is not one of the possible interpretations for the Chinese sentence in (31):

(d) *He wonders what who bought.

The lack of C and an operator rules out this interpretation in Chinese. The words are simply interpreted in the order in which they occur overtly. James Huang (personal communication) suggests, however, that perhaps *shenme* ‘what’ can be moved overtly and adjoined to the embedded clause, thus allowing the (d) reading above:

(i) Ta xiang-zhidao shenme shei maile.

he wonder what who bought

Huang suggests that an appropriate response to (i) might be the following:

(ii) The book, Lee bought; the pencil, Kim bought; the pen, Sue bought...

The question, thus, involves a focused element. We find the same judgments in English. It has long been noted that sentences such as the following are not acceptable:

(iii) *I wonder what who bought.

(iv) *What did who buy?

In 5.1.1 I explained that such sentences are ruled out by locality—moving *what* in either (iii) or (iv) is not the shortest possible move to check off the *wh*-feature in C. So, the sentences are unacceptable. However, some speakers do accept sentences like (iii) and (iv). If the readings above are available, I think it is because emphatic intonation is used. An appropriate response would be like that in (ii) for Chinese. In such a case, *what* raises in order to check off a focus feature, not a *wh*-feature in C. The same is true for the Chinese sentence in (i)—*shenme* ‘what’ raises to check off a focus feature.

Thus, the account put forth here can explain scope, ordering, and ambiguities in Chinese without appealing to principles occurring at varying levels within syntax.

5.3 C IN AMERICAN SIGN LANGUAGE

I argued in Chapter 2 that ASL has *wh*-movement only when the verb projects a C with a *wh*-feature, the other movement of *wh*-phrases being focus movement. Let's look at how this proposal can easily rule out an ungrammatical sentence containing a matrix verb that takes a non-interrogative complement in ASL while allowing a similar one in English.

The *wh*-phrase in a sentence containing a verb that cannot take an interrogative must remain in situ in ASL:

(35) a. BILL FEEL JOHN LIKE WHO

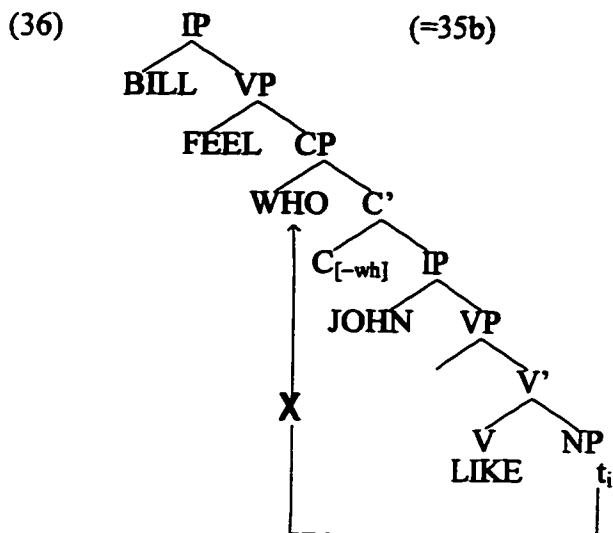
b. *BILL FEEL WHO_i JOHN 'LIKE' t_i

c. *WHO_i BILL FEEL JOHN 'LIKE' t_i

'Who does Bill think John has a crush on?'

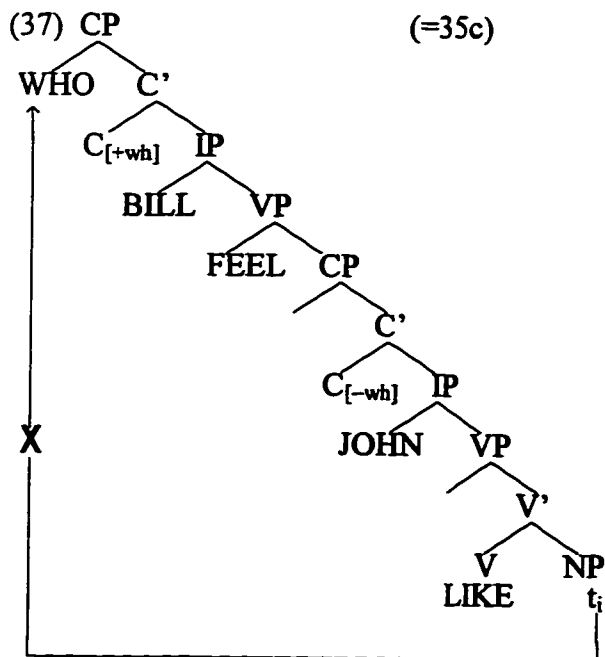
Lillo-Martin (1990) explains the ungrammaticality of (35b) and (35c) in the following way. She assumes that all verbs that select sentential complements subcategorize for [-*wh*] complements. The [+*wh*] WHO may, therefore, not occur in Spec of CP, as shown in (36), the tree for (35b):⁵

⁵ I retain the IP here used in Lillo-Martin's structure, as well as the [+*wh*] and [-*wh*] notation.



And (35c) is ruled out, she argues, because the *wh*-phrase is prevented from landing in the embedded Spec of CP on its way to the higher CP because the COMP is not [+wh].

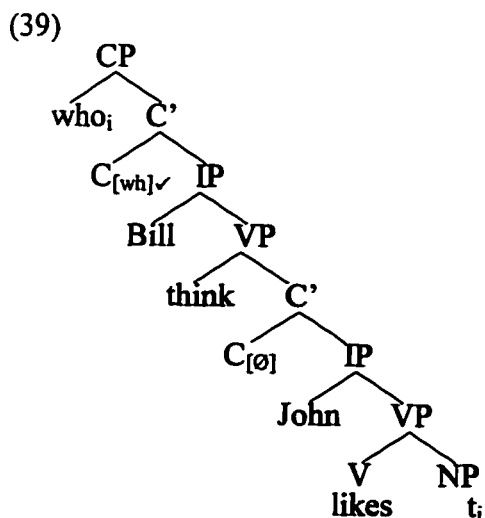
However, moving in one fell swoop to the higher CP, Lillo-Martin argues, violates Subjacency and results in an unacceptable derivation, as shown below:



However, if we accept her explanation that (35c) is ruled out because the *wh*-word is prevented from landing in the intermediate Spec of CP, then we cannot explain why such a derivation is legitimate in English. Rather than say that English allows *wh*-phrases to move successive-cyclically, but ASL does not, the ungrammaticality of a sentence like (35c) can be explained simply by the hypothesis that ASL has no option to select C while English does. As discussed above, a C is always present in English, but no C is ever selected in ASL except when the verb requires and projects it. So, the *wh*-phrase in English in the sentence below raises to check off a *wh*-feature in the higher C:

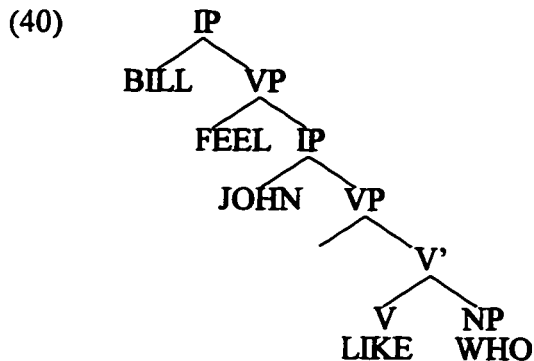
(38) Who does Bill think John likes?

The tree for (38) is given in (39):



In ASL, however, *wh*-phrases can raise only to check off *wh*-features projected from the verb. FEEL does not project a *wh*-feature, while verbs like WONDER do so. Therefore,

in the tree below for (35a), no C is present, and no movement takes place, making this the only legitimate phrase structure representation for this sentence:

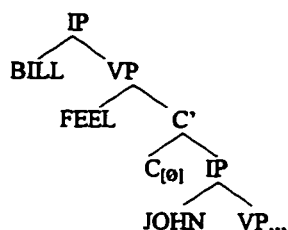


Thus, the data in (35) can be explained by simply assuming that FEEL in ASL projects no interrogative C.⁶

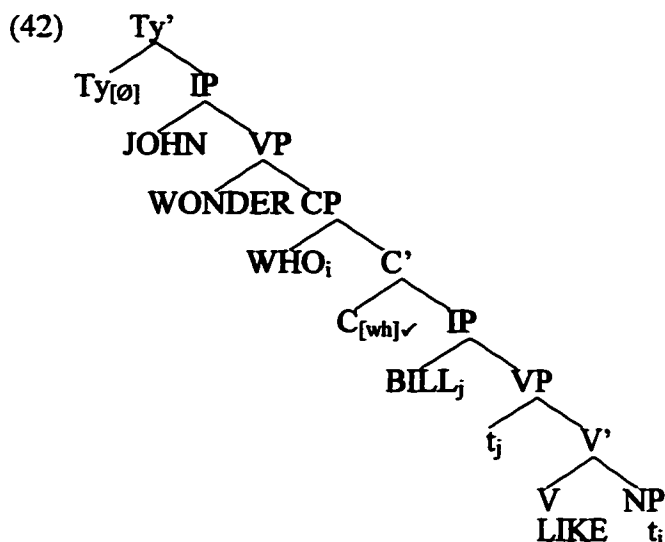
Let's look at how verbs that take interrogative complements work in a language like ASL (or French) in which Cs can be projected only from certain verbs, but may not be selected from the numeration. I propose that verbs that subcategorize for interrogatives project a C in ASL, rather than a Ty, as in Chinese. Hence, a sentence containing the matrix verb WONDER as in (41) will have the representation in (42):

- (41) a. JOHN WONDER WHO BILL LIKE
'John wonders who Bill likes.'

⁶ Alternatively, FEEL projects a non-interrogative C:
(i)



This type of structure would not change the outcome.



Because **WONDER** requires an interrogative, it projects a **C** (and accompanying *wh*-feature). When the two subtrees for each clause merge, the *wh*-word **WHO** raises to check off the *wh*-feature in **C**, and the **TyP** in the lower clause is replaced by the **C** at this point.

We have seen in this section that the difference between complex questions with verbs that take non-interrogative complements in English and ASL, as exhibited by the difference in grammaticality between (35c) and (38), falls out neatly due to the fact that ASL does not allow **Cs** to be selected from the numeration, but only to be projected from those verbs that take interrogative complements.

5.4 LANGUAGES WITH MULTIPLE *WH*-MOVEMENT

A discussion of *wh*-movement would not be complete without including some discussion of yet another type of language—those with movement of more than one *wh*-phrase. Rudin (1988) discusses such languages which include the Slavic languages

Russian, Polish, Serbo-Croatian, Czech, Bulgarian, as well as a Romance language, Romanian. Several examples from Rudin are given below. (The basic word order is SVO.)

- (43) Koj kogo vižda? (Bulgarian)
 who whom sees
 ‘Who sees whom?’
- (44) Kdo koho videl? (Czech)
 who whom saw
 ‘Who saw whom?’
- (45) Cine cu ce merge? (Romanian)
 who with what goes
 ‘Who goes by what (means of transportation)?’

Rudin discusses the difference among these languages with respect to complex questions, *wh*-island effects, and other constructions, and based on the differences among the behavior of the *wh*-phrases in each of these constructions, she divides the languages into two types which she terms +Multiply Filled Specifier (+MFS) and –Multiply Filled Specifier (–MFS) languages. In the +MFS languages, which include Bulgarian and Romanian, all of the *wh*-phrases move to Spec of CP overtly. In the –MFS languages, such as Polish, Czech, and Serbo-Croatian, she argues that only one *wh*-phrase is in Spec of CP and the others are adjoined to IP. She proposes these different positions to account for the differences in extraction possibilities for multiple *wh*-phrases, island effects, clitic position, and occurrence of parentheticals. In what follows, I propose an account of the +MFS languages, and I leave the –MFS languages for future research. I also focus only on multiple *wh*-movement in simple clauses.

In our terms, we may presume that in languages like these, a C is always selected, as in English. But the task is to determine what motivates the raising of the second (or third) *wh*-phrase. One possibility would be the selection of more than one C. However, such a solution is to be avoided, since there is no mechanism to restrict the number of Cs selected in a language. Rather, let's assume that only a single C is selected. If this is the case, however, after one *wh*-feature and its accompanying *wh*-phrase raise, the *wh*-feature in C has been checked off and there is seemingly no reason for another *wh*-phrase to raise. I think the solution here has to do with the type of economy principle available in this language type. In the languages discussed in previous chapters, the features of the functional categories themselves motivate movement. That is, Attract F, proposed in Chomsky (1995), is the motivating principle I have been assuming, rather than Greed, as in Chomsky (1993). It appears to be the case, however, that in languages with multiple *wh*-movement, raising of *wh*-phrases is motivated by requirements of the *wh*-phrases themselves, rather than by the features of the functional category C.⁷

Recall the discussions of Interpretability from Chapter 1 and Chapter 4 where it was explained that in languages that have multiple *wh*-fronting, a +Interpretable feature, such as a *wh*-feature in C, must be allowed to be rechecked, much like Agr features are. So, in Chapter 1 I discussed the fact that in languages like French it appears that NPs may check their ϕ -features in more than one position, and it is the distinction between + and -Interpretable that allows an explanation of these multiple agreement facts. Marantz's (1995) example from Chapter 1 is repeated below:

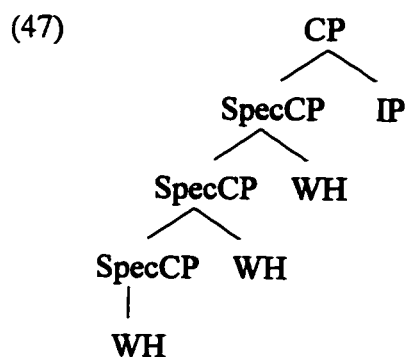
⁷ This is suggested independently in Boskovic (1997).

- (46) Les filles sont recontrées au cinéma.
 the girls are_{pl} met_{fem, pl} at the movie theater
 'The girls are met at the movie theater.'

The DP *les filles*, the underlying object, raises to the subject of the auxiliary verb. It lands in an A'-position to check gender and number ϕ -features with the passive participle, but must also check features in the subject position.

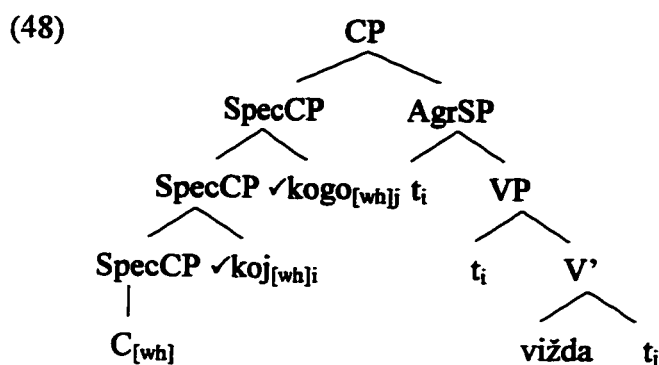
The situation with multiple *wh*-raising is slightly different, however. The *wh*-phrases themselves require their own features to be checked in these languages. The *wh*-phrases do this by raising to the same single *wh*-feature in C and adjoining there. Thus, Greed rather than Attract motivates the movement in these cases.

Rudin (1988) proposed adjunction for languages with fronting of multiple *wh*-phrases. Her multiple adjunction structure is given below:



Rudin's structure results in the correct word order. A tree for the Bulgarian sentence in

(44) is given below:



Each of the *wh*-phrases is able to check off its *wh*-feature by raising to adjoin to CP. The head of CP, C_[wh] above, contains a +Interpretable *wh*-feature which remains after checking and so may be checked multiple times.

Though it may seem undesirable to have two different kinds of economy principles operating within language, it seems to be necessary to explain the behavior of languages with multiple *wh*-movement.

5.6 SUMMARY AND CONCLUSIONS

In this chapter I have derived the possibility of *wh*-movement from the presence or absence of C. An interrogative C always carries a *wh*-feature, so when it is selected from the numeration, a *wh*-feature (and the *wh*-phrase along with it) raises to check off the *wh*-feature in C. A language without Cs, therefore, never has raising and feature-checking of the *wh*-phrases. I have also shown that some languages' verbs may project a *wh*-feature while other languages do not have this option. I have argued that languages that have multiple *wh*-movement make use of Greed rather than Attract, at least with respect to the raising of *wh*-phrases. The features of each of the *wh*-phrases is checked by

raising the *wh*-phrases to adjoin to CP. I have also shown in this chapter how a typing projection can account for scope and sentence typing in languages that do not have C or select C optionally.

In Minimalist syntax, language-specific phenomena have been reduced to the morphological differences which reside in the lexicon. This is the only information that a language learner has access to—all else follows from universal principles.⁸ The proposal put forth here is in line with these assumptions. A child exposed to English will hear fronted *wh*-phrases and can assume that their language has *wh*-movement. Thus, a C and its features are added to that child's lexicon. A child exposed to Chinese, however, will hear no evidence of moved *wh*-phrases and will, therefore, have no lexical entry for interrogative C. A Witsuwit'en child hears evidence for C, but soon realizes it is optional in questions.⁹ C is, therefore, a lexical entry that may or may not be selected for any particular sentence in Babine-Witsuwit'en.¹⁰

What could be the explanation for why it is generally true that verb-final languages do not have *wh*-movement? I believe it has to do with economy considerations. Consider that objects move overtly in verb-final languages to check off the features of AgrO and T while they do not raise to check features until LF in English. Given Chomsky's hypothesis that LF movement is more economical than overt

⁸ Though we have seen here that certain economy principles may be parameterized as well.

⁹ Unfortunately, there are very few children currently learning Babine-Witsuwit'en as a first language. The only ones may be in Fort Babine, British Columbia.

¹⁰ If it is the case in ASL and French that there are no Cs except those projected from a verb, it is unclear how a child might learn this parameter. I leave the refinement of the ASL and French analyses for future research.

movement, perhaps languages that have one kind of overt movement in a single derivation will resist having another instance of overt movement, if it is possible to avoid it. So, in verb-final languages, the object moves overtly, making additional movement—*wh*-movement—delay until LF. If an element can wait to move, it must wait. Elements move before Spell-Out only if they must do so to insure convergence. So, in English, because the object does not raise to check features until LF, the *wh*-phrase moves overtly in such languages; that is, these languages are more likely than languages with overt object movement to have an interrogative C.

CHAPTER 6: ADJUNCT/ARGUMENT ASYMMETRIES AND RESIDUAL ISSUES

6.0 OVERVIEW

In this chapter I discuss apparent adjunct/argument asymmetries in *wh*-questions in Babine-Witsuwit'en and English and demonstrate that they are not real asymmetries. Instead, the varying judgments are due to extragrammatical factors. Thus, in 6.1, I discuss how pragmatic salience, rather than adjunct/argument asymmetries, affects acceptability in certain questions in Babine-Witsuwit'en. In 6.2, I investigate *wh*-islands in English, which appear to exhibit distinctions between adjuncts and arguments as well. I argue that such sentences can be explained by appealing to Attract F. And in 6.3, I examine some English data that appear to violate Attract because either the adjunct or the argument *wh*-phrase may raise. This appearance of violation, however, is shown to fall out naturally because the *wh*-phrases are equidistant from the target.

6.1 PRAGMATIC SALIENCE IN BABINE-WITSUWIT'EN

Chapter 3 showed that certain *wh*-adjuncts (*nts'ēn'a* 'how', *nduwa* 'why', or *nts'ēwh* 'when') in complex questions may either occur in situ or at the beginning of the embedded clause, but they are sometimes less preferred at the beginning of the matrix clause. The examples from Chapter 3 are given below:

- (1) a. George Lillian nts'ën'a 'it'ën k'its honye nītah?
George Lillian how work to 3s.went 3s.said
- b. George nts'ën'a_i Lillian t_i 'it'ën k'its honye nītah?
- c. ?Nts'ën'a_i George Lillian t_i 'it'ën k'its honye nītah?

'How did George say that Lillian went to work?'

Consider that the English translation, as well as the Babine-Witsuwit'en questions in (1), are ambiguous. Each sentence can either question the manner in which Lillian went to work (for example, by car), or the manner in which George said it (for example, loudly). And it is only in such questions in which the *wh*-adjunct can logically modify either the embedded verb or the matrix verb that fronting of the *wh*-phrase in the matrix clause is less preferred in Babine-Witsuwit'en. For example, the following sentence is perfectly good with the *wh*-adjunct fronted in the matrix clause because the sentence is unambiguous:

- (2) a. Nkēde' George [Chris nyīz] nītah?
when George Chris tall 3s.said

'When did George say Chris is tall?'

The *wh*-phrase *nkēde* 'when' can only modify *nītah* 'said'.

Sentence (1c) is less preferred because one of the interpretations of the ambiguous sentence is less pragmatically salient. Thus, when certain *wh*-adjuncts that may modify either the matrix or embedded verbs appear fronted in the matrix clauses, they are usually interpreted as if they had come from the embedded clauses, not from the matrix clause.

Consider the following two pairs of sentences and their sample answers:

- (3) a. Nts'ēn'a_i George [Lillian 'it'ēn k'its t_i honye] nītah?
 how George Lillian work to 3s.went 3s.said
 'How did George say that Lillian went to work?' (She got a ride.)
- b. ?Nts'ēn'a_i George [Lillian 'it'ēn k'its honye] t_i nītah?
 'How did George say that Lillian went to work?' (He said it loudly.)
- (4) a. Nts'ēwh_i George [Lillian 'it'ēn k'its t_i honye] nītah?
 when George Lillian work to 3s.went 3s.said
 'When did George say that Lillian went to work?' (She went at 9:00.)
- b. ?Nts'ēwh_i George [Lillian 'it'ēn k'its honye] t_i nītah?
 'When did George say that Lillian went to work?' (He said it at 11:00.)

I have shown in chapters 3 and 4 that *wh*-movement in Babine-Witsuwit'en is free. In complex sentences, the *wh*-phrase may appear in situ, fronted in the embedded clause, or fronted in the matrix clause. However, in (3) and (4), *nts'ēn'a* 'how' and *nts'ēwh* 'why' may not be interpreted with the matrix clause if they appear fronted in the matrix clause. As mentioned in Chapter 3, speaker judgments vary on these kinds of questions, with some speakers accepting (3b) and (4b). It seems that while these are not ungrammatical under the intended interpretation, they are not the preferred interpretations. For example, one does not normally question the manner of saying something, as in (3b). We find the same preferences in English. Consider the questions and sample answers in (5):

- (5) a. How_i did George say that Lillian went to work t_i? (She got a ride.)
 b. How_i did George say t_i that Lillian went to work? (He said it loudly.)

(5b) is certainly not an impossible interpretation, but out of context, it is not the most salient one. In fact, in order to clarify the intended interpretation, contrastive stress must be employed:

(6) How did he SAY it?

Without this stress, or some prior, specific context discussing the manner of saying, for example, *how* will always be interpreted as questioning the lower clause. I think this is the reason for varying judgments in the Babine-Witsuwit'en questions containing certain *wh*-adjuncts as well. Thus, what at first appears to be an adjunct/argument asymmetry in the fronting of *wh*-phrases in Babine-Witsuwit'en is instead the result of selection of the most pragmatically salient interpretation. Sentences (3b) and (4b), just like (5b), are perfectly grammatical, but ruled out by extragrammatical principles.

It should also be explained why a *wh*-adjunct in the intermediate position (not in situ and not fronted in the matrix clause) may be associated with either the matrix or embedded verb.

(7) George nts'ën'a Lillian 'it'ën k'its honye nītah?

'How did George say that Lillian went to work?'

Two possible answers to the question in (7) are "she went by car," or "he said it loudly." Both interpretations are possible as the result of two separate structures: one in which *nts'ën'a* 'how' originates in the embedded clause and has fronted to the beginning of the matrix clause, and one in which *nts'ën'a* originates in the matrix clause and has adjoined to a position following the subject. Each structure is given below:

(8) George [nts'ën'a_i Lillian t_i 'it'ën k'its honye] nītah?(9) George nts'ën'a_i [Lillian 'it'ën k'its honye] t_i nītah?

We have seen in this section that what at first appears to be an asymmetry with respect to adjunct *wh*-phrases in Babine-Witsuwit'en is instead a preference for a certain interpretation due to its pragmatic salience. Thus, I maintain that *wh*-movement is free and optional in Babine-Witsuwit'en.

6.2 PRAGMATIC SALIENCE AND *WH*-ISLANDS IN ENGLISH

In this section, I examine whether pragmatic salience can explain some data in English related to the Babine-Witsuwit'en data in the previous section.

Saito (1985) was the first to remark on the long-distance inextractability of adjuncts in English. Though adjuncts can generally appear in many sentence positions, they are not interpreted as if they had moved from the most deeply embedded position. Consider the sentence in (10) and its two possible derivations in (11a) and (11b):¹

- (10) Why do you wonder whether Scott sees Cathy?
- (11) a. *Why_i do you wonder whether Scott sees Cathy t_i?
 b. Why_i do you wonder t_i whether Scott sees Cathy?

Chomsky has suggested that the inextractability of adjuncts from *wh*-islands as in (11a) should be attributed to what he calls "the garden path nature of adjuncts" (Oka 1995). That is, potentially ambiguous sentences have only the interpretation in which the *wh*-

¹ As in previous chapters, I use *t* to represent the position a phrase and its features have moved from, but I am assuming a copy is left there.

adjunct is associated with the higher clause because this is the first one that the “processor” encounters.

Chomsky and Lasnik (1995) note that this preference for association with the matrix clause occurs not only with *wh*-adjuncts, but with non-*wh* adjuncts as well. Their examples are given below:

(12) a. Carefully, John told me to fix the car.

b. John told me to fix the car carefully.

(12a) can only have the interpretation in which *carefully* is associated with John’s telling, while *carefully* in (12b) refers to John’s fixing of the car.

Chomsky’s explanation, however, is somewhat at odds with the Babine-Witsuwit’en and English data and explanation given in 6.1. I argued there that the preferred interpretation is simply the most salient one, which is usually (though not necessarily) the one associated with the embedded clause. However, in the English data here, the interpretation in which the adjunct is associated with the matrix clause is argued to be the most salient.

Also, consider sentences with identical structures except for the use of *that* instead of *whether* as the complementizer. Compare the two sentences below—(13) is ambiguous, while (14) is unambiguous:

(13) When did George say that Lillian went to work?

(14) When did George say whether Lillian went to work?

When in (13) can either question *say* or the embedded clause. Extraction of the adjunct from the matrix clause in which it questions *say* is allowed, though it is not the most salient interpretation. In (14), however, the *wh*-adjunct can only be associated with the higher clause. It questions when George said it, not when Lillian went to work. There is something about the presence of *whether* that blocks the derivation in which the adjunct comes from the lower clause. This is the standard *wh*-island effect.

Another example illustrating that extraction is prohibited out of *wh*-islands is given below in (15):

(15) *How_i do you wonder which problem_j Sue could solve t_j t_i?

The traditional explanation for the ungrammaticality of (15) is that *how* is prevented from moving successive cyclically and landing in the embedded CP because this Specifier position is occupied by *which problem*. However, moving in one fell swoop to the matrix CP violates Subjacency, so it is ungrammatical. And, as shown above and is well known, when a *wh*-complementizer rather than a *wh*-phrase is present in the intermediate position, the sentence is also ungrammatical. Consider sentence (11a) from above, repeated below:

(11a) *Why_i do you wonder whether Scott sees Cathy t_i?

In this case, a complementizer *whether* intervenes between the *wh*-word *why* and its copy. However, the complementizer should not block successive-cyclic movement of *why* to the higher CP since it occupies the head position rather than the Specifier position. Based

on such data, Chomsky & Lasnik (1977) proposed what came to be called the Doubly Filled COMP Filter. It stipulates that when an overt *wh*-phrase occupies the Spec of some CP the head of that CP must not dominate an overt complementizer. (When it was originally formulated, there was no Specifier of CP position. It was assumed that both the complementizer and the moved *wh*-element were dominated by the COMP node; hence, the name.) This filter is, of course, not explanatory.

Under current assumptions, Specifier positions are not projected unless they are necessary. A C that contains *whether* does not project an operator and there is, therefore, no need for a Specifier position. As discussed in Chapter 5, a *wh*-feature required by a verb like *wonder* may be satisfied by the [+*wh*] complementizer *whether*. The presence of this complementizer and its *wh*-feature then prevents a more deeply embedded *wh*-phrase, such as *why* in (11a), from moving to the beginning of the embedded clause, ruling out the following sentence:

(16) *Do you wonder why whether Scott sees Cathy?

But what prevents *why* from raising all the way to the beginning of the matrix clause, as in (11a)? There are no intervening landing sites, so Shortest Move is not violated and such a movement should be legitimate. I first explore an explanation provided by Ochi (1997) and Masao Ochi (personal communication).

Ochi (1997) suggests that *wh*-island violations like that in (11a) fall out from the definition of Attract. Chomsky's (1995) definition is given below:

(17) Attract F
K attracts F if F is the closest feature that can enter into a checking relation with a sublabel of K. (297)

Wh-islands are explained, Ochi claims, because the higher C (K) attracts the closest feature. Ochi argues that Attract can explain the ungrammaticality of sentences like (11a), as well as (18)-(20) below:

- (18) *Who_i do you wonder whether Scott sees t_i?
 (19) *How_i do you wonder which problem_j Sue could solve t_j t_i?
 (20) *Who_i do you wonder t_i ate what?

According to Ochi, (18) is ruled out in the following way: *whether* contains the closer *wh*-feature to the matrix C, and *wh*-features, being +Interpretable, should be able to check more than once since they remain until LF. Thus, (18) is ruled out by Shortest Move. However, by this reasoning, *whether* rather than *who* should raise to check off the feature in (18), deriving (21):

- (21) *Whether_i do you wonder t_i Scott sees who?

(21) is then unacceptable, Masao Ochi (personal communication) argues, following Chomsky (1995) and Maki (1995), because the matrix C requires a [wh] C, but *whether* is a *yes/no*-operator. (These distinctions correspond to my C_[wh,Q] and C_[Q] as laid out in Chapter 5.) Thus, the derivation of the sentence in (21) converges since Attraction is successful, but it converges as gibberish.

By the same reasoning, (19) is ungrammatical because *which problem*, rather than *how*, is the closest *wh*-phrase and accompanying *wh*-feature to raise and check the

features in the matrix C. (19) is, therefore, a violation of Shortest Move. However, raising of *which problem* would result in the following ungrammatical sentence:

(22) *Which problem_i do you wonder t'_i Sue could solve t_i how?

Which problem is a *wh*-operator, so the problem that arose above in (21) does not arise here. Masao Ochi (personal communication) suggests that this type of sentence is ruled out because the adjunct *wh*-phrase *how* cannot be left in situ. That certain *wh*-adjuncts (*how* and *why*) cannot be left in situ is a restriction in English that I return to in the next section.

What explains the ungrammaticality of (20)? Given that argument *wh*-phrases can be left in situ (Who bought what?), nothing should be wrong with this derivation. Chomsky (1995) says that only –Interpretable features become “frozen in place,” but Ochi suggests that to account for the ungrammaticality of (20), we must assume that the +Interpretable *wh*-phrase cannot move once it is in a position from which it binds a variable. It is this assumption that I would like to further explore.

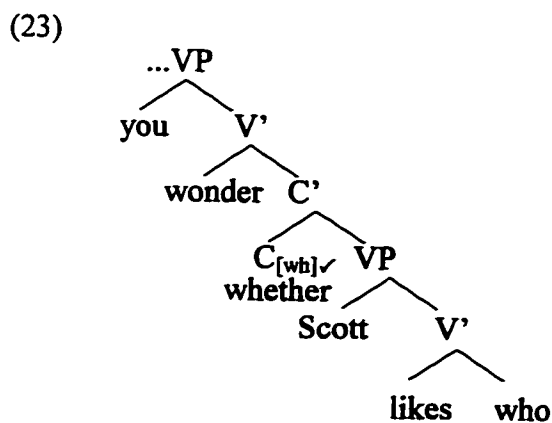
I suggested in Chapter 2 (section 2.8.6) that once a lexical item’s features have served to check off the features in a functional projection, the lexical item and its features are frozen in place regardless of the Interpretability of the features. A copy of the moved element may, however, raise to check other target features. (I argued that this is what happens in simple *wh*-questions in section 5.1.1.) Müller & Sternefeld (1996) also note that once a *wh*-phrase is moved to a [+wh] position, it is frozen in place. However, certain features seem to be allowed to remain for feature-checking. As discussed in

Chapter 1 and Chapter 5 (section 5.5), Marantz (1995) suggested that “double checking” of the ϕ -features of NPs is allowed in French.

Assuming a *wh*-feature becomes frozen once it has checked off a target’s feature can then explain the ungrammaticality of (18), (19), and (20) in a more consistent way than Ochi’s approach. Consider each of the sentences in turn:

(18) *Who_i do you wonder whether Scott likes t_i?

In (18), *whether* checks off the feature in C projected from the verb in the embedded clause, as illustrated in the tree below:



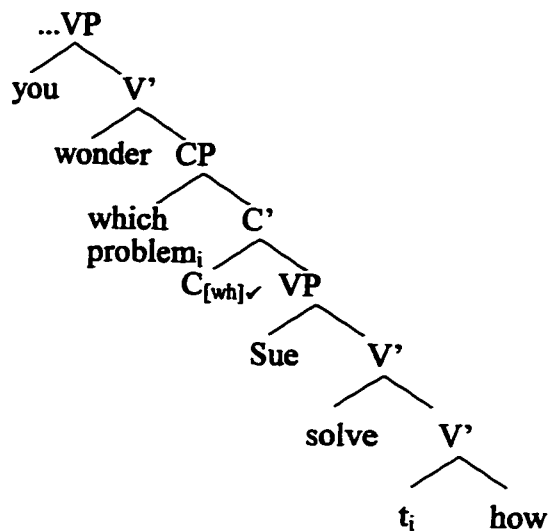
Whether and its *wh*-feature have then ‘served their purpose’ and cannot raise to check any other *wh*-features. However, *who* cannot raise to check a *wh*-feature in the matrix C because it is too far away. *Whether* is the closest potential candidate for checking, but it is unavailable. Thus, (18) is ungrammatical, and the nearly-identical (11a) is ruled out in the same way.

(19), repeated below, is ruled out in a similar manner.

(19) *How_i do you wonder which problem_j Sue could solve t_j t_i?

In (19), *which problem* raises to check off the feature in C projected from the verb in the embedded clause, as illustrated in the tree below:

(24)



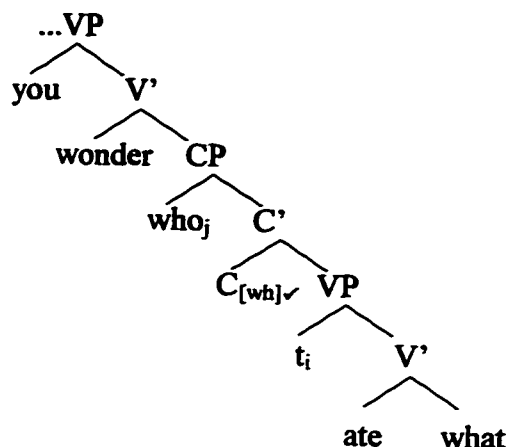
Which problem is frozen in place since its *wh*-feature has already served to check the *wh*-feature of a target, and therefore, *which problem* cannot raise to check any other *wh*-features. However, neither *how* nor the copy of *which problem* can raise to check a *wh*-feature in the matrix C because they are farther away than the closer candidate *which problem*.

And finally, (20) is also ruled out similarly. It is repeated below:

(20) *Who_i do you wonder t_i ate what?

In this sentence, *who* raises to check off the feature in C that has been projected from the verb in the embedded clause, as illustrated in the tree below:

(25)



After raising to the embedded Spec of CP, *who* has served its purpose and is frozen in place, preventing it from raising to the matrix C to check off a *wh*-feature. However, neither of the other candidates—*what* or the copy of *who*—can satisfy a feature in the matrix C because they are too far away, and so (20) is also ruled out.

Thus, the *Wh*-Island Constraint can be derived by appealing to Attract and assuming, as I have elsewhere, that features of certain lexical items may not double-check target features.

To return to non-*wh* complementizers, notice that when no *wh*-feature is present in the embedded C, the sentences are grammatical, as shown in (26) and (27):

(26) Who_i do you think that/∅ Scott sees t_i?

(27) Why_i do you think that/∅ Scott sees Cathy t_i?

These sentences are acceptable because the [-*wh*] feature of *that* and the null complementizer (∅) in the embedded C cannot raise to satisfy the *wh*-feature in the

higher C. Thus, *who* in (26) and *why* in (27) raise to check that feature. Shortest Move is not violated in these derivations because no other intervening landing sites are available.

Because Babine Witsuwit'en has no complementizers (either [+wh] or [-wh]) and because its verbs may not project Cs, it has no *wh*-island effects, and there is no distinction between the correlates of the English sentences discussed above, regardless of the position of the *wh*-phrase, as shown below in (28):

- (28) a. George [Lillian nts'ëwh 'it'ën k'its honye] nītah?
 George Lillian when work to 3s.went 3s.said
- b. George [nts'ëwh Lillian 'it'ën k'its honye] nītah?
- c. Nts'ëwh George [Lillian 'it'ën k'its honye] nītah?

‘When did George say that/whether/if Lillian went to work?’

Thus, Babine-Witsuwit'en does not have *wh*-islands.

6.3 ENGLISH QUESTIONS CONTAINING BOTH ADJUNCT AND ARGUMENT *WH*-PHRASES

In this section, I discuss English questions that include both adjunct and argument *wh*-phrases. These kinds of sentences appear to violate Attract because either the adjunct or argument *wh*-phrase may raise. However, most of these sentences are grammatical, which will be shown to follow from equidistance. We will see, however, that equidistance cannot account for all of the data.

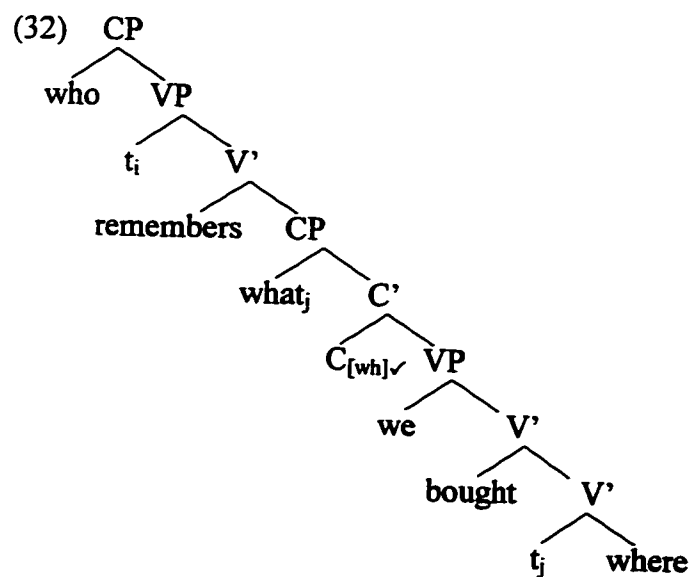
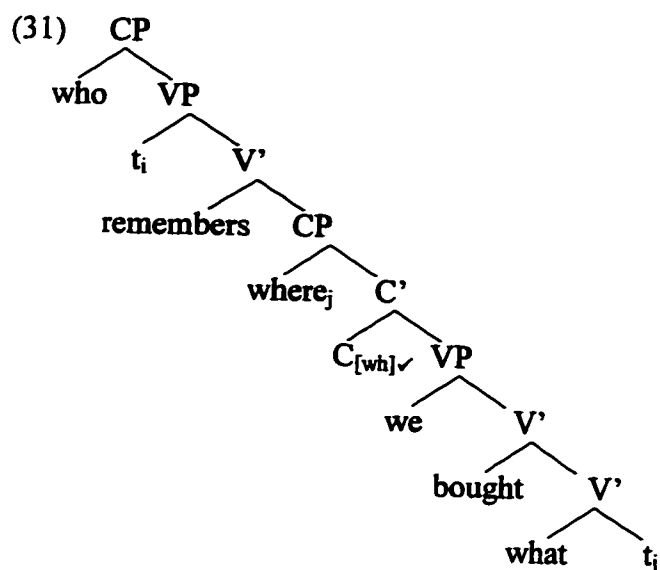
In the following questions containing both adjunct *wh*-phrases and argument *wh*-phrases, it appears that a violation of Shortest Move has occurred. Consider the following data from Huang (1982) (who discusses them for different reasons):

- (29) a. Who remembers where_i we bought what t_i?
 b. Who remembers what_i we bought t_i where?
- (30) a. Who remembers when_i we bought what t_i?
 b. Who remembers what_i we bought t_i when?

The question we must address here is why either the adjunct or argument *wh*-phrase in the embedded clause can raise to check off the feature of the embedded C. It seems that only (29b) and (30b), but not (29a) and (30a), should be acceptable, since the arguments are “closer” to the C and can most economically check off its feature.

The solution lies in the fact that *wh*-phrases like *where* and *when* are adjuncts, and they, therefore, occur in adjoined positions, as illustrated in the trees below:²

² Again, not all projections and movements are shown.



Either of the trees in (31) and (32) are possible because the *wh*-argument and the *wh*-adjunct are equidistant from the target. *Where*, being adjoined, is the same distance from the target as *what*. Equidistance, as defined in Chomsky (1995) is given below:

(33) γ and β are equidistant from α if γ and β are in the same minimal domain.

Domain and minimal domain are defined in Chomsky (1993) in the following way:

- (34) The domain of α is the set of nodes contained in $\text{Max}(\alpha)$, excluding α .
- (35) The minimal domain of α is a subset of the domain of α that includes just the categories locally related to α .

Thus, *what* and *where* are equidistant in (29) because they are in the same minimal domain.

All *wh*-adjuncts do not behave similarly, however. Consider the following data from Huang (1982):

- (36) a. Who remembers why we bought what?
 b. *Who remembers what we bought why?
- (37) a. Who remembers how we bought what?
 b. *Who remembers what we bought how?

Huang suggests that a relevant difference between *wh*-operators is that *who* and *what* are dominated by NP, and are thus 'objectual,' while *why* and *how* are not. He also notes that 'who' and 'what' are arguments of predicates, while 'how' and 'why' are adjuncts of predicates or are predicates themselves. Aoun and Li (1993a) summarize Huang's and others' (Chomsky 1986, Aoun 1986, Rizzi 1990, Cinque 1990) discussions of the distinctions among *wh*-operators, noting that *who* and *what* are operators which range over individuals, i.e., referential expressions. Questions with *who* or *what* may be answered with the names of individuals. They also note that *who* and *what* have indexicals corresponding to them (*he, she, it, ...*). *Where* and *when* pattern like *who* and *what* in these respects. The indexicals *now, then, here, and there* suggest that *where* and

when are also operators which bind referential expressions. Additionally, *when* and *where*, like *who* and *what*, may occur in positions that generally take NPs, such as the object of a preposition, as illustrated below:

- (38) a. From where did he come?
 b. Since when have you been here?

- (39) a. To whom did he speak?
 b. About what did he talk to you?

And finally, Aoun & Li note that in many languages, the words meaning *when* and *where* are true NPs. Huang says that in Chinese, *when* is *shenme shihou* ‘what time’ and *where* is *shenme difang* ‘what place’.

How and *why*, however, quantify over propositions or predicates, not individuals. They do not have corresponding indexicals. They are not NPs and do not occur in typical NP positions. The answers to questions with *how* and *why* cannot be referential expressions.

This distinction between *how* and *why* on the one hand and the other *wh*-phrases on the other is well-documented and observed has been called an objectual/non-objectual distinction (Huang, 1982), as noted above, or a referential/nonreferential distinction (Aoun & Li 1993a). As noted in 6.2, *why* and *how* may not be left in situ:

- (40) *Who left how/why.

Compare (40) with the fronted *wh*-aduncts in the following grammatical sentences:

- (41) Why did who leave?
 (42) How did who leave?

I will not provide an explanation here for this asymmetry, but will simply note the descriptive generalization that nonreferential adjunct *wh*-phrases may not be left in situ. I leave a true explanation of this phenomenon for future work.

6.4 SUMMARY AND CONCLUSIONS

In this chapter I have tied up some loose ends and provided clarification of issues from previous chapters. I examined sentences from Babine-Witsuwit'en that appear at first glance to exhibit an adjunct/argument asymmetry, but showed that they are grammatical—along with their English counterparts. One interpretation is preferred simply because it is more pragmatically feasible. Thus, the Babine-Witsuwit'en adjunct/argument asymmetry is only an apparent one. I also discussed sentences with *wh*-island violations in English and proposed to account for this within the Minimalist Program by simply appealing to the definition of Attract F. And finally, I showed that in certain complex sentences of English, either an adjunct or an argument *wh*-phrase may raise to check off a feature in C since the *wh*-phrases are equidistant from the target.

CHAPTER 7: SUMMARY AND CONCLUSIONS

7.0 OVERVIEW

In this study, I have argued that languages with optional *wh*-movement do exist, and I have proposed an analysis of these languages by appealing to Minimalist assumptions. This analysis allows for an account of *wh*-movement across a variety of language types.

7.1 SUMMARY

In Minimalism, it becomes important to determine motivation for movement operations. I argued in Chapter 2 that many of the languages that appear to have optional *wh*-movement do not. Rather, these languages' *wh*-phrases raise because of the presence of focus or topicalization features, not *wh*-features in C, that must be checked off. Chapter 2 argued that, in addition to overt focus or topicalization markers (which may or may not be present), the focused and topicalized interpretations of questions containing fronted *wh*-phrases indicate that a focus or topicalization feature is present. Thus, two sentences in these languages—one with an in-situ *wh*-phrase and one with a fronted *wh*-phrase—are not related by optional *wh*-movement.

In Chapter 3, I focused on Babine-Witsuwit'en's optional *wh*-movement. It differs from the languages discussed in Chapter 2 in that a question with an in-situ *wh*-

phrase and a question with a fronted *wh*-phrase have identical meanings and are used in the same discourse situations by the same speakers. It was shown that in Babine-Witsuwit'en, sentences involving focus and sentences involving topicalization are formed in distinct ways, and that *wh*-movement in Babine-Witsuwit'en obeys constraints typical of *wh*-movement in other languages. Thus, the *wh*-movement really is movement to Spec of CP, and it is completely optional.

In Chapter 4, I proposed that the optionality in Babine-Witsuwit'en can be explained by optional selection of C from the numeration. *Wh*-phrases are linked to an operator in a typing phrase, TyP, which marks scope. Features in Ty type the clause as an interrogative (*wh*- or *yes/no*) or declarative. There are no meaning differences between questions with in-situ *wh*-phrases and those with fronted *wh*-phrases because the +Interpretable *wh*-features of the *wh*-phrases survive to LF regardless of their position before Spell-Out. If a C is present, its –Interpretable *wh*-feature must be checked off overtly.

In Chapter 5, I showed how the proposal to optionally select C in languages like Babine-Witsuwit'en fits into a general theory of *wh*-movement. I discussed languages like English in which *wh*-movement is required; languages like Chinese in which there is no *wh*-movement; languages like French, in which there is *wh*-movement within embedded questions only; and languages with multiple *wh*-movement like Bulgarian. In English-type languages, a C is always selected, forcing *wh*-movement. In Chinese-type languages, a C is never selected. In French-type languages, a verb may project a C, but

no C may be selected from the numeration. And in Bulgarian-type languages, *wh*-phrases themselves motivate feature-checking, resulting in raising of multiple *wh*-phrases.

In Chapter 6, I discussed some apparent adjunct/argument asymmetries in Babine-Witsuwit'en and English. I determined that the asymmetries in Babine-Witsuwit'en are due to the pragmatic salience of certain interpretations, and the resulting sentences are, therefore, not syntactically ungrammatical. Some related *wh*-island data from English, however, is shown to fall out from the definition of Attract. And finally, I discussed some English sentences containing both adjunct and argument *wh*-phrases and argued that two possible derivations result because the lexical items are equidistant from the target.

7.2 CONCLUSIONS

This work has provided an explanation for optional *wh*-movement. As discussed in Chapter 1, optionality is prohibited in all recent Chomskyan versions of syntax. The small, finite set of principles in universal grammar are invariant across languages, while the variation across languages is explained by parametric choices, which force the language-learner to choose based on the evidence from the linguistic environment. So, for example, a child either determines that their language has *wh*-movement or does not have it.

I have explained optional *wh*-movement here by allowing optional selection of a head C from the numeration. C carries morphological features with it which must be checked off by other features of lexical items. Thus, if a language has selected an

interrogative C, that language has *wh*-movement. I have argued that some languages always select C in *wh*-questions (English), other languages never select C in *wh*-questions (Chinese), while some languages have the option to either select C or not (Babine-Witsuwit'en). In this way, optional *wh*-movement is explained. I also discussed other language types which have *wh*-movement in embedded questions, but not in main questions (French and American Sign Language). I have argued that these languages allow the verb to project a C, but do not allow C to be selected from the numeration. And finally, I have also discussed languages with multiple *wh*-movement and provided an explanation for those language types within the framework used here. And so, the presence or absence of C provides a global account of *wh*-movement.

Another important aspect of this research has been distinguishing *wh*-movement from other types of movement. As discussed above, Chomsky (1993, 1995) proposes that all movement operations should be motivated by feature-checking operations. It is important to try to determine what features motivate movement in any particular sentence in order to determine the type of movement involved. *Wh*-phrases may front in many languages, but I have argued that in some of those languages, *wh*-features are not what motivate the movement. Rather, movement is motivated by the need to check topicalization or focus features. The type of feature motivating movement can be determined by various syntactic markers (focus particles, for example), as well as differences in meaning (focused sentences will have focus interpretations). Additionally, questions involving true *wh*-movement will involve constraints that have been shown to be typical of *wh*-movement. I have shown that for the languages discussed here—

languages argued to exhibit *wh*-movement—typical *wh*-movement constraints are involved.

In sum, I have proposed some solutions to the problem of optionality, especially prevalent in the Minimalist Program.

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