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UNIVERSITY OF CALIFORNIA

Los Angeles

Wh / Indefinites and the Structure of the Clause in Western Apache

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Linguistics

by

Brian Charles Potter

1997

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1997

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To my wife Lisa, for her love, patience, and support.

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ABSTRACT OF THE DISSERTATION

Wh / Indefinites and the Structure of the Clause in Western Apache

by

Brian Charles Potter
Doctor of Philosophy in Linguistics
University of California, Los Angeles, 1997
Professor Pamela Munro, Co-chair
Professor Dominique Sportiche, Co-chair

The purpose of this dissertation is twofold. First, this dissertation presents a description of the syntax of Western Apache, an Athabaskan language for which few references are presently available. Second, this dissertation provides an analysis of several syntactic phenomena that are relatively unexplored in the Athabaskan literature and, on the basis of these phenomena, motivates a detailed structural and derivational analysis of the Western Apache clause.

I focus on a class of words which begin with the prefix *ha-* and serve as Wh phrases, indefinites, and polarity items. Following proposals for Wh words in other languages (Nishigauchi 1986, 1990, Cheng 1991, Li 1992), I argue for an analysis of the *ha-* words as variables bound by the closest c-commanding operator. I present and discuss Superiority (Chomsky 1973) and Anti-Superiority (Watanabe 1992) effects in

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multiple *ha-* clauses. I argue for an analysis of these effects as Weak Cross Over following a proposal in Hornstein (1995) for English and Japanese. I explore the interaction of the *ha-* words with the particles *-go* and *-hií*. These particles serve as both complementizers (cf. Schauber 1979: Navajo *-gó/-ígií)* and nominal modifiers. I argue that constituents marked by these particles are associated with distinct projections at LF.

On the basis of *ha-* syntax, I provide an analysis of the Western Apache clause and discuss two implications for Universal Grammar. First, I demonstrate that Western Apache exhibits true optional Wh movement. Optional movement is not predicted within the Minimalist framework (Chomsky 1995). Second, I argue against a Pronominal Argument Hypothesis (PAH: Jelinek 1984) analysis of Western Apache. A PAH analysis has been argued for Western Apache's close linguistic relative Navajo (cf. Jelinek & Sandoval 1989, Willie 1991), and Western Apache exhibits properties argued to be characteristic of Pronominal Argument languages. I demonstrate that a PAH approach to Western Apache is untenable and that the apparent Pronominal Argument properties of Western Apache must therefore not be diagnostic of PAH structure. To the extent that PAH analyses for other languages are motivated on the basis of similar properties, this conclusion challenges the existence of PAH languages in general.

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CHAPTER 1

INTRODUCTION

1.1 Preliminary Remarks

This dissertation presents a description of Western Apache syntax. The discussion focuses on a class of words which begin with the prefix *ha-* and serve as Wh phrases, indefinites, and polarity items. Through the investigation of *ha-* word syntax, I provide a detailed analysis of the derivation and hierarchical organization of the Western Apache clause. I argue against the analysis of Western Apache as a Pronominal Argument language.

1.2 Western Apache

Western Apache is an Athabaskan language spoken primarily on the San Carlos and Fort Apache Indian Reservations in east-central Arizona. The Athabaskan language family consists of Northern, Pacific Coast, and Southern branches. Western Apache is a member of the Southern branch of the family. The Northern branch includes numerous languages, such as Koyukon, Ahtna, Gwich'in, Sarcee, Slave, Dogrib, and Chipewyan, spoken in Western Canada and Alaska. The Pacific Coast branch includes a small number of languages originally spoken in Northern California and Oregon. Hupa and Tolowa-Tututni are the only Pacific Coast Athabaskan languages known to be spoken today. The Athabaskan languages are part of the Na-Dene[1] phylum (Sapir 1915, 1929)

[1] 'Na-Dene' is composed of *Na*, the Tlingit word for 'people', and *Dene*, an Athabaskan word for 'person' (Cook & Rice 1989). The Western Apache cognate of *Dene* is *Ineel/ṇneel/ṇdee* 'Apache person'.

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which additionally includes Eyak, Tlingit, and Haida.[2] For more comprehensive discussion of the Athabaskan language family and the Na-Dene phylum, see Cook & Rice (1989), Young (1983), Krauss & Golla (1981), and Krauss (1979, 1976).

The Southern Athabaskan languages, also known as the 'Apachean' languages, are presently spoken primarily in a broad region of the Southwest United States including eastern Arizona, New Mexico, and Utah. The Apachean languages include Navajo, Western Apache, Mescalero, Chiricahua, Jicarilla, Lipan, and Plains Apache.[3] Hoijer (1938) classifies the Apachean languages into two subgroups: Western Apachean, including Navajo, Western Apache,[4] and Chiricahua-Mescalero, and Eastern Apachean, including Jicarilla, Lipan, and Plains Apache.[5] Hoijer (1971) further distinguishes Plains Apache from the other Apachean languages as a Southwestern group. The classification in (1) combines the proposals in Hoijer (1938) and Hoijer (1971). Plains Apache has its own branch and the other Apachean languages are separated into Western and Eastern subgroups. Chiricahua and Mescalero are identified as mutually intelligible dialects of one language. Note that this classification is compatible with that of Hardy (1979), although Hardy does not address Lipan.

---

[2] Krauss (1964, 1965) proposes the inclusion of Eyak within Na-Dene. Krauss & Golla (1981) consider the inclusion of Haida 'untenable', while Pinnow (1985) argues in favor of the grouping.

[3] Originally, Mescalero also extended into western Texas, and Lipan was spoken in southern Texas. Plains Apache is spoken by members of the Apache Tribe of Oklahoma in and around Anadarko, Oklahoma, and there are Chiricahua communities in the area of Fort Sill, Oklahoma.

[4] Hoijer refers to Western Apache as San Carlos Apache. Willem de Reuse (personal communication) notes that Hoijer actually worked with a speaker of the Tonto dialect of Western Apache, which is distinct from the San Carlos dialect.

[5] Hoijer refers to Plains Apache as Kiowa-Apache.

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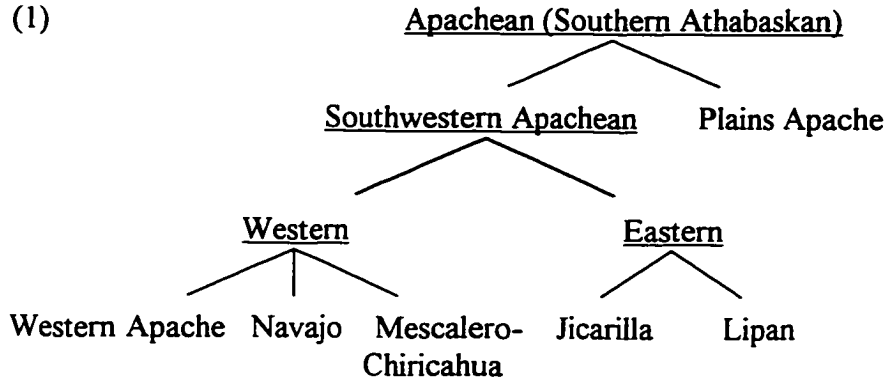
(1)



Hoijer identified Navajo, Western Apache, Mescalero-Chiricahua, Jicarilla, Lipan, and Plains Apache, as 'closely related' (Hoijer 1963:6) but 'mutually unintelligible dialect groups' (Hoijer 1945a:193, 1938). De Reuse (personal communication) maintains that Western Apache and Navajo are not mutually intelligible,[6] but notes that Western Apache dialects spoken in regions close to the Navajo reservation exhibit a greater degree of mutual intelligibility with Navajo than do dialects spoken in regions farther from the Navajo reservation. According to de Reuse, the Tonto dialect spoken in and near Camp Verde and Payson, Arizona, is geographically and linguistically the closest dialect to Navajo, while the San Carlos dialect, the predominant dialect on the San Carlos Reservation, is geographically and linguistically the most distinct.[7] Note that the predominant dialect on the Fort Apache Reservation is White Mountain Apache. Hill (1963) documents several sound correspondences between the San Carlos and White Mountain dialects.

[6] De Reuse (1994, 1992) notes, however, that Western Apache and Navajo speakers understand much of each other's languages, and that some speakers claim full mutual intelligibility.

[7] The principal San Carlos Apache speakers consulted for this dissertation do not find Navajo mutually intelligible with their dialect.

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The 1990 U.S. Census reports an estimated 12,390 speakers of 'Apache'. It is unclear to what extent this figure accurately distinguishes Western, Mescalero-Chiricahua, Jicarilla, Plains, and Lipan Apache.[8] Census estimates also indicate that over 17,000 respondents identified themselves as speakers of 'Indian' or 'American Indian', and approximately 1,500 respondents identified themselves as 'Athabaskan' speakers. The particular languages spoken by these individuals are not known.[9] De Reuse (personal communication) estimates the total number of Western Apache speakers to be around 14,000 - 15,000.

John Dawson, the principal language consultant for this dissertation, is a speaker of the San Carlos dialect of Western Apache. Presently in his early fifties, he spoke only Apache prior to his first exposure to English at age twelve. Additional examples and grammaticality judgments were provided by Earl Sisto, a San Carlos Apache speaker of approximately the same age.[10]

1.3 Linguistic Resources and Previous Research

A bibliography compiled by Kari (1973) cites over 450 language related references for Navajo, and that list has grown significantly since its publication. In comparison, few linguistic references and language resources are presently available for Western Apache. In this section, I provide a brief synopsis of the literature for Western

[8] Additionally, an estimated 303 respondents identified themselves specifically as 'San Carlos' speakers. Individual estimates are also provided specifically for Jicarilla, Plains Apache, and Chiricahua speakers.

[9] The Census figures are listed in the International Journal of American Linguistics, volume 61.1, 1995, with commentary by Aaron Broadwell. The figures are from an unpublished Census report: Language Spoken at Home and Ability to Speak English for United States, Regions, and States: 1990 (CPH-L-133).

[10] My familiarity with Western Apache phonetics, phonology, and orthography is also due in part to consultation with other Western Apache speakers on the San Carlos Reservation and in Tucson, Arizona.

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Apache. My familiarity with the literature is due in part to the extensive bibliographies in de Reuse (1994, 1997). I refer the reader to those works for additional discussion.

The earliest dated substantial references on Western Apache are a number of vocabulary lists including White (1873-1875), Bourke (circa 1880),[11] Gatschet (1883-1884), and Reagan (1903). There are two substantial collections of lexical field notes, Hoijer (1936) and Uplegger (n.d.),[12] and early San Carlos and White Mountain Apache texts are compiled in Goddard (1918, 1919a, 1919b, 1920) and Hoijer (n.d.). More recently, dictionaries have been compiled by Perry et. al. (1972), Quay (1987), and Bray (n.d.). The longest text currently available is the Western Apache New Testament (American Bible Society 1988).

There are two previous dissertations on Western Apache linguistics: Greenfeld (1972), a study of White Mountain phonetics and phonology, and Durbin (1964), a study of San Carlos phonology and morphology. In addition, there are a number of published articles on Western Apache in the academic literature. Hoijer (1938, 1942, 1943, 1945-1949, 1956, 1963, 1971a, 1971b) discusses Western Apache within the context of comparative Apachean studies. Edgerton (1963) provides a tagmemic sketch of Western Apache grammar. Additional published articles on Western Apache linguistics include Hill (1963), Mierau (1963), Greenfeld (1971, 1973, 1978, 1984, 1986, 1992), Shayne

[11] Bourke, a captain in the U.S. Calvary, compiled his word lists during the 1870's and 1880's. The collection was published by the University of Northern Colorado in 1980. In an appendix to that collection, Joseph Porter notes that Western Apache speakers provided most of the vocabulary, although Bourke also worked with Chiricahua speakers when possible.

[12] Francis Uplegger, a Lutheran missionary, first arrived in San Carlos in 1919 (Mails 1974).

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(1982), Potter (1995), Fountain (1995), and de Reuse (1997).[13] There are also a number of works on Western Apache in the anthropology/linguistic-anthropology literature such as Basso (1966, 1969, 1970, 1979, 1983, 1990), Kaut (1957), and Goodwin (1933, 1935, 1938, 1939, 1942, 1973).[14]

In addition to academic publications, there are a number of Western Apache pedagogical materials presently available or in preparation. Edgerton & Hill (1958) is a primer. De Reuse & Adley-Santamaria (1996), Potter & Dawson (1996), and de Reuse & Goode (1996) are pedagogical grammars.[15] De Reuse (1994) provides an introduction to Western Apache linguistics for Western Apache speakers and educators. Numerous educational materials have also been developed by the San Carlos and White Mountain communities including such works as Goode (1985, 1996), Casey et. al. (1994), Steele et. al. (n.d. [three works]), Johnson et. al. (n.d.), and the White Mountain Apache Culture Center (1972, 1983).[16]

Finally, given the close linguistic relationship between Western Apache and Navajo, many of the linguistic references available for Navajo are of use as background resources for Western Apache. Young & Morgan's (1987, 1992) substantial Navajo grammar and dictionaries, the analyses of Navajo verb morphology in Kari (1976) and Hardy (1979), the various dissertations on Navajo syntax (Elgin 1973, Platero 1978,

[13] Bartelt (1980a, 1980b, 1981, 1982a, 1982b, 1983a, 1983b, 1986, 1988) and Liebe-Harkort (1979, 1983a) discuss Apachean English. See also Liebe-Harkort (1980, 1983b, 1984).

[14] These are the published articles of which I am aware. There are additional unpublished works such as de Reuse (1992, 1993) and Fountain (1996).

[15] De Reuse & Adley-Santamaria (1996), Potter & Dawson (1996), and de Reuse & Goode (1996) are preliminary works. Wilson & Martine (1996) provide an elementary teaching text for of Jicarilla.

[16] Lewis (1989) provides a statistical assessment of fluency in several White Mountain schools.

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Perkins 1978, Schauber 1979, Willie 1991), McDonough (1990), and Speas (1990a) are particularly useful resources for further analysis of Western Apache.

1.4 Phonemic Inventory and Orthography

The table in (2) provides the phonemic inventory and corresponding orthographic notation for the Western Apache consonants. For each phoneme, the orthographic symbol precedes the bracketed IPA symbol representing the canonical phonetic realization of that phoneme. The phonemic inventory in (2) is consistent with that provided in Potter, Dawson, de Reuse & Ladefoged (forthcoming),[17] and the orthographic notation is generally consistent with the 'standard' Western Apache writing system (cf. Perry et. al. 1972, White Mountain Apache Culture Center 1972, 1983, Greenfeld 1972, 1978). De Reuse (1994) provides more detailed comments on the phonemic inventory and discusses variation in the orthographic system. See Young (1977) for discussion of the early history of the Apachean orthography.

[17] The phonemic inventory in de Reuse (1994) additionally includes prenasalized voiced stops [mb] and [nd], glottalized nasals ['m] and ['n], and prenasalized, glottal ['nd]. These segments/sequences were not investigated in Potter et. al. (forthcoming). De Reuse also notes that the phonemic and orthographic status of labialized [h^w] and [k^w] are of some debate.

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(2)	Bilabial	Alveolar	Palato-alveolar	Velar	Laryngeal
Stops	b [p] p [p^h]	d [t] t [t^h] t' [t']		g [k] k [k^h] k' [k']	' [ʔ] [18]
Fricatives		s [s] z [z]	sh [ʃ] zh [ʒ]	x[19] [x] gh [ɣ]	h [h]
Affricates		dz [dz] ts [ts^h] ts' [ts']	j [dʒ] ch [$tʃ^h$] ch' [tʃ']		
Laterals		ɬ [ɬ] l [l]			
Lateral Affricates		dl [dl] tɬ [tɬ] tɬ' [tɬ']			
Approximants	w[20] [w]		y [j]		
Nasals	m [m]	n [n]			

As indicated in (2), the Western Apache phonemic system includes unaspirated C, aspirated C^h, and ejective C' stops, affricates, and laterally released affricates. The acoustic properties of the stop segments, and the possible additional presence of a contrastive voiced [d] for some non-San Carlos speakers, are discussed in Potter et. al. (forthcoming).

---

[18] Note that all vowel initial words are pronounced with an initial glottal stop. Following orthographic convention, I do not write include word initial glottal stops in my transcriptions.

[19] The orthographies of Perry et. al. (1972) and the White Mountain Apache Culture Center (1972, 1983) do not distinguish /x/ and /h/ phonemes. /x/ is regularly written as *h* and is written as *x* only when following *s*, i.e., *sx*, to distinguish an *s-h* sequence from the palato-alveolar fricative *sh*. See Young & Morgan (1987: xiv) and de Reuse (1994: 66) for discussion of the +phonemic status and allophonic variation of /x/ and /h/ in Navajo and Western Apache. For clarity of data, I will consistenly represent [h] with orthographic *h*, and [x], clearly present in many Western Apache words, with orthographic *x*.

[20] This labial-velar segment is possibly an allophone of /ɣ/ (Greenfeld 1972, de Reuse 1994), but is distinguished from /ɣ/ in the Western Apache orthography.

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The Western Apache vowel inventory includes four phonemic vowel qualities, illustrated in (3), each with phonemic contrasts in length, nasality, and tone (de Reuse 1994, Potter et. al. forthcoming).[21] The Western Apache vowel system is thus similar to that reported in Hoijer (1945b) for Navajo.

(3) i

e o

a

In standard Western Apache/Apachean orthography, vowel length is indicated by a double vowel, nasality is marked by a nasal hook, and high tone is marked by an acute accent. This orthographic representation is illustrated in (4) with the high front vowel *i*.

(4)	Oral		Nasal	
	Low Tone	High Tone	Low Tone	High Tone
Short	i	í	ị	ị́
Long	ii	íí	ịị	ịị́

As noted in de Reuse (1994) and confirmed acoustically in Potter et. al. (forthcoming), the contrast between long and short vowels is augmented by a tense/lax distinction. Long vowels are more tense and more on the periphery of the vowel space than their short vowel counterparts. Short *i*, for example, is closer phonetically to lax [ɪ] and long *ii* is closer phonetically to tense [i]. Similar augmentation of the length contrast in Navajo is noted in McDonough, Ladefoged & George (1993) and McDonough & Austin-Garrison (1994).

[21] Potter et. al. report that short nasal *e* is exceptionally rare. Young & Morgan (1987: xii) indicate this phoneme is relatively uncommon in Navajo as well.

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De Reuse (1994) additionally notes that the following diphthongs, represented in orthographic notation, are present in Western Apache: *ai*, *oi*, *ei*, *ao*, *eo*, and *io*. De Reuse suggests that *ei* is a phonetic variant of *ai*, and that *ao*, *eo*, and *io* are only derived by the deletion of intervocalic *k* in fast speech.[22] See Young & Morgan (1987: xii - xiii) for discussion of the phonetic quality of the Navajo diphthongs.

Finally, note that the high back vowel [u] surfaces in several Western Apache words and is written as *u* in the standard orthography. Following the Western Apache orthographic convention, I will write this vowel as *u*. Greenfeld (1972), however, demonstrates that [u] and [o] are allophones of the phoneme /o/. /o/ is pronounced as [u] and written as *u* when preceding the vowel [i]. Long, high tone /ó:/ is pronounced as [ú:] and written as *ú* when preceded by [t^h], [k^h], [s], or [j] (de Reuse 1994).

1.5 Overview of Verb Morphology

As in all Athabaskan languages, Western Apache verbal morphology is exceptionally rich and morphophonologically complex. Prefixes from approximately nine linearly ordered prefix classes may be attached to a verb root, and stem morphology is frequently obscured by allomorphic and allophonic variation, consonant deletion, vowel insertion, and the spread of tone and nasality. Below, I provide a brief overview of Western Apache verbal morphology as relevant to the examples in this dissertation. I also indicate the conventions I will follow in the interlinear glosses. For more comprehensive discussion of Apachean verbal morphology, see the comparative Apachean analysis in Hoijer (1945-1949), the discussion of Western Apache in de Reuse

[22] This dissertation includes several words which are pronounced with instances of the diphthong *ai*, corresponding to English [aɪ] as in 'high'. Specifically, sequences of *a/aa* plus *yi* are pronounced as *aiyi*.

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(1994),[23] and the analyses of Navajo in Stanley (1969), Kari (1976), Young & Morgan (1992, 1987), and Young (1995).[24]

Hoijer (1945-1949) characterized Apachean verbal morphology using a verbal 'template' in which each prefix class is assigned a positional slot. There is variation in the Apachean literature as to the number of prefix slots required. For expository purposes, I adopt the nine position template in (5) (Sapir & Hoijer 1967). Following Kari (1976), the prefixes are split into 'disjunct' (5b) and 'conjunct' (5c) sets. There is evidence that a morphophonological boundary separates the disjunct and conjunct prefixes.[25]

(5a) Verb Stem:
[Disjunct.Prefixes + [Conjunct.Prefixes + Verb]]

(5b) Disjunct Prefixes:
Adverbial-Thematic + Iterative + Distributive-Plural

(5c) Conjunct Prefixes:
Object + Deictic.Subject + Thematic-Aspectual + Mode + Subject + Classifier

Adverbial-Thematic: A substantial number of adverbial prefixes, such as manner and directional prefixes, surface in the Adverbial-Thematic position. (6) provides one

[23] Willem de Reuse (personal communication) is currently compiling a large collection of verb paradigms for a grammar of Western Apache, in progress.

[24] See also Rice (1989) for comprehensive discussion of verbal morphology in Slave, a Northern Athabaskan language. For recent theoretical discussion of Athabaskan verbal morphology, see Speas (1987, 1990a, 1990b), McDonough (1990, 1994, 1996), Rice (1993), Rice & Saxon (1994), Potter (1995), Lapointe (1996), and Hargus & Tuttle (1997).

[25] Certain phonological processes apply within the conjunct domain but not across the disjunct-conjunct boundary (Stanley 1969, Kari 1976). Also, a disyllabic minimal word requirement is only satisfied by conjunct syllables, conjunct vowels are arguably epenthetic, and the conjunct prefixes and verb root form a tighter morphophonological unit than do the disjunct prefixes (McDonough 1990, 1994, 1996).

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example with *ch'í* 'out horizontally' (Young & Morgan 1992: Navajo). In this case, ideas are moving out horizontally from the teacher.[26]

(6) Yił ch'ígon'aah.
3sg.to 3sg.imprf.teach
She/he/it is teaching it.

Thematic prefixes also surface in the Adverbial-Thematic slot. Thematic prefixes are lexically required in particular stems, but have no obvious meaning independent of the verb or are nonproductive. (7) demonstrates the thematic prefix *'á*, present with the verb 'make' (Young & Morgan 1992: Navajo).

(7) áyizlaa.
3sg.perf.make
She/he/it made it.

Adverbial-Thematic prefixes are present in several of the examples in this dissertation. Identification of these prefixes is not crucial to the syntactic argumentation, however, and they will not be glossed in the interlinear translation. See Young & Morgan (1992) for a complete list of the cognate prefixes in Navajo.

Iterative: The prefix *ná*- 'over and over' is the only prefix which surfaces in the Iterative slot. This prefix is not present in any of the examples in this dissertation.

Distributive-Plural: The prefix *da*- marks a distributive or collective reading and is the only prefix which surfaces in the Distributive-Plural position. In the examples in this dissertation, *da*- references a dual (two) or plural (three or more) 3rd person subject.

[26] Note that Western Apache verbs are typically unmarked with respect to the gender and [+/-human] attributes of their arguments. Section 2.1.1, however, discusses an apparently optional, stem initial prefix present with [+human] 3rd person subjects.

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More generally, *da-* is used in reference to any plural 1st or 2nd person argument and any dual or plural 3rd person argument. I will not gloss this prefix, although its influence is noted by the dual/plural interpretation.

(8) Ishikín ma' dayiztał.
boys coyote 3dl/pl.perf.kick
i) Each of the boys (two or more) kicked a (possibly different) coyote.
ii) The boys (two or more, as a group) kicked a coyote.

Object: Hoijer (1945a) identifies the object prefixes in (9) as surfacing in the Object slot in the Western Apache verbal template. Parentheses indicate variant forms not listed by Hoijer.[27] Note that 1st and 2nd person plural object readings require the distributive-plural prefix *da-*.

(9) Object Prefixes

1sg	2sg	3rd	4th	1dl/pl	2dl/pl	time place	indefinite	reciprocal	reflexive
shi-	ni-	yi- bi-	ko-	nohwi- (nohwo-)	nohwi- (no-)	go-	'i-	'ił-	'ádi-

There are no instances of 4th person, indefinite, reciprocal, or reflexive prefixes in this dissertation.[28] There are examples of the 1st and 2nd person prefixes, the 3rd person *yi-*

[27] Mr. Dawson recognizes *nohwi-* as both a 1dl/pl and 2dl/pl object prefix, but prefers *nohwo-* for 1dl/pl (i) and *no-* for 2dl/pl (ii). The final *o* in these prefixes is not present with other object prefixes, as in (11a) and (11b), and cannot be due to stem particular phonetic variation.

(i) Nohwołtseh.
1dlObj.3sgSubj.fut.see
She/he/it will see the two of us.

(ii) Nołtseh.
2dlObj.3sgSubj.fut.see
She/he/it will see the two of you.

[28] The *ko-* 4th person prefix is used to distinguish two 3rd person arguments, or as a polite or respectful means of referring to someone (Hoijer 1945a, Willie 1991). Verbs with *'ił* reciprocal and *'ádi* reflexive object prefixes are translated with 'each other' and 'self' as object, respectively. Verbs with the *'i-* indefinite prefix are translated with an indefinite object such as 'something' or 'someone'. Although I
- *Continued on Next Page* -

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and *bi-* prefixes, and the time/place prefix *go-*. The *yi-/bi-* prefixes are discussed in Section 1.6.6. (10) demonstrates the use of *go-*. In this example, *go-* indicates that the object 'house' involves an area.

(10) Hastiin ḳih náágole'.
old.man house 3sg.imprf.build
The old man is building a house.

Willie (1991) notes that the Navajo cognate of this prefix can be used in reference to abstract entities. The *go-* present in 'teach' (6) marks the abstract ideas that are being taught. As almost all verbs in this dissertation have either a 3rd singular object argument or no object argument, and as this information is clearly present in the English translation, I will simplify the interlinear glosses by not marking 3sg object prefixes. For clarity, the few instances of non-3sg object prefixes will be glossed. In such cases, as in (11) with 1sg object *shi-* and 2sg object *ni-* prefixes, subject and object morphology will be distinguished by 'Subj' and 'Obj', respectively.

(11a) Shiłtsé̓h.
1sgObj.3sgSubj.fut.see
She/he/it will see me.

(11b) Niłtsé̓h.
2sgObj.3sgSubj.fut.see
She/he/it will see you.

Deictic.Subject: An indefinite subject prefix *'i-*, a 4th person subject prefix *ch'i-*, and a time/place subject prefix *go-* surface in the Deictic.Subject position (Hoijer 1945). No examples of these prefixes are included in this dissertation.

Thematic-Aspectual: A variety of thematic and aspectual prefixes may appear in the Thematic-Aspectual slot in the verbal template. As above, the thematic prefixes are

have not yet investigated this prefix, it is clear from the examples in this dissertation that *'i* is not required when an overt indefinite object such as *hadínshi* 'someone' or *hant'éshi* 'something' is present.

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required in particular stems but have no discernible meaning of their own and/or are nonproductive. The aspectual prefixes, in conjunction with a verbal root, mark a variety of secondary aspectual categories and indicate if a verbal action is momentaneous, semelfactive, inceptive, terminative, etc.[29] These prefixes are very common, but are not compatible with all verb stems. Aspectual prefixes are present in several examples in this dissertation. In sentences using 'teach' (6), for example, the terminative prefix *n-* is present. With 'teach', this prefix indicates that the teaching action has a definite end point and implies that a single particular topic is being taught. The Thematic-Aspectual prefixes are not critical to the syntactic argumentation in this dissertation and will not be glossed in the interlinear translation. For additional discussion, see Hoijer (1949), Young & Morgan (1992), and Young (1995).

Mode: A small set of prefixes which, in combination with the verb root, indicate whether a verb is in perfective, imperfective, or progressive aspect, future tense, or optative mood surface in the Mode slot. The aspect prefixes are *hi-*, *si-*, *ni-*, and a null prefix, and the optative prefix is *ho-*. The progressive is marked by the *hi-* prefix, and future tense is marked by a combination of the *hi-* prefix and an inceptive *di-* prefix in the Thematic-Aspectual slot. According to Hoijer (1946a), *hi-*, *ni-*, and a null prefix can be used as imperfective markers, and *ni-*, *si-*, and *hi-* can be used as perfective markers. A given verb root, in a particular meaning, determines which aspect prefix will be present. Young (1995) suggests that *si-* is generally used with verbs that involve a static-durative sequel, *ni-* is generally used with verbs that are terminative in sequel, and the null prefix and *hi-* (Navajo *yi-*) are generally used with verbs that lack such connotations. Although

[29] Young & Morgan (1992) list 12 (secondary) aspectual categories and 6 sub-aspectual categories for Navajo.

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tense and aspect are significant in any syntactic investigation, the particular mode prefix present in a given example is not crucial to the discussion in this dissertation. I will gloss all imperfectives as IMPERF, all perfectives as PERF, progressives as PROG, and future tense stems as FUT. No verbs in this dissertation are inflected for optative mood.

Subject: Hoijer (1945a) identifies the subject prefixes in (12) as surfacing in the Subject slot in the Western Apache verbal template. 3rd person subjects are unmarked. Note that Mr. Dawson has 1sg *í*- instead of *íí*-, 2dl/pl *oł*- instead of *oh*-, and frequently produces a non-nasal 1dl/pl *iid*-.[30]

(12) Subject Prefixes

1sg	2sg	1dl/pl	2dl/pl
sh-, *íí*- (*í*-)	*ni*-, *n*-, *ǹn*-, *ą́ą́*-	*iįd*- (*iid*-)	*oh*-, *oo*- (*oł*-)

Allomorphic variation with 2sg subjects is particularly complex. *ǹn*- indicates that a 2sg subject may be marked by *n* plus high tone on a preceding vowel. *ą́ą́*- indicates that a 2sg subject may be marked by nasality, length, and high tone on a vowel preceding the subject prefix position.

Hoijer notes that the choice between 1sg, 2sg, and 2dl/pl prefix variants is determined by the aspectual conjugation of the verb and the classifier (see below) present. The 1sg *íí*- prefix and 2dl/pl *oo*- prefix, for example, only surface in perfective verbs with null or *ł*- classifiers. Similar patterns are present with the Western Apache speakers

[30] This variation is common in modern Western Apache. See de Reuse (1994).

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consulted for this dissertation.[31] In constructions with no object prefixes or 3rd person object prefixes, which I do not gloss, I will gloss the subject prefixes as 1sg, 2sg, 3sg, 1dl, 2dl, 3dl, 1pl, 2pl, 3pl (13a). For clarity, I will include Subj in the gloss of the subject prefix, i.e., 1sgSubj, in constructions with non-3rd person object arguments (13b).

(13a) Hínłtsąą.
2sg.perf.see
You saw her/him/it.

(13b) Shínłtsąą.
1sgObj.2sgSubj.perf.see
You saw me.

Classifier: A null prefix, *ł-*, *l-*, and *d-* surface in the Classifier position in the Western Apache verbal template. The classifiers primarily have a voice function. The null classifier typically, but not always, surfaces with intransitives. *ł-* is typically present in causatives and transitives, and *d-* is typically present with passives, reflexives, and reciprocals. In most cases, *l-* is derived from a combination of *d-* plus *ł-*. Some verbs require a particular classifier regardless of the status of that verb as active/passive, transitive/intransitive, reflexive, reciprocal, or causative. Although the classifiers are frequently deleted, their underlying presence may be visible in the allomorphic or allophonic variation of adjacent elements. See Hoijer (1946b), Kari (1976), and Young (1995) for comprehensive discussion of the Apachean classifiers. The classifiers are not marked in the interlinear translations in this dissertation, but the English translations indicate the status of a verb as active, transitive, etc.

Verb Root: Western Apache verb roots are also subject to allomorphic variation. As noted, Western Apache verbs can be inflected for a variety of primary and secondary aspectual categories such as perfective, imperfective, momentaneous, and semelfactive.

[31] There are additional effects and patterns not discussed by Hoijer. For example, the tone of the verbal root varies with respect to the subject prefix and aspect. My initial observation is that 2sg imperfective verb roots and 1sg perfective verb roots tend to be marked with high tone.

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A verb root may vary with respect to this aspectual inflection. The examples in (14) illustrate such variation with the imperfective *-le'* and perfective *-laa* roots for 'make/build'.

(14a) Náágole'.
3sg.imprf.build
She/he is building it.

(14b) Náágolaa.
3sg.perf.build
She/he built it.

A verb root may also vary with respect to the status of its subject argument as singular, dual, or plural. The examples in (15) illustrate the suppletive singular, dual, and plural roots of the verb 'walk'.

(15a) Níhígaał.
3sg.prog.walk
She/he is walking.

(15b) Níhí'ash.
3dl.prog.walk
They (two) are walking.

(15c) Níhíkah.
3pl.prog.walk
They (three or more) are walking.

Finally, the roots for verbs that involve the handling of an object vary with respect to the size, shape, number, consistency, animacy, or type of container (if any) of that object. The examples in (16) illustrate this variation with the roots *-'ąą* 'handle a single bulky object' and *-jaa'* 'handle plural objects of small size'. Basso (1990) and Perry et. al. (1972) provide lists of handling verb roots in Western Apache.

(16a) Tsée náidn'ąą. [Perry et. al. 1972:97]
rock 3sg.perf.pick-up
She/he/it picked up the rock.

(16b) Zhaáli náidnjaa'. [Perry et. al. 1972:97]
change 3sg.perf.pick-up
She/he/it picked up the change.

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1.6 Basic Syntax

This section provides a brief overview of Western Apache syntax including basic word order, independent pronouns, possessive and postpositional agreement, variation in word order, and functional particles for tense, modality, negation, focus, and interrogation.

1.6.1 Word Order in Transitives and Ditransitives

Canonical word order in Western Apache is SOV (Subject-Object-Verb) in transitive clauses (17) and S-IO-OV (Subject-Indirect Object-Object-Verb) in ditransitive clauses (18).[32]

(17) Hastiin magashi náyíníł'ah.
old.man cow 3sg.imprf.butcher
The old man is butchering a cow.

(18) Isdzan ishkiin chách'il yaayiné'.
woman boy acorn 3sg.perf.give
The woman gave the boy an acorn.

Overt nominal arguments are optional. The examples in (19) demonstrate the optionality of the overt subject and object in (17). As noted for Navajo (Platero 1974, 1978, 1982, Speas 1990a), a non-pronominal argument immediately preceding a transitive verb with *yi-* agreement morphology is obligatorily interpreted as object (19a).

---

[32] Ditransitive verbs exhibit agreement with their indirect objects. The prefix *yaa-* in *yaayiné'* is an incorporated 3rd person postpositional element 'about/to her/him/it'. (i) demonstrates 1sg *shaa*.

(i) Isdzan chách'il shaayiné'.
woman acorn 1sgIobj.3sg.perf.give
The woman gave an acorn to me.

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(19a) Magashi náyínɬ'ah.
cow 3sg.imprf.butcher
He is butchering a cow.

(19b) Náyínɬ'ah.
3sg.imprf.butcher
He is butchering it.

1.6.2 Independent Pronouns & Possessives

The table in (20) lists the independent pronouns for Western Apache as provided in Perry et. al. (1972).[33]

(20) Independent Pronouns	Singular	Dual	Plural
1st Person	shíí	nohwíí néé	nohwíí néé
2nd Person	ni	nohwíí	nohwíí
3rd Person	bíí	dabíí (bíí)	dabíí (bíí)

Overt pronouns are typically used for emphasis (21a) and are optional (21b).

(21a) Shíí yáshti'.
I 1sg.imprf.speak
I am the one who is speaking.

(21b) Yáshti'.
1sg.imprf.speak
I am speaking.

Possessed nouns exhibit agreement with their possessors. (22) lists the possessive agreement prefixes as given in Perry et. al. (1972). These prefixes, the independent pronouns in (20), and the object agreement prefixes in (9) are related.[34]

---

[33] The 4th person dual/plural pronoun is *kíí*. *án* is typically used for 4th person singular. Mr. Dawson typically uses *bíí*, rather than *dabíí*, as the 3dl/pl pronoun with *da-* obligatorily present as a distributive-plural prefix within the verb stem.

[34] The possessive prefixes, as given in Perry et. al., are identical to the canonical object agreement prefixes in (9) and constitute short vowel, low tone versions of the independent pronouns. Mr. Dawson, however, reports *nohwo-* and *no-* as preferred forms for the 1dl/pl and 2dl/pl possessive prefixes. These prefixes are identical to the variant 1dl/pl and 2dl/pl object prefixes in (9), but are distinct from short vowel, low tone versions of the 1dl/pl and 2dl/pl pronoun *nohwíí*.

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(22) Possessive Prefixes	Singular	Dual	Plural
1st Person	shi-	nohwi- (nohwo-)	nohwi- (nohwo-)
2nd Person	ni-	nohwi- (no-)	nohwi- (no-)
3rd Person	bi-	bi-	bi-

The examples in (23) demonstrate 1sg, 1dl/pl, and 2dl/pl possessive prefixes with the possessed noun *ch'id* 'blanket'.

(23a) shi-ch'id
1sg-blanket
my blanket

(23b) nohwo-ch'id
1dl/pl-blanket
our (two or more) blanket

(23c) no-ch'id
2dl/pl-blanket
your (two or more) blanket

Dual readings of the 1dl/pl possessive prefixes in (23b) and (23c) are highly preferred, but a plural reading can be forced by the presence of the distributive-plural prefix *da-* (23d).

(23d) <u>da</u>no-ch'id
2pl-blanket
your (three or more) blanket

Possessed nouns follow their possessors. In (24), the possessor 'Joe' precedes the possessed noun *ye'* 'son'. *ye'* is marked with the 3rd person agreement prefix *bi-*.

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(24) Joe bi-ye'
Joe 3sg-son
Joe's son

1.6.3 Postpositional Phrases

Adpositional phrases in Western Apache are postpositional. Examples (25) and (26) demonstrate postpositional phrases with *-ka'* 'on top' and *-tł'ah* 'under'.

(25) t'iis bi-tł'ah
tree 3rd-under
under the tree

(26) tsee bi-ka'
rock 3rd-on.top
on top of the rock

The postpositions also exhibit agreement with their objects using the prefix set in (22). The postpositions in (25) and (26) are marked by the *bi-* 3rd person agreement prefix. In (27), the postposition *-ts'ą'* 'away from, apart from' is marked by the 2sg prefix *ni-*.

(27) ni-ts'ą'
2sg-away.from
away from you

1.6.4 Demonstratives

The Western Apache demonstratives *aí* 'that/those' and *díí* 'this/these' can precede or follow their argument. (28) illustrates this ordering variation with *díí*.

(28a) Díí ishkiin histsąą.
this boy 1sg.perf.see
I saw this boy.

(28b) Ishkiin díí histsąą.
boy this 1sg.perf.see
I saw this boy.

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The preferred order is (28a), and potentially ambiguous contexts (29) are necessarily interpreted with the demonstrative preceding its argument.[35]

(29) Hastiin díí ishkiin yiłtsąą.
old.man this boy 3sg.perf.see
i) The old man saw this boy.
ii) *This old man saw the boy.

There are no overt determiners in Western Apache corresponding to English 'the' or 'a'.[36] The interpretation of a bare nominal argument as [+/-definite] is determined by context. For example, both subject and object can be translated with definite or indefinite determiners in (30).[37] All four combinations definite/indefinite subject and object are possible. Western Apache quantifiers are discussed in Section 8.2.

(30) Hastiin kịh náágole'.
old.man house 3sg.imprf.build
The/an old man is building the/a house.

1.6.5 Complement Clauses

Canonical word order in sentences with complement clauses is S-Clause-V (31).

(31) Isdzan ishkiin ma' yizkah ńzịh
woman boy coyote 3sg.perf.shoot 3sg.imprf.think
The woman thinks the boy shot the coyote.

---

[35] The demonstratives cannot follow their arguments in all syntactic contexts.

[36] In Chapter 5, I discuss the use of the Western Apache *-go* and *-hii* particles as focus and referential nominal modifiers, respectively. I argue for an analysis of these particles as syntactic heads which select NP complements.

[37] The availability of both definite and indefinite DP interpretations was not specifically verified in *all* examples in this dissertation. The English translations are as provided by the speaker.

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1.6.6 The *yi-/bi-* Alternation

As noted in Section 1.5, Western Apache has two 3rd person object agreement prefixes, *yi-* and *bi-*. In a transitive clause with 3rd person subject and object arguments, the choice between *yi-* and *bi-* typically correlates with variation in word order. Clauses with *yi-* verbal morphology are (S)OV (32), and the first overt argument to the left of the verb is interpreted as the object.

(32a) Hastiin góséé yiztał.
old-man dog 3sg.perf.kick
i) The old man kicked the dog.
ii) *The dog kicked the old man.

(32b) Góséé hastiin yiztał.
dog old.man 3sg.perf.kick
i) The dog kicked the old man.
ii) *The old man kicked the dog.

Parallel examples with *bi-* morphology are (O)SV (33), and the first overt argument to the left of the verb is interpreted as the subject.[38]

(33a) Góséé hastiin biztał.
dog old.man 3sgINV.perf.kick
i) The dog was kicked by the old man.
ii) *The old man was kicked by the dog.

(33b) Hastiin góséé biztał.
old.man dog 3sgINV.perf.kick
i) The old man was kicked by the dog.
ii) *The dog was kicked by the old man.

[38] I gloss *bi-* as 3sgINV to note its correlation with inverted OSV order. Although Apachean speakers may translate *bi-* constructions using the English passive, these forms are not passive (Sandoval & Jelinek 1989, Willie 1991) and do not exhibit the characteristic passive morphology noted in Hoijer (1948).

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The variation between (32) and (33) is referred to as the *yi-/bi-* alternation in the Athabaskan literature and is significantly more complex than indicated in these examples. While all Athabaskan languages have some instance of the *yi-/bi-* alternation, the choice between prefixes does not always correspond to variation in word order (Thompson 1996). Moreover, word order variation and the choice of *yi-* or *bi-* morphology is strongly influenced by the relative animacy of the verbal arguments with respect to each other. I will not discuss the *yi-/bi-* alternation further in this dissertation. In Section 5.6, however, I do discuss and analyze optional OSV word order in Western Apache sentences without *yi-/bi-* morphology. For additional discussion of the *yi-/bi-* alternation, see the analyses of Western Apache in Shayne (1982) and de Reuse & Adley-Santamaria (1996), Thompson's (1996) comparative Athabaskan survey, and the numerous works on Navajo *yi-/bi-* such as Frishberg (1972), Hale (1973), Elgin (1973), Creamer (1974), Perkins (1978), Platero (1982), Speas (1990a), Willie (1991), Jelinek (1996), and Uyechi (1996).

1.6.7 Syntactic Particles

While much, and in many cases all, of the inflectional content of an Athabaskan sentence is marked within the verbal morphology, additional grammatical markers pertaining to negation, tense, modality, focus, and interrogation may be present. These markers immediately follow the constituent they modify and are referred to as either enclitics (Young & Morgan 1992: Navajo, Edgerton 1963: Western Apache) or particles (Willie 1996: Navajo, Rice 1989: Slave, Perry et. al. 1972: Western Apache). Below, I briefly illustrate the use of several of these grammatical markers in Western Apache. Each of these markers is listed and glossed in Edgerton (1963) and Perry et. al. (1972). Young & Morgan (1992) provide a comprehensive list, with numerous example

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sentences, of the Navajo markers. As I have no evidence pertaining to the morphophonological nature of the association between these markers and the constituents they modify, I will refer to the markers using the neutral term 'particle'.[39]

1.6.7.1 Negation : *doo...da*

Negation in Western Apache is marked by the particle *doo-* in a position preceding the verb and the particle *da* immediately following the verb (34). These markers are discussed in greater detail in Section 3.2.

(34) Nądá' doo k'edishłéé da.
corn NEG 1sg.imprf.plant NEG
I'm not planting corn.

1.6.7.2 Future : *doleeł*

Western Apache verbs in imperfective, perfective, and progressive aspect are not marked with respect to tense. Imperfective verbs are translated as present tense by default (35a) or as future tense in context (35b).

(35a) Ha'ishłeeh.
1sg.imprf.fish
I am fishing.

(35b) Iskąą ha'ishłeeh.
tomorrow 1sg.imprf.fish
Tomorrow I'll be fishing.

Perfective verbs are translated as past tense by default (36) and are ungrammatical with a contextually determined future tense reading (37).

[39] Chapters 5 and 6 will discuss the use and distribution of two additional particles, focus/non-factive *-go* and referential/factive *-hií*, which are not defined in this section.

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(36a) Hasínlee.
2sg.perf.fish
You caught fish.

(36b) Adąądą́' hasínlee.
yesterday 2sg.perf.fish
Yesterday you caught fish.

(37) * Iskąą hasínlee.
tomorrow 2sg.perf.fish
Tomorrow (at some point) you will have caught fish.

Imperfective (38) and perfective (39) verbs are necessarily interpreted in a future frame of reference, however, if the particle *doleeł* follows the verb.

(38a) Ha'ishłeeh doleeł.
1sg.imprf.fish FUT
I will be fishing.

(38b) Iskąą ha'ishłeeh doleeł.
tomorrow 1sg.imprf.fish FUT
Tomorrow I'll be fishing.

(39a) Hasínlee doleeł.
2sg.perf.fish FUT
You will have caught fish.

(39b) Iskąą hasínlee doleeł.
tomorrow 2sg.perf.fish FUT
Tomorrow (at some point) you will have caught fish.

The examples in (40) illustrate the use of *doleeł* with a progressive verb stem.

(40a) Níhígaał.
3sg.prog.walk
She/he is walking.

(40b) Níhígaał doleeł.
3sg.prog.walk FUT
She/he will be walking.

The particle *doleeł* is a 3sg future form of the verb 'become', i.e., 'it will become'. 'Become' can be fully inflected in its use as a verb (41), but as a tense particle surfaces only as 3sg future *doleeł*.[40]

[40] The Navajo cognate *dooleeł* also surfaces as *doo* (Young & Morgan 1992). Possibly *doleeł* constructions originated with *doleeł* as a verb selecting a sentential complement. Over time the status of *doleeł* as an independent verb in these constructions was lost, the marker was reanalyzed as a functional element, and is presently being reduced to a monomorphemic form in Navajo.

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(41) Diyin doshłeeł.
medicine.man 1sg.fut.become
I am becoming a medicine man.

1.6.7.3 Past - Asserted : *ni'*, Inferred : *ląnk'eh*, Discovered : *ląą*, Questioned : *ląąn*

Western Apache also has several particles which place a verb in a past frame of reference. In addition to their role as tense markers, these particles indicate the attitude and degree of commitment the speaker has towards the expressed proposition.

The particle *ni'*, defined as 'action or condition in the past, known by participation or direct report' in Edgerton (1963), is used to indicate both past tense and a strong degree of commitment on the part of the speaker to the validity of the expressed proposition.[41] (42) demonstrates the use of *ni'* with an imperfective verb. Parallel to the future readings of perfective verbs (37), past tense readings of imperfective verbs are marginal in the absence of a tense particle.

(42a) * Adąądą́' ha'ishłeeh.
yesterday 1sg.imprf.fish
Yesterday I was fishing.

(42b) Adąądą́' ha'ishłeeh ni'.
yesterday 1sg.imprf.fish A-PAST
Yesterday I was fishing.

The particle *ni'* may also be used with perfective (43) and progressive (44) verbs.

(43) Hasínlee ni'.
2sg.perf.fish A-PAST
You caught it.
[You caught at least 1 - something pulled out of water. Out of context could be any time in past. :: *hasínlee* alone has no time attached to it, only that you did catch something, out of context means 'moments ago'.][42]

---

[41] This particle is possibly derived from the root for 'say' as in *anií* 'she/he says it'. Note that *ni'*, as an asserted past marker, is incompatible with modal possibility and interrogation (Section 1.6.7.7).

[42] Additional comments provided by Mr. Dawson are noted in brackets [...] underneath the translations.

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(44) Níhígaał ni'.
3sg.prog.walk A-PAST
He was walking.

The particle *lę́nk'eh*, defined as 'action or condition in past, known chiefly by hearsay' in Edgerton (1963), is used to mark a past tense proposition to which the speaker does not have a strong degree of commitment. The speaker assumes or infers the validity of a proposition, possibly due to evidence, but does not know the proposition to be valid. (45) illustrates the use of *lę́nk'eh*.[43]

(45a) Náhilá.
3sg.imprf.pick-up
She/he/it is picking them up.

(45b) Nądą́' náhilá lę́nk'eh.
corn 3sg.imprf.pick-up I-PAST
It seems he was picking up the corn.

The particle *lą* is used to indicate that a past proposition is surprising to or only recently discovered by the speaker.[44] (46) demonstrates the use of lą in Western Apache.

(46a) Hastiin magashi náyínł'ah.
old.man cow 3sg.imprf.butcher
The old man is butchering the/a cow.
['The cow' if we know which cow, 'a cow' if we don't.]

(46b) Hastiin magashi náyínł'ah lą.
old.man cow 3sg.imprf.butcher D-PAST
(Gee / hmm?) The old man was butchering the cow.
[We walk into wickiup and see cow half butchered. The old man is not around but we know he was doing it. Wonderment/question element to this.]

---

[43] For convenience, I demonstrate the remaining particles only with imperfective verbs. Each of the particles is compatible with perfective and progressive stems as well.

[44] Edgerton (1963) lists *lá* as a surprise particle. I have recorded several instances of *lą́*. *lą́* seems to be used when there is a high degree of uncertainty or skepticism on the part of the speaker. I have not determined if *lą́* constitutes a distinct particle or is a variant form of either *lą* or the question marker *lą́n*. Young & Morgan (1992) list *-la* 'as a surprise marker for Navajo.

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Finally, a speaker can question a past proposition using the particle *lą́n*. As indicated in (47), sentences with *lą́n* are translated as English yes/no questions.

(47a) Náádá'ile'
3dl/pl.imprf.prepare-meal
They are preparing the meal.

(47b) Náádá'ile' lą́n ?
3dl/pl.imprf.prepare-meal Q-PAST
Were they preparing the meal ?

1.6.7.4 Yes/No Questions : *ya'... neé*

Standard yes/no questions in Western Apache involve the particle *ya'* in a position preceding the verb and/or the particle *neé* in clause final position. The particle *neé*, defined as 'query for corroboration' in Edgerton (1963), serves as a tag element and is translated as the general English tag 'right?'. Either particle is optional (48) - (50).

(48) Ya' á'ishłe' neé ?
YNQ 1sg.imprf.prepare-meal TAG
I'm preparing the meal, right ?
[Expect answer to be 'yes'.]

(49) Ya' á'ííle' ?
YNQ 2sg.imprf.prepare-meal
Are you preparing the meal ?
[No expectation.]

(50) Ná'á'ile' neé ?
3sg.imprf.prepare-meal TAG
She/he's preparing the meal, right ?
[If you speed up, some people say *náá'ile'* or maybe even *naíle'* .]

A yes/no question with a tag interpretation can also be formed with the *ya'* particle in sentence final position (51).

(51) Hastiin ḳih náágolaa ya' ?
old.man house 3sg.perf.build YNQ
The old man built the house, didn't he ?

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1.6.7.5 Modal Possibility : *shị*

The particle *shị*, in a postverbal position, expresses modal possibility in a Western Apache clause (52). This particle is discussed in detail in sections 3.1 and 3.5.

(52a) Hastiin magashi náyínɬ'ah.
old.man cow 3sg.imprf.butcher
The old-man is butchering the/a cow.
['The cow' if we know which cow, 'a cow' if we don't.]

(52b) Hastiin magashi náyínɬ'ah shị.
old.man cow 3sg.imprf.butcher might
The old man might be butchering the/a cow.

1.6.7.6 Question Focus : *shạ'*

The particle *shạ'* is used to indicate uncertainty in a question. The examples in (53) are used as less direct versions of yes/no questions or as speculative statements. Unlike the particles discussed above, *shạ'* can surface following any constituent within a clause. The constituent preceding *shạ'* is emphasized with respect to the uncertainty.

(53a) Iskạạ magashi nadahiidzood shạ'.
tomorrow cattle 1pl.imprf.herd QFOC
I wonder if we'll (3+) be herding cattle tomorrow.

(53b) Iskạạ magashi shạ' nadahosood.
tomorrow cattle QFOC 2pl.imprf.herd
I wonder if it's CATTLE you'll (3+) be herding tomorrow.

(53c) Adạạdą́' ishikín shạ' dibé nádainyood.
yesterday boys QFOC 3pl.imprf.herd
I wonder if it's THE BOYS who were herding cattle yesterday.

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1.6.7.7 A Note on the Distribution of Postverbal Particles

Subject to strict ordering and cooccurrence restrictions, multiple particles may surface in a clause. I will not pursue the analysis of particle-particle constraints in this dissertation. Below, however, I briefly illustrate the kinds of effects that are present.

Multiple particles generally occur in fixed linear orders. The negative particle *da*, for example, precedes all tense particles, and all tense particles precede the modal particle *shi*. Such ordering constraints possibly follow from, and constitute evidence for, a fixed hierarchical ordering of functional projections within the Western Apache clause. (54) - (55) illustrate the ordering of *da*, future *doleeł*, and *shi*.

(54a) Hastiin magashi doo náyínł'ah da doleeł.
old.man cow NEG 3sg.imprf.butcher NEG FUT
The old man will not be butchering the cow.

(54b) * Hastiin magashi doo náyínł'ah doleeł da.
old.man cow NEG 3sg.imprf.butcher FUT NEG
The old man FUT/NEG be butchering the cow.

(55a) Hastiin magashi náyínł'ah doleeł shi.
old.man cow 3sg.imprf.butcher FUT might
The old man might (in the future) be butchering a cow.

(55b) * Hastiin magashi náyínł'ah shi doleeł.
old.man cow 3sg.imprf.butcher might FUT
The old man might/FUT be butchering a cow.

Certain particles are incompatible with each other. Possibly such particles compete for the same syntactic position or conflict in semantics. (56) demonstrates the incompatibility of the asserted past particle *ni'* and the modal possibility particle *shi*.

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(56a) * Hastiin magashi náyínłah ni' shị.
old.man cow 3sg.imprf.butcher A-PAST might
The old man might have been butchering a cow.

(56b) * Hastiin magashi náyínł'ah shị ni'.
old.man cow 3sg.imprf.butcher might A-PAST
The old man might/A-PAST butchering a cow.

Finally, certain combinations of tense particles are possible. In (57), the future particle *doleeł* is followed by the asserted past particle *ni'*. This combination indicates that the future time marked by *doleeł* is realized within a past frame of reference. Propositions marked by *doleeł-ni'* are typically deontic in evaluation and imply that the action/event expressed by the proposition did not occur.[45]

(57) Adạạdą́' magashi násínł'ah doleeł ni'.
yesterday cattle 2sg.perf.butcher FUT A-PAST
Yesterday you should have finished butchering the cattle.

The evidential past particle *lẹ́nk'eh* and the asserted past particle *ni'* cooccur in (58). This combination indicates that the speaker asserts the validity of a proposition on the basis of strong evidence with which she/he is directly familiar.

(58) Adạạdą́' magashi náyís'ah lẹ́nk'eh ni'.
yesterday cow 3sg.perf.butcher I-PAST A-PAST
It is clear that he butchered the cow yesterday.

1.7 Theoretical Framework

The purpose of this dissertation, broadly defined, is to explore the structure and derivation of the Western Apache clause. To delimit the range of topics considered, I

[45] Rice (1989:419) notes that the combination of the Slave particles *wolé* future and *ni* past is used in reference to 'an unrealized action with some notion of obligation involved'.

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focus the investigation on constructions involving a class of words used as Wh elements, indefinites, and polarity expressions. In addition, particular theoretical assumptions I bring into this effort delimit the range of analyses considered. I briefly summarize these theoretical assumptions in the discussion below.

To begin, I pursue analyses within the general research program referred to at various stages as the Minimalist Framework (Chomsky 1995), Principles and Parameters Theory (Chomsky & Lasnik 1995), and Government and Binding Theory (Chomsky 1986a, 1986b, 1981).[46] I adopt one central tenet of this program, that natural language follows in part from an innate and cross-linguistically invariant grammatical component termed 'Universal Grammar'. I take as the default hypothesis that clausal architecture falls within the scope of Universal Grammar, i.e., that the identity and hierarchical ordering of lexical and functional projections present in a clause are largely consistent across languages. Given this position, I motivate particular analyses of Western Apache syntax not only through direct, language internal evidence, but through comparison with analyses of related phenomena in other languages.

Particular to the Minimalist Framework, I adopt the grammatical model in (59).

(59)

$$\begin{array}{ccc} & \text{LF} & \\ & \uparrow & \\ & \text{(move)} & \\ & \uparrow & \\ \text{Spell-Out} & \longrightarrow & \text{PF} \\ & \uparrow & \\ \text{(select from array: project, merge, move)} & & \end{array}$$

[46] See Haegeman (1991), Napoli (1993), and Lasnik & Urigereka (1988) for a general introduction to the substantial body of literature within this research program.

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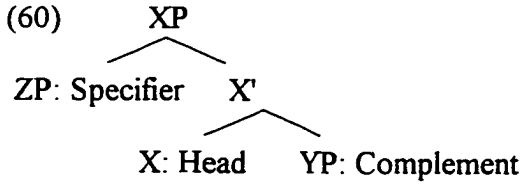
This model includes two representational levels, the conceptual-intentional level of Logical Form (LF) and the articulatory-perceptual level of Phonetic Form (PF). All grammatical constraints and relationships must be computed at these levels. A derivation precedes with selection of lexical and functional elements from an input array, projection of phrasal structure for those elements, and merger with or movement within the previously derived structure. The derivation branches to PF at 'Spell-Out'. Any movement operations that apply prior to Spell-Out are overtly visible in the PF string. Movement operations may continue to apply covertly in the derivation to LF. The entire derivation is constrained by principles of economy which require that movement proceed in the shortest and fewest number of steps possible. The Minimalist framework additionally holds that movement occur only for purposes of feature licensing. This position, as well as the possibility of covert movement, will be at issue in the analysis of Western Apache Wh constructions. Finally, I adopt the Minimalist position that all phrase structure is based on the Xbar format in (60). A syntactic head and its complement form an intermediate projection to which is associated a unique specifier position (Stowell 1981, Jackendoff 1977).

(60)



Following numerous works, I additionally maintain that all arguments of a verb are generated, i.e., initially inserted into phrase structure, in thematically licensed positions internal to the verb phrase. Koopman & Sportiche (1985, 1991), Kitagawa (1986), and Speas & Fukui (1986) argue for the generation of subject arguments in VP internal positions, and I adopt Larson's (1988, 1990) proposal that each verbal argument

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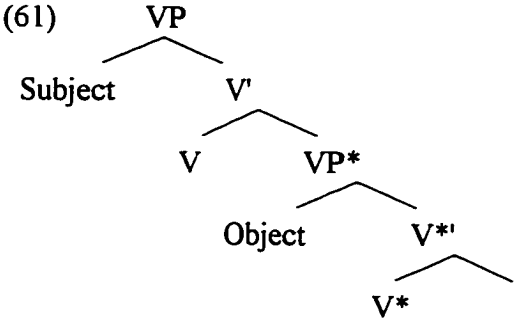
is generated in its own VP shell. As illustrated in (61), I assume that each argument is generated in the specifier position of a unique VP shell. I explore a recently proposed variation of Larson's VP shell structure (Sportiche 1997) in Section 5.7.2.

(61)



I further assume that adjunct phrases are generated in particular thematically licensed positions within the clause, rather than freely adjoined to various independent clausal projections. This position is consistent with Kayne's (1994) proposal that adjoined positions and specifier positions are non-distinct. The generation of adverbial modifiers in particular projections within the clause is discussed in detail in Cinque (forthcoming).

I adopt a derivational analysis of the clause in which nominal arguments generated within the VP raise for purposes of Case and Agreement to the specifier positions of particular projections external to the VP (Koopman & Sportiche 1985, 1988, Sportiche 1988, 1990, Pollock 1989, Chomsky 1991, 1995). Although I label these projections as Agr(eement)P(hrases) (62), I use AgrP only as an informal mnemonic. The relative hierarchical location of the various projections in which Case and Agreement features are licensed is critical to the analysis of Western Apache clause structure, but the presence or

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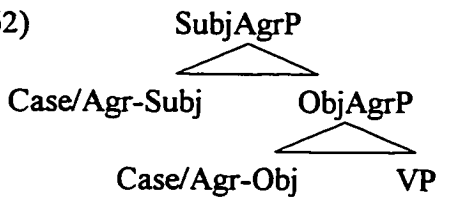
absence of unique and independent Agreement projections is not at issue in this dissertation.[47]

(62)



I will additionally pursue the hypothesis that CP, the traditional complementizer projection, is not a unitary projection, but a series of projections each with a particular function. I will refer to this series of projections as the 'complementizer system' and assume that it minimally contains projections relevant to topic, focus, and Wh constructions. The analysis of CP as a series of projections is discussed at length in several recent works (Rizzi 1995, Beghelli & Stowell 1995, 1996, Szabolcsi 1996)[48] and is similar in spirit to the reanalysis of IP (Pollock 1989) and DP (Abney 1987, Valois 1991, Ritter 1991) as a series of independent functional projections. I further maintain that the complementizer system for a matrix clause may contain projections not present in the complementizer system for an embedded clause.

Finally, I adopt one of the major conclusions of Kayne's (1994) analysis of syntactic antisymmetry. Specifically, I assume that phrase structure is cross-categorically and cross-linguistically head initial. One consequence of this position is that all head final structures encountered in natural language must be derived via movement from head

[47] See Mitchell (1994) for general discussion of the Agreement relationship and an argument against independent Agreement Projections.

[48] See also earlier proposals such as Reinhart (1979), Bhatt & Yoon (1991), and Iatridou & Kroch (1992).

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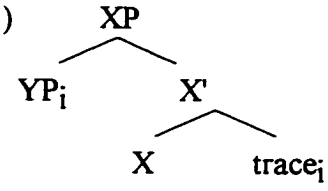
initial structures. (63) illustrates the general analysis I will provide for head final structures in Western Apache. If a head X follows its complement YP, that complement has necessarily raised to the specifier position of the phrase projected by X.

(63)



I conclude this section with two brief notes on the analysis of Western Apache clause structure. First, although the theoretical assumptions outlined above follow from proposals based on languages other than Western Apache, I will additionally provide language internal evidence in support of the particular analyses I pursue for Western Apache in this dissertation. Second, none of the assumptions outlined above are fundamentally incompatible with an analysis of overt nominals as adjuncts in Western Apache. This type of analysis, commonly referred to as the Pronominal Argument Hypothesis in works stemming from Jelinek (1984) and incorporated into Baker's (1996) Polysynthesis Parameter, is postulated within the same general syntactic framework outlined above. What distinguishes a Pronominal Argument analysis is not the presence, hierarchical location, or nature of particular functional projections within a clause, but the ability of overt nominal arguments to surface in those projections. In Chapter 8, I will reconsider two key assumptions above, that nominal arguments are generated in VP internal thematic positions and surface in Case/Agreement positions, and discuss the evidence in favor of a Pronominal Argument approach to Western Apache. I will additionally summarize the extensive literature in support of such an approach to Navajo (Sandoval & Jelinek 1989, Willie 1989, 1991, Jelinek 1990, 1991, 1995b, 1996).

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Nevertheless, I will argue that the syntactic phenomena presented in chapters 2 through 7 are inconsistent with a Pronominal Argument analysis of Western Apache.

1.8 Outline of the Dissertation

This dissertation is organized as follows: In Chapter 2, I introduce the Western *ha-* words in their role as interrogative Wh phrases. I provide morphological derivations for the *ha-* words, discuss the implications and analysis of apparently optional Wh movement, and provide an analysis for a correlation between the surface position and interpretation of Wh adjuncts. In Chapter 3, I discuss the interpretation of the *ha-* words as indefinites under the scope of the uncertainty operator *-shị* and as polarity items under the scope of the negative focus operator *doo*. I argue that the *ha-* words are interpreted as variables which receive their quantificational force from the closest c-commanding operator (cf. Nishigauchi 1986, 1990, Cheng 1991, Li 1992). In Chapter 4, I discuss the interpretation of multiple Wh questions in Western Apache and demonstrate that sentences with multiple *ha-* words exhibit both Superiority and Anti-superiority effects. I argue for an analysis of these effects as Weak-Cross-Over phenomena (cf. Hornstein 1995). In chapters 5 and 6, I introduce the *-go* focus/non-factive and *-hií* referential particles as nominal modifiers and complementizers. I provide an analysis for the particles and explore their interaction with Wh questions. In Chapter 7, I discuss the implications of the syntactic phenomena introduced in chapters 2 through 6 for the analysis of Wh movement and conclude that Western Apache *ha-* words are subject to an optional movement operation. Finally, in Chapter 8 I reconsider the analysis of Western Apache clause structure from the perspective of the Pronominal Argument Hypothesis (cf. Jelinek 1984). I demonstrate that although Western Apache exhibits several characteristic properties of Pronominal Argument languages, the phenomena discussed in

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chapters 2 through 7 are incompatible with a Pronominal Argument analysis of the language. I discuss the implications for the Pronominal Argument Hypothesis in general. Chapter 9 briefly summarizes the central arguments in this dissertation and provides a tree diagram which illustrates the hierarchical organization of the Western Apache clause as developed in chapters 2 through 7.

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CHAPTER 2

THE WESTERN APACHE *ha-* WORDS AS WH INTERROGATIVES

The Western Apache words used for the English Wh words 'who', 'what', 'where', 'when', 'why', 'how', and 'which' all begin with the prefix *ha-*. These words, which I will refer to as the *ha-* words, are also regularly used as non-interrogative indefinite expressions, e.g. 'someone', and polarity items, e.g. 'anyone'. I discuss the non-interrogative use of the *ha-* words in Chapter 3. In this chapter, I introduce the *ha-* words in their role as interrogative Wh elements. I provide morphological derivations for the *ha-* words and argue that interrogative *ha-* arguments and adjuncts surface in particular structural positions within the clause and optionally undergo movement. The existence of optional movement is problematic for the Minimalist framework (Chomsky 1995), and I return to this issue in Chapter 7 after the discussion of several additional facts of *ha-* syntax in chapters 3 through 6. The identification of particular structural positions for the *ha-* words provides a fixed frame of reference from which the positions of other elements in a clause may be determined. I revisit this issue in Chapter 8 as a key component in an argument against a Pronominal Argument analysis (Jelinek 1984) of Western Apache clause structure.

2.1 The *ha-* Words and their Morphological Derivations

In this section, I demonstrate the use of the Western Apache *ha-* words as interrogative 'who', 'what', 'where', 'when', 'why', 'how', and 'which', and provide morphological derivations for each *ha-* word. While each of the morphemes within a given *ha-* word has a function in the grammar independent of its role in that *ha-* word,

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the discussion and examples below do not address the status of the morphological derivation as a productive aspect of the synchronic grammar or a diachronic artifact.

2.1.1 'Who' = *Hadín*

Example (1) demonstrates the use of the Western Apache word *hadín* 'who'.

(1) Hadín ḳih náágole' ?
who house 3sg.imprf.build
Who is building the house ?[1]

'Who' consists of the *ha-* morpheme plus *dín* (2). *Dín*, one of two proximal demonstratives in Western Apache, is singular, unmarked for gender, and necessarily refers to a human (3).

(2) hadín = ha + dín
who *ha-* + this.person[2]

(3a) dín
this.person
this person

(3b) Dín doo tazhii hiyąąą da.
this.person NEG turkey 3sg.perf.eat NEG
This person didn't eat the turkey.

The other proximal demonstrative, *díí*, is unmarked for both number and gender, and, in the absence of a +human NP complement, necessarily refers to an animal or inanimate object (4).

---

[1] Sentences such as (1) with the imperfective root *-le'* for 'build/make' can be translated with either present or future tense in the absence of additional grammatical or contextual information which forces a particular reading (see also Section 1.6.7.2). For consistency, I provide the present tense translation throughout this dissertation.

[2] Although *dín* is necessarily singular, *hadín* can be used in questions where more than one individual may be included in the answer (see Section 4.1).

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(4a) díí
this, these
[Used only for animals and inanimate objects.]

(4b) Díí doo tazhii hiyąą́ą́ da.
this NEG turkey 3sg.perf.eat NEG
This one didn't eat the turkey.
[e.g. 'this dog']

Examples (3b) and (4b) demonstrate that both *díí* and *dín* can stand alone, without overt NP complements, as arguments to a verb. *Díí* and *dín* differ, however, in their ability to take NP complements. As demonstrated in (5) and (6), *dín* is incompatible with NP complements.[3]

(5) * dín hastiin
this.person old.man
this old man

(6) * dín mé'
this.person baby
this baby

In contrast, *díí* can take both [-human] (7) and [+human] (8) NP complements. The compatibility of *díí* with [+human] complements indicates that it is not inherently [-human], despite its default interpretation as [-human] in the absence of a complement.

(7a) díí magashi
this/these cow/cattle
this cow | these cattle

(7b) díí tsée
this/these rock/rocks
this rock | these rocks

(8) díí hastiin
this old.man
this old man

The asymmetry between *díí* and *dín* with respect to NP complements can be explained if *dín* is analyzed as a combination of the demonstrative *díí* and *n*, a [+human] morpheme.

---

[3] *dín* is associated with overt nominals in two contexts. In (i), *dín* serves as subject of a covert copula. (i) is necessarily translated as a sentence. In (ii), *dín* serves as subject of a nominalized verb.

(i) Dín Earl.
this.person Earl
This is Earl.

(ii) [Dín magashi nainyood-é] hish'ii'.
[this.person cattle 3sg.imprf.herd-NOM] 1sg.perf.see
I saw [this cattle herder | this cowboy].

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(9) díń = díí + n
this.person this + human

In combination with high tone, *n* surfaces as a stem initial prefix on verbs taking 3rd person, [+human] subjects. Examples (10) and (11) demonstrate the use of *n-* as a verbal prefix.[4] The stem initial *n-* is optional in example (10) with a [+human] subject, but ungrammatical in example (11) with a [-human] subject.

(10a) Inee tú-bidá'-dégostł'inihíí ágolaa.[5]
Apache.man dam 3sg.perf.build
The man (Apache) built a dam.

(10b) Inee tú-bidá'-dégostł'inihíí náágolaa.
Apache.man dam human.3sg.perf.build
The man (Apache) built a dam.

(11a) Chaa tú-bidá'-dégostł'inihíí ágolaa.
beaver dam 3sg.perf.build
The beaver built a dam.

(11b) * Chaa tú-bidá'-dégostł'inihíí náágolaa.
beaver dam human.3sg.perf.build
The beaver built a dam.

---

[4] This prefix surfaces as *ní-* with stems beginning in *hi* or *'i* (*níhígaał* < *ní* + *higaał* : 'he/she is walking', *ní'iłxaash* < *ní* + *'iłxaash* : 'he/she is going to sleep') as *ná-* with stems beginning in *ha* or *'a* (*náha'ileeh* < *ná* + *ha'ileeh* : 'he/she is fishing', *náágole'* < *ná* + *'ágole'* : 'he/she is building it'), as *ṇ́-* or *n-* plus high tone on the following vowel with stems beginning with *y* (*ṇyígołṣih* < *ṇ́* + *yigołṣih* : 'he/she knows', *nyízkah* < *ń* + *yizkah* : 'he/she shoots it'), and as *ṇ́* with all other consonant initial stems (*ṇk'edileé* < *ṇ́* + *k'edileé* : 'he/she is planting'). The vowel in *ní-* and *ná-* is epenthetic and assimilates to the following vowel. High tone may spread from the prefix to the initial vowel of the stem, stem initial laryngeals may be deleted, and the form of the prefix in glide inital stems may be prosodically determined with the syllabic variant preferred if it yields an even number of syllables in the stem.

[5] The sequence translated as 'dam', *tú bidá' dégostł'inihíí*, is a nominalized clause.

(i) tú bidá' dégostłin-ihíí
water 3rd.plug.up/in.front.of 3rd.perf.pile.rocks/logs-REL

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The obligatory interpretation of *dín* as [+human] follows from the presence of the [+human] morpheme *n*. The incompatibility of *dín* with NP complements follows under the hypothesis that *n* serves as the complement of *díí* and satisfies/saturates any selectional or thematic relationships which might otherwise hold between *díí* and an NP complement. In summary, *hadín* consists of the *ha-* morpheme, the proximal demonstrative *díí*, and the demonstrative's [+human] argument *n*.

(12) hadín = ha + díí + n
who *ha-* + this + human

2.1.2 'What' = *Hant'é*

Example (13) demonstrates the use of the Western Apache word *hant'é* 'what'.

(13) Hastiin hant'é náágole' ?
old.man what 3sg.imprf.build
What is the old man building ?

'What' consists of the *ha-* morpheme plus *nt'é*, a 3sg subject, imperfective form of 'be'.

(14) hant'é = ha + nt'é
what ha- + 3sg.imprf.be

The presence of *n* in *hant'é* is unexpected.[6] While the 1sg form of 'be' includes a *ni-* thematic prefix which surfaces as *n* (15), this prefix is obligatorily absent in 3rd person forms (16). See Young & Morgan (1992:537) for discussion of the Navajo cognate stem.

[6] Some speakers of the Bylas dialect of Western Apache use the expected from *hat'é* which does not include the *n-* prefix (Willem de Reuse, personal communication).

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(15) ánsht'éé [Perry et. al. 1972:6]
1sg.imprf.be
I am

(16a) at'éé [Perry et. al. 1972:6]
3sg.imprf.be
it is

(16b) * ant'éé
3sg.imprf.be
it is

2.1.3 'Why' = *Hant'éwạ*

Example (17) demonstrates the use of the Western Apache word *hant'éwạ* 'why'. Clause initial *hant'éwạ* can be interpreted as either a general interrogative 'for what reason' or a more specific interrogative 'for what purpose'. The latter reading inquires about the motivation or goal behind an action. I explore the distribution and interpretation of *hant'éwạ* in greater detail in Section 2.3.1.

(17) Hant'éwạ hastiin kịh náágolaa ?
why old.man house 3sg.perf.build
i) For what reason did the old man build the house ?
ii) For what purpose did the old man build the house ?
[Purpose context: to prove he is in as good shape as his sons.]

'Why' consists of *hant'é* 'what' and a reduced form of *ghạ*, the Western Apache root for 'because'.[7]

(18) hant'éwạ = hant'é + wạ
why what + because

---

[7] *ghạ* obligatorily appears in non-reduced form when attached to an agreement pronoun (see Section 1.6.2 for a list of the Western Apache pronominal agreement prefixes).

(i) Shighạ nits'ạ' olghod.
1sg.because 2sg.away.from 3sg.move.swiftly
Because of me, he left you.

(ii) ?? shiwạ
1sg.because(reduced)
because of me

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The *ghạ* morpheme surfaces frequently as the root in *hiwạ*, a complementizer used to subordinate one clause to another through a causal relationship (19).

(19) Mary ákú o'iyáá́ híwạ bił gozhǫǫ́ ni'.
Mary there 3sg.perf.go because 3sg.with 3sg.be.good A-PAST
Because Mary went, she was happy.

2.1.4 'How' = *Hagot'ú́go*

Example (20a) demonstrates the use of the Western Apache word *hagot'ú́go* 'how'. The most common interpretations of *hagot'ú́go* are that of a sentential operator translated as 'how can it be' and a VP adverbial translated as 'by what means/method' (see Section 2.3.2). Both interpretations are available in (20).

(20a) Hagot'ú́go hastiin kịh náá́gole' ?
how old.man house 3sg.imprf.build
i) By what means/method is the old man building the house ?
ii) How can it be that the old man is building the house ?
[Possible answer for (i): By modern means, rather than the old method.]

Another form for 'how' is *hago'at'éé́go*. As demonstrated in (20b), this form can be used as a VP adverbial which refers to the general plan with which an action is carried out. In other contexts, *hago'at'éé́(-go)* can be used to inquire about the condition of a person, animal, or object.

(20b) Hago'at'éé́go hastiin kịh náá́gole' ?
how old.man house 3sg.imprf.build
How is the old man building the house ?
[e.g.- What's his plan? In what style/shape? How many rooms? What kind of roof? Out of lumber or concrete?]

The morphological derivations for *hago'at'éé́go* and *hagot'ú́go* are given in (21).

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(21a) hago'at'éégo = ha + go + at'éé + go
how *ha-* + adv.subordinator + 3sg.imprf.be + adv.subordinator

(21b) hagot'úgo = ha + go + t'ú + go
how *ha-* + adv.subordinator + 3sg.imprf.be + adv.subordinator

Each of the two forms for 'how' includes the *ha-* morpheme and two instances of the adverbial subordinating particle *-go*. The 3sg subject stem for 'be' *at'éé* is clearly present in *hago'at'éégo*, and the *t'ú* in *hagot'úgo* is possibly a phonologically reduced variant of *at'éé*, influenced by the preceding and following *-go* morphemes.

The particle *-go* serves a variety of functions in Western Apache. In chapters 5 and 6, I discuss the use of this particle as a focus and non-factive marker for nominal and clausal arguments, respectively. *-go* also has a role, however, in marking adverbial elements in a clause. Edgerton (1963) characterizes *-go* as a 'subordinating enclitic' translated as 'ing', 'ly', 'when', 'while', 'as', or 'since'. In (22), *-go* indicates that one action is occurring 'while' another action occurs.

(22) Adąądą́' ní'iłhush go o'i'ąą́ ni'.
yesterday 3sg.imprf.sleep ADV 3sg.perf.go A-PAST
Yesterday he slept all day.
[Yesterday, while he was sleeping, the sun set.][8]

Many Western Apache adverbs end in *-go*. The examples in (23) - (26) are from the Western Apache Dictionary (Perry et. al. 1972).

(23) dáataanégo
slowly

(24) hadago
upward

[8] The verb form *o'i'ąą́* refers specifically to the movement (setting) of the sun.

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(25) nłt'éégo
well

(26) ániihégo
recently

The *-go* at the end of *hagot'úgo* marks the word as adverbially subordinate to a verb. In example (20), *hagot'úgo* is adverbially subordinate to the verb *náágole'* 'build'. The final *-go* does not appear if 'how' is not subordinate to another verb, as in example (27) where the 3sg stem of 'be' is used as a main verb.[9]

(27) Hago'at'éé ?
how.3sg.imprf.be
How's he doing ?
[What condition is this person in? - Could also be used with animal or inanimate object. Implies something is wrong.]

When used in a non-subordinate context, the verbal stem in 'how' may be inflected (28).

(28) Hago'ánt'éé ?
how.2sg.imprf.be
How are you ?
[Implies something may be wrong - e.g. the person is sick.]

Finally, the non-subordinate form of 'how', lacking the final *-go*, is ungrammatical when used as an adverbial modifier to another verb (29).

(29) * Hago'at'éé hastiin kịh náágole' ?
how old.man house 3sg.imprf.build
How is the old man building the house ?

[9] There is no non-subordinate version of *hagot'úgo* - **hagot'ú*. This supports the hypothesis that *hagot'úgo* is a phonologically reduced form of *hago'at'éégo* derived via the influence of the *-go* particles on either side of the verb stem. In the absence of the final *-go*, the reduction does not occur.

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Possibly the initial *-go* in 'how' marks that *ha-* is adverbially subordinate to the verbal root *at'eé* or *t'ú*.[10]

2.1.5 'Where' = *Hayú*, *Hadí'*

There are two words for 'where' in Western Apache. The word *hayú* is translated as English 'where to' or 'where at' (30). The word *hadí'* corresponds to English 'where from' (31).

(30a) Hayú hastiin ḳih náágole' ?
where old-man house 3sg.imprf.build
Where is the old man building the house ?

(30b) Hayú isdzan tsée yiztał ?
where woman rock 3sg.perf.kick
Where (at/to) did the woman kick the rock ?
[Where at? - By the river. Where to? - Into the house.]

(31) Hadí' nanaa ?
where.from 2sg.perf.come
Where are you from ?

The morphological derivations for *hayú* and *hadí'* are provided in (32) and (33).

(32) hayú = ha + yú
where at/to *ha-* + location

(33) hadí' = ha + dí'
where.from *ha-* + from

---

[10] As the initial *-go* in *hago'ateégo* precedes the verbal stem *'at'eé*, it necessarily precedes the Adverbial-Thematic prefix *'á* (see Young & Morgan 1992:537 for the derivation of Navajo 'be'.). Since Adverbial-Thematic prefixes are leftmost in the stem, this *-go* cannot be analyzed as the stem internal abstract object prefix *-go* (cf. Section 1.5, Hoijer 1945a:198, Young & Morgan 1992:851). The Navajo cognate of *hago'at'eégo* is *ha'at'eégo* (Young & Morgan 1987:25) without the initial *-go*.

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The *yú* morpheme in *hayú* is a particle used to note location as in (34) and (35).

(34) T'iis bitł'áh yú ịłxáásh.
tree 3sg.under LOC 2sg.imprf.go-sleep
You're going to sleep under the tree.

(35) Túbạạ yú łóg yiyạạ.
river LOC fish 3sg.imprf.eat
He eats fish by the river.

The *dí'* morpheme in *hadí'* is a directional particle translated as English 'from' (36).

(36) San Carlos dí' nashaa.
San Carlos from 1sg.perf.come
I come from San Carlos.
[I'm from San Carlos.]

2.1.6 'When' = *Dadạ́', Das'áh*

There are two words for 'when' in Western Apache. *Dadạ́'* (37) is used only in reference to the past. *Das'áh* (38) is typically used in reference to the future.

(37) Dadạ́' hastiin kịh náágolaa ?
when.past old.man house 3sg.perf.build
When did the old man build a house ?

(38) Das'áh hastiin kịh náágole' ?
when.nonpast old.man house 3sg.imprf.build
When will the old man build a house ?

Das'áh is appropriately characterized as a non-past form as it can be used in non-past examples such as (39) that do not necessarily refer to a future time.

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(39) Das'á̵h hastiin ná'ilghush ?
when.nonpast old.man iter.3sg.imprf.sleep
When does the old man go to sleep ?
[On a regular basis - when does the old man sleep?]

While *das'á̵h* is compatible with imperfective verbs as in (38) and (39), it is not compatible with perfective verbs in sentences with no overt markers for tense (40).

(40) * Das'á̵h hastiin kịh náágolaa ?
when.nonpast old.man house 3sg.perf.build
When will the old man build/have built the house ?

This incompatibility follows from a featural mismatch between non-past *das'á̵h* and the default interpretation of Western Apache perfective verbs as past tense (Section 1.6.7.3). Western Apache perfective verbs can be used in non-past contexts if an overt tense marker is present to override the default past interpretation. (41) demonstrates the compatibility of *das'á̵h* with a perfective verb if such a tense marker, in this case the future marker *doleeł*, is present. (41) receives a future perfective interpretation.

(41) Das'á̵h hastiin kịh náágolaa doleeł ?
when.nonpast old.man house 3sg.perf.build FUT
By when will the old man have finished building the house ?

Similarly, while *dadạ́'* is compatible with perfective verbs (37), examples (42) and (43) demonstrate that an overt past tense marker, in this case the questioned past particle *lạ́n*, is required when *dadạ́'* occurs with imperfective verbs. As with *das'á̵h*, this restriction follows from a featural mismatch in tense. *Dadạ́'* is a past tense form but the default interpretation of Western Apache imperfective verbs is non-past (Section 1.6.7.2).

(42) * Dadạ́' hastiin kịh náágole' ?
when.past old.man house 3sg.imprf.build
When will the old man build a house ?

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(43) Dadą́' hastiin kịh náágole' lą́n adąądą́' ?
when.past old-man house 3sg.imprf.build QPAST yesterday
When was the old man building the house yesterday ?
[What time of the day was it ? Could be answered by 'all day'.]

The morphological derivations for *das'áh* and *dadą́'* are given in (44) and (45), respectively.

(44) dadą́' = da + dą́'
when.past *ha-* + past

(45) das'áh = da + s'áh
when *ha-* + solid.round.object.moves

Unlike the other *ha-* words in Western Apache, the words for 'when' begin with the sequence [*da*] rather than [*ha*]. Young & Morgan (1992:24) note that *daa-* is a variant form of the morpheme *haa-* present in Navajo Wh words. I assume that Western Apache *da-* is an allomorph of *ha-*. Western Apache speakers who regularly employ *ha-* with other Wh words may also use *da-* forms in frequently used, lexicalized expressions. The greeting in (46), for example, is related to the non-subordinate form of 'how' *hago'at'éé* in (27). Moreover, the Western Apache dictionary lists *hadą́'* as a variant form for 'when in the past' (Perry et. al. 1972:85).

(46) Dagot'éé (?)
How's it going ? | Hello.

The final *dą́'* in *dadą́'* is a past tense marker. In (47), the presence of the *dą́'* particle indicates that the 'walking' occurs during a past afternoon.

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(47) Hayaazhı' dą́' níhí'ash ni'.[11]
afternoon past 3dl.prog.walk
They (2) were walking this afternoon.

Future reference can be marked by the particle *go*. (48) illustrates the use of *go* to indicate that the 'afternoon' in question is yet to occur.

(48) Hayaazhı́' go hiikah doleeł.
afternoon FUT 1pl.prog.walk FUT
We (3+) will be walking this afternoon.

The Navajo words for 'when in the past' and 'when in the future' are *hadąą́'*: Wh (*ha*) + past (dą́ą́') and *hahgo*: Wh (*ha*) + future (go), respectively (Young & Morgan 1987:25,26). It is somewhat surprising that the Western Apache future form for 'when' does not also use the future marker *go*, clearly present in the grammar. The *s'ah* in *das'ah*, however, is probably related to the root *'ah* (cf. Young & Morgan 1992:11) which refers to the movement of a solid round object. In this case, the solid round object is the sun and its movement denotes the passage of time.[12]

2.1.7 'Which' = *Hadíí*

The Western Apache word for 'which' *hadíí* precedes and takes as complement any nominal argument in a clause. As with its English counterpart, *hadíí* operates over a presupposed set of discourse entities. Examples (49) and (50) demonstrate the use of *hadíí* with subject and object arguments, respectively.

---

[11] Note that *ha-* in *hayaazhı'* is an Adverbial-Thematic prefix glossed as 'up out, up vertically, up ascending' in Young & Morgan (1992:848) and is not related to the *ha-* morpheme present in Wh words.

[12] Willem de Reuse (personal communication) notes that Harry Hoijer's (n.d.) field notes on Chiricahua Apache stems include the entry *oós'ah* translated as 'late' or 'long time'. The Western Apache dictionary (Perry et. al. 1972:85) cites *da'os'ah* as 'when (future)'.

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(49) Hadíí hastiin kịh náágolaa ?
which old.man house 3sg.perf.build
Which old man built the house ?

(50) Hastiin hadíí kịh náágolaa ?
old.man which house 3sg.perf.build
Which house did the old man build ?

Morphologically, *hadíí* consists of the *ha-* morpheme plus the proximal demonstrative *díí* corresponding to English 'this/these' (see Section 2.1.1).

(51) hadíí = ha + díí
which *ha-* + this/these

2.2 *ha-* Interrogatives and Wh Movement

With respect to Navajo, there is some disagreement in the literature concerning the availability of a Wh movement operation. Willie (1991) argues that Navajo exhibits neither matrix Wh movement nor Wh extraction from subordinate clauses. Willie states that Navajo does not have long-distance Wh movement (p. 212) and suggests that the surface positioning of Wh phrases is determined by the same principles which determine the positioning of non-Wh nominals. Schauber (1979) argues that Navajo Wh phrases are subject to a Wh movement operation which does not apply to non-Wh nominals[13] and provides numerous examples of Wh movement from a subordinate clause to a sentence initial position.[14]

[13] Schauber does not discuss movement with respect to non-interrogative *ha-* words.

[14] Barss et. al. (1989) argue minimally for LF Wh movement in Navajo.

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In this section, I demonstrate that Western Apache *ha-* words used as Wh phrases are subject to a movement operation that is not available to non-*ha-* DP. Below, I refer to the movement of interrogative *ha-* words as 'Wh movement'.[15] The specific nature and analysis of this movement operation is a prominent issue in chapters 3 through 7 and is crucial to the argument against a Pronominal Argument approach to Western Apache in Chapter 8.

2.2.1 Matrix Wh Movement

Western Apache Wh phrases can appear in situ, i.e., in the same surface position a corresponding non-Wh constituent would occupy.[16] (52a) demonstrates the in-situ position of a Wh object in a transitive clause. (52b) provides the non-Wh counterpart.

(52a) Hastiin hant'é yiztał ?
old.man what 3sg.perf.kick
What did the old man kick ?

(52b) Hastiin góséé yiztał ?
old.man dog 3sg.perf.kick
The old man kicked the dog.

Western Apache Wh phrases may also optionally surface in a preposed (typically clause initial) position. (53) demonstrates this positioning with the Wh object in (52a).[17]

---

[15] I argue that interrogative *ha-* words raise to WhP, a complementizer projection containing a covert +Wh operator. Non-interrogative *ha-* indefinites also raise (Section 3.5.3), and I argue that *ha-* movement is not always to Spec WhP (Section 5.7.2, Chapter 7). What is crucial is that the element which raises is marked by *ha-* morphology. Ultimately, '*ha-* movement' is a more appropriate label.

[16] I argue that in situ Wh phrases do surface in the Case/Agreement positions corresponding non-Wh DP occupy at PF. The in situ status of a Wh phrase such as the Wh object in (52a), however, cannot be assumed solely on the basis of the overt linear ordering of arguments. See Section 2.2.5 and Chapter 7.

[17] As (i) demonstrates, a preposed Wh argument need not surface as the first element in a clause.

(i) Adąądą́' hant'é hastiin yiztał ?
yesterday what old.man 3sg.perf.kick
What did the old man kick yesterday ?

(ii) Hant'é adąądą́' hastiin yiztał ?
what yesterday old.man 3sg.perf.kick
What did the old man kick yesterday ?

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(53) Hant'é hastiin yiztał ?
what old-man 3sg.perf.kick
What did the old man kick ?[18]

Note that the object precedes the subject in (53), contra the SOV word order required in non-interrogative *yi-* transitives (Section 1.6.6). Crucially, a non-*ha-* object cannot surface in a preposed position preceding a subject. The initial DP in example (54) is obligatorily interpreted as subject. If non-*ha-* DP could prepose to a sentence initial position, the initial DP in (54) should be optionally interpretable as a raised object.

(54) Gósée hastiin yiztał.
dog old.man 3sg.perf.kick
i) The dog kicked the old man. [e.g., in a cartoon]
ii) *The old man kicked the dog.

The asymmetric distribution of Wh and non-Wh objects in examples (52) - (54) suggests that there is a movement operation in Western Apache which is available to *ha-* words used as interrogative Wh arguments but does not apply to non-*ha-* DP. Wh and non-Wh objects may surface in canonical object position, and Wh objects may optionally raise to a higher position in the clause.

2.2.2 Wh Extraction from Embedded Clauses

As noted in Section 1.6.5, canonical word order in Western Apache sentences with complement clauses is S-[Clause]-V (55).

---

[18] Examples (i) and (ii) would be used to ask 'What kicked the old man?'. Presumably this is a *yi/bi* animacy effect which applies between Wh DP and non-Wh DP in Western Apache (see Section 1.6.6).

(i) Hant'é hastiin biztał ?
what old.man inv.3sg.perf.kick
What kicked the old man ?

(ii) Hastiin hant'é biztał ?
old.man what inv.3sg.perf.kick
What kicked the old man ?

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(55) John Earl nalbíl nayisniih go ńzịh.
John Earl car 3sg.perf.buy COMP[19] 3sg.imprf.think
John thinks Earl bought a car.

A Wh argument in a subordinate clause can surface in situ (56) or in initial position within the subordinate clause (57). In either case the Wh word may be interpreted as a matrix interrogative.

(56) John Earl hant'é nayisniih go ńzịh ?
John Earl what 3sg.perf.buy COMP 3sg.imprf.think
What does John think Earl bought ?

(57) John hant'é Earl nayisniih go ńzịh ?
John what Earl 3sg.perf.buy COMP 3sg.imprf.think
What does John think Earl bought ?

As (58) demonstrates, a non-*ha*- embedded object may not precede the embedded subject in a subordinate clause.

(58) * John nalbíl Earl nayisniih go ńzịh.
John car Earl 3sg.perf.buy COMP 3sg.imprf.think
John thinks Earl bought a car.

The distribution of Wh objects in subordinate clauses thus parallels that of Wh objects in matrix clauses. As with matrix constructions, Wh objects in subordinate clauses can occur in situ, or in a preposed, clause initial position unavailable to non-*ha*- objects.

Strong support that the operation which preposes Wh objects is not an instance of clause internal scrambling available only to Wh phrases can be found in the presence of

[19] Chapter 6 discusses the -*go* and -*hií* particles as complementizers and explores how the choice of complementizer influences Wh extraction and interpretation.

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long distance Wh extraction. As (59) demonstrates, a Wh object associated with a subordinate clause may surface in a matrix initial position.

(59) Hant'é John Earl nayisniih go ńzı̨h ?
what John Earl 3sg.perf.buy COMP 3sg.imprf.think
What does John think Earl bought ?

Examples (60) and (61) demonstrate that long distance extraction is also possible with embedded Wh subjects. In these examples, the DP *ishikín* 'boys' is plural, incompatible with the embedded 3sg subject verb stem *yiztał* 'he/she kicked it', and unambiguously interpreted as subject of the matrix verb *ńdanzı̨h* 'they think'.[20]

(60) Ishikín Earl nalbíl nayisniih go ńdanzı̨h.
boys Earl car 3sg.perf.buy COMP 3pl.imprf.think
The boys think Earl bought a car.

(61) Hadín ishikín nalbíl nayisniih go ńdanzı̨h ?
who boys car 3sg.perf.buy COMP 3pl.imprf.think
Who do the boys think bought the car ?

Examples (62) and (63), the non-Wh counterparts of (59) and (61), are ungrammatical.

(62) * Nalbíl John Earl nayisniih go ńzı̨h.
car John Earl 3sg.perf.buy COMP 3sg.imprf.think
John thinks Earl bought a car.

(63) * Earl ishikín nalbíl nayisniih go ńdanzı̨h.
Earl boys car 3sg.perf.buy COMP 3pl.imprf.think
The boys think Earl bought a car.

---

[20] I assume that matrix Wh subject movement is possible as well, although it applies string vacuously.

(i) Hadín$_1$ t$_1$ gósée yiztał ?
who wh-trace dog 3sg.perf.kick
Who kicked the dog ?

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In summary, there is an asymmetry between the surface distributions of Wh and non-Wh DP in Western Apache. While non-Wh arguments appear only in situ, Wh arguments may optionally prepose to a clause initial position. Moreover, Wh preposing may occur across clause boundaries, moving a Wh argument from a subordinate clause to an initial position in the matrix clause. This evidence strongly suggests that the grammar of Western Apache includes Wh movement, an operation which preposes Wh phrases to a clause initial position.[21]

2.2.3 Partial Wh Movement

Western Apache also exhibits certain instances of partial Wh movement. As noted in Section 1.6.1, canonical word order in a Western Apache ditransitive clause is S-IO-OV. Parallel to the case with transitive clauses, Wh objects may surface in situ (64) or in a preposed, clause initial position (65).

(64) Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
What did the woman give the boy ?

(65) Hant'é$_1$ isdzan ishkiin t$_1$ yaayiné' ?
what woman boy wh-trace 3sg.perf.give
What did the woman give the boy ?

In addition, however, a Wh object in a ditransitive clause may surface in a position that is intermediate between overt subject and indirect object arguments (66). In such cases, the Wh object is apparently neither in situ nor in a clause initial position.

[21] The preposing of Wh phrases in Western Apache cannot be analyzed as focus movement. Chapter 5 argues that focused DP do not overtly raise in Western Apache. See also the discussion in Chapter 7.

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(66) Isdzan hant'é$_1$ ishkiin t$_1$ yaayiné' ?
woman what boy wh-trace 3sg.perf.give
What did the woman give the boy ?

This ordering possibility is not available to non-Wh objects (67) and thus cannot be analyzed as an instance of clause internal scrambling. Note that (67) is necessarily interpreted with *chách'il* 'acorn' as indirect object.

(67) ? Isdzan chách'il ishkiin yaayiné'.
woman acorn boy 3sg.perf.give
? The woman gave a boy to the acorn.

I will discuss the analysis of examples such as (67) in Section 2.2.5, Section 5.7.2, and Chapter 7.

2.2.4 Coordinate Structure Constraint

The preceding sections demonstrate that the surface distribution of Wh DP in Western Apache is freer than that of non-Wh DP in a manner consistent with the optional application of a Wh movement transformation. As recognized in research on Wh movement, the Wh movement operation is cross-linguistically subject to constraints.[22] If the surface distribution of Wh DP in Western Apache is determined at least in part through the application of a Wh movement operation, that distribution should be limited in contexts where Wh movement is prohibited. This section briefly explores one such

[22] For general discussion, see McCawley (1988a, 1988b), Haegeman (1991), and Napoli (1993).

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context, coordinate structures, and demonstrates that the surface positioning of Wh DP in Western Apache is subject to the Coordinate Structure Constraint (CSC) on movement.[23]

As initially noted for English in Ross (1967), the DP conjuncts of a coordinate structure cannot be questioned. Example (68a) demonstrates that a Wh DP in English cannot be preposed from the right conjunct of a coordinate object. (68b) demonstrates a similar effect with the left conjunct.

(68a) ?* What sofa will he buy the chair and _ ?

(68b) * What chair will he buy _ and the sofa ?

This restriction, which Ross labeled the Coordinate Structure Constraint (CSC), is robustly attested cross-linguistically. Descriptively, the constraint holds that no conjunct or any element contained within a conjunct may be moved out of a coordinate structure.

Coordinate DP in Western Apache are formed with the word *hik'eh* which is frequently shortened to *k'eh* in casual speech. The Western Apache dictionary (Perry et. al. 1972) translates this word as 'and'. Examples (69) and (70) demonstrate coordinate subject and object constructions respectively.[24]

---

[23] Chapter 4 demonstrates that the distribution of Western Apache Wh phrases in multiple Wh questions is delimited by the Superiority Condition (Chomsky 1973) and exhibits Anti-Superiority effects (Saito 1982, 1992, Watanabe 1992).

[24] With two conjuncts, *k'eh* surfaces between the conjoined DP. With three or more conjuncts, *k'eh* surfaces between the two rightmost conjuncts.

(i) Hastiin ishkiin k'eh nailín tsina'eeł ádayizlaa.
old.man boy and girl boat 3dl.perf.build
The old man, the boy, and the girl made a boat.

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(69) Hastiin k'eh nailín tsina'eeł ádayizlaa.
old.man and girl boat 3dl.perf.make
The old man and the girl made a boat.

(70) Hastiin tsina'eeł k'eh isaa áyíílaa.
old.man boat and drum 3sg.perf.make
The old man made a boat and a drum.

Wh phrases cannot occur as conjuncts in Western Apache coordinate DP. The examples in (71) and (72) demonstrate that a Wh phrase is ungrammatical as either the left or right conjunct in subject and object coordinate structures.[25]

(71a) * Hadín k'eh nailín tsina'eeł ádayizlaa ?
who and girl boat 3dl.perf.make
* Who and the girl made a boat ?

(71b) ?* Hastiin k'eh hadín tsina'eeł ádayizlaa ?
old.man and who boat 3dl.perf.make
?* The old man and who made a boat ?

(72a) * Hastiin hant'é k'eh isaa áyíílaa ?
old.man what and drum 3sg.perf.make
* The old man made what and a drum ?

(72b) ?* Hastiin tsina'eeł k'eh hant'é áyíílaa ?
old.man boat and what 3sg.perf.make
?* The old man made a boat and what ?

The examples in (73) demonstrate that overt extraction of a Wh conjunct from a coordinate structure is also ungrammatical.

(73a) * Hant'é hastiin k'eh isaa áyíílaa ?
what old.man and drum 3sg.perf.make
* What did the old man make and a drum ?

[25] The English translations are grammatical if interpreted as echo questions.

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(73b) * Hant'é hastiin tsina'eeł k'eh áyíílaa ?
what old.man boat and 3sg.perf.make
* What did the old man make a boat and ?

The examples in (73) represent typical violations of the Coordinate Structure Constraint on movement. The examples in (71) and (72) also represent violations of the CSC under the assumption that Western Apache Wh phrases must undergo movement at some point in the overt or covert syntactic derivation.[26] The fact that non-Wh DP can occur as conjuncts in these coordinate structures supports the hypothesis that there is a syntactic operation in Western Apache which specifically targets Wh phrases.[27]

2.2.5 A Preliminary Analysis of Wh Movement

An analysis of Wh movement in Western Apache must answer three questions. First, where are Wh phrases generated? Second, to what position do preposed Wh phrases move? And third, what explains the apparent optionality of Wh movement? In this section, I briefly address each of these questions. The issues are discussed in greater detail throughout the remainder of the dissertation.

With respect to the base generated positions of Wh phrases, I assume that Wh arguments are generated in VP internal, thematically licensed positions and overtly raise to Case/Agreement projections prior to Wh movement. I return to this issue in Chapter 8

[26] The right conjunct Wh examples in (71) and (72) are more degraded than the left conjunct examples for both Western Apache and English. Dominique Sportiche (personal communication) suggests this might follow from the fact that the left conjunct examples violate both the CSC and the Left Branch Condition, which prohibits extraction of a left constituent from a DP (Ross 1967), while the right conjunct examples violate only the CSC.

[27] In Section 5.3.3, I argue for an analysis of the CSC as a constraint on operator-variable binding. Within that analysis, the CSC is not a direct diagnostic for Wh movement, but still distinguishes Wh phrases, which must be bound by a +Wh operator in Spec WhP, from non-Wh DP.

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where I consider the possibility of a Pronominal Argument analysis (Jelinek 1984) of Western Apache in which overt DP are generated as adjuncts to a clause. In Section 8.3.1, I argue that Wh phrases must occupy argument positions at some point in the syntactic derivation to satisfy UG conditions on operator-variable binding relationships. This requirement holds regardless of the status of non-Wh DP as arguments or adjuncts (cf. Baker 1996). In sections 2.3, 3.5, and 5.5, I argue that VP adverbial Wh adjuncts are generated in thematically licensed positions between the Case/Agreement projections for subject and object.

As to the position of preposed Wh phrases, I argue throughout this dissertation that Wh phrases raise to a relatively dominant clausal projection which is available only to phrases exhibiting *ha-* morphology. I identify this projection as WhP and provide arguments in sections 3.4.4, 5.4 - 5.7, and 6.2 that WhP is a matrix projection, distinct from and hierarchically intermediate between Focus and Topic/Referentiality projections.[28]

Finally, the issue of the apparent optionality of Western Apache Wh movement is not easily resolved. Given the facts of Wh movement as presented to this point, there are two equally plausible analyses: Wh movement is optional or Wh movement is obligatory but its application is obscured by the topicalization of non-Wh constituents. In the discussion below, I briefly illustrate each of these approaches and tentatively adopt the analysis of Wh movement as optional. In Chapter 7, I return to this issue and, building on the discussion in chapters 2 through 6, provide several arguments in favor of the optional movement approach.

[28] In Section 5.7, I argue that Wh phrases do not always raise as far as WhP.

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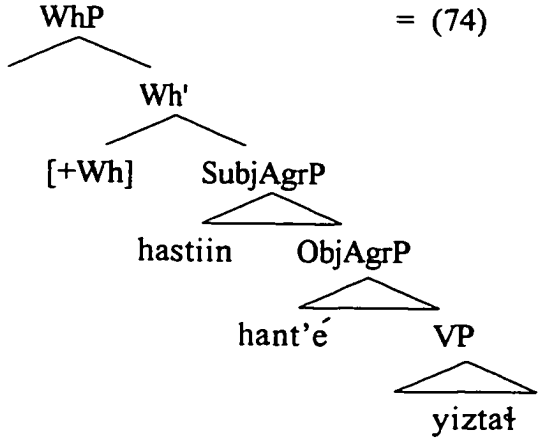
As noted, Western Apache Wh phrases may surface in situ or in a preposed, typically clause initial position. Examples (74) and (75) are repeated from Section 2.2.1.

(74) Hastiin hant'é yiztał ?
old.man what 3sg.perf.kick
What did the old man kick ?

(75) Hant'é hastiin yiztał ?
what old.man 3sg.perf.kick
What did the old man kick ?

One possible analysis of the distribution of Wh objects in (74) and (75) is that overt Wh movement, obligatory for one Wh phrase in English questions, is optional in Western Apache. Within such an approach, the Wh objects in (74) and (75) are generated in thematic positions internal to the VP and raise to the Case/Agreement projection ObjAgrP prior to the optional application of Wh movement. The tree in (76) illustrates the proposed analysis for (74). Wh movement does not apply and the Wh object overtly surfaces in ObjAgrP.

(76) = (74)



As illustrated in (77), the surface form of (75) is derived by the optional application of the Wh movement operation to the structure in (76).

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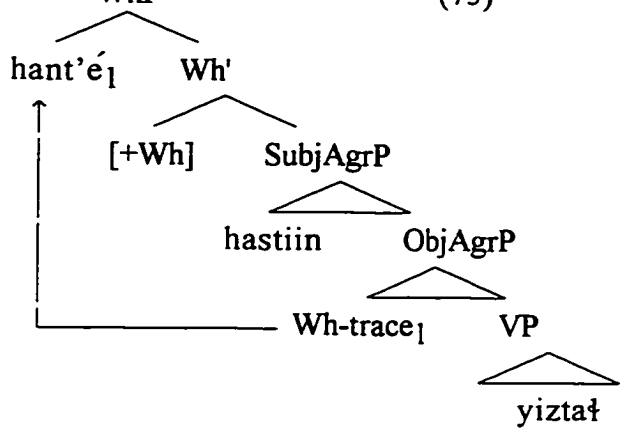
(77) = (75)



There is, however, a theory internal problem with optional movement within the Minimalist Framework (Chomsky 1995) adopted in this dissertation (Section 1.7). All movement within the Minimalist Framework is motivated by the process of feature checking. Lexical and functional elements are inserted from the lexicon with a given set of morphosyntactic features which must be licensed at some point in the derivation. Licensing occurs when a featural match is determined between an XP element in the specifier position of some projection and the head of that projection. Minimalism captures the distinction between overt pre-Spell-Out and covert LF movement by distinguishing strong features from weak features. By definition, strong features must be checked prior to Spell-Out and an appropriate specifier-head configuration between the XP and X^0 elements associated with a strong feature must be established through overt movement. In languages with obligatory Wh raising, a strong +Wh feature on either the Wh words or the head of WhP must be satisfied by Wh raising prior to Spell-Out. Weak features, by definition, do not need to be checked prior to Spell-Out. Feature checking and the movement it entails can be delayed until LF, and will be delayed given Chomsky's (1991) theory of Economy, if a feature is weak (cf. 'Procrastinate' Chomsky 1995).

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Within the Minimalist program, languages differ not in whether particular movement operations are obligatory, optional, or prohibited, but in whether the features which induce particular movement operations are strong or weak. From this perspective, however, truly optional application of a movement transformation is not expected. With regard to Western Apache, the presence of Wh in situ suggests that the Wh feature responsible for movement is weak and need not be checked by movement prior to Spell-Out. Given the principles of Economy, movement is delayed until necessary and overt Wh movement will not occur. The presence of overt Wh movement in Western Apache, on the other hand, suggests that the Wh feature responsible for movement is strong and must be checked prior to Spell-Out. Within the Minimalist Program, a given item, in this case either a Wh word or +Wh complementizer, is stored in the lexicon with its features marked as either strong or weak. The apparent optionality of Wh movement in Western Apache yields the contradiction that the Wh feature in this language is sometimes strong and sometimes weak. For a given element to overtly raise in some cases and not in others, the Minimalist Framework requires that the input features present in the sentence in the different cases vary.[29] Such variation is possible, but should in principle correlate with interpretational or inflectional differences between the raised and in situ examples. There is no apparent distinction in interpretation or inflection, however, between Western Apache in situ and raised Wh examples such as (74) and (75) (see Chapter 7).

An alternative position to take with respect to the apparent optionality of Wh movement in Western Apache is to deny, despite superficial appearances, that Wh movement is optional. The only evidence presented to this point that the Wh object in

[29] Denham (1996, 1997) argues that optional Wh movement in UG follows from the optionality of including a covert +Wh complementizer in the input array. Denham (1997) discusses the core Wh facts for Babine Witsuwit'en, a Northern Athabaskan language.

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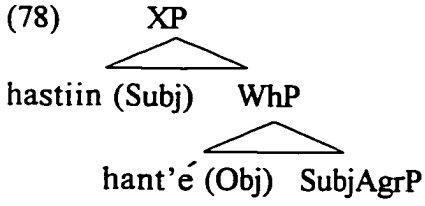
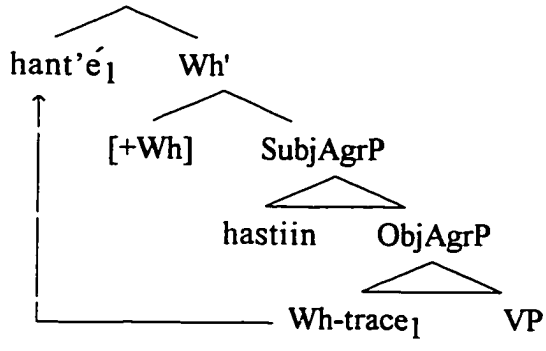
(74) is in situ is that it linearly follows the overt non-Wh subject. The hierarchical position of a constituent, however, cannot be conclusively determined on the basis of linear ordering alone. The Wh object in (74) could be preposed to Spec WhP and still follow the non-Wh subject if the subject is overtly situated in a projection above WhP.

(78)



Consider the possibility that Wh movement is obligatorily overt in Western Apache, i.e., Wh phrases always move to Spec WhP prior to Spell-Out. Given such an analysis, apparent instances of in situ Wh must follow from variation in the position of the other elements within a clause. As (79) illustrates, cases of clause initial Wh, as in (75), represent typical instances of Wh movement. In (79), the Wh object raises from Spec ObjAgrP to Spec WhP. By hypothesis, Wh movement is motivated by the presence of a strong +Wh feature on the covert head of WhP.[30]

(79)



= (75) Hant'é$_1$ hastiin t$_1$ yiztaɬ ?
what old.man 3sg.perf.kick
What did the old man kick ?

[30] Assuming obligatory overt movement, only one Wh phrase must raise in multiple Wh questions (Section 4.2).

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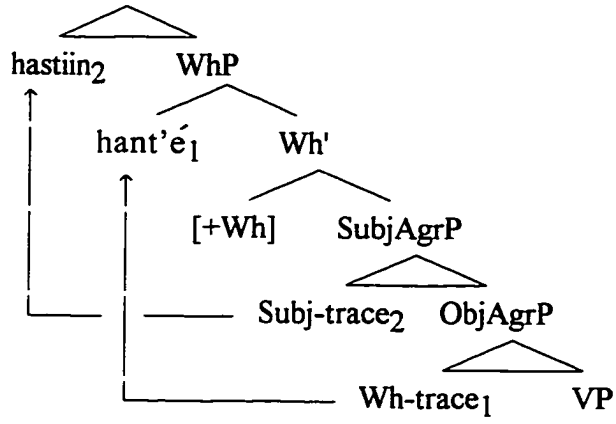
Within this approach, cases of apparent in situ Wh, as in (74), also involve overt Wh movement to Spec WhP. In addition, however, these cases involve overt non-Wh DP movement as well. As the diagram in (80) illustrates, the Wh object in (74) appears to surface in situ because the subject DP *hastiin* has raised to a position above WhP.[31] This position is tentatively identified as a Topic Projection in (80).

(80) 

= (74) Hastiin hant'é yiztał ?
what old.man 3sg.perf.kick
What did the old man kick ?

Beyond the Minimalist compatible elimination of optional Wh movement, the overt raising analysis illustrated in (79) and (80) provides a possible explanation for partial Wh movement in ditransitive clauses. Example (81) is repeated from Section 2.2.3. The Wh object in (81) apparently surfaces neither in situ nor in clause initial position.

(81) Isdzan hant'é$_1$ ishkiin t$_1$ yaayiné' ?
woman what boy wh-trace 3sg.perf.give
What did the woman give to the boy ?

[31] In theory, overt non-Wh DP may be generated in Topic positions, coindexed with pronominal arguments. In Chapter 8, I argue that overt DP in Western Apache are not *obligatorily* generated as adjuncts.

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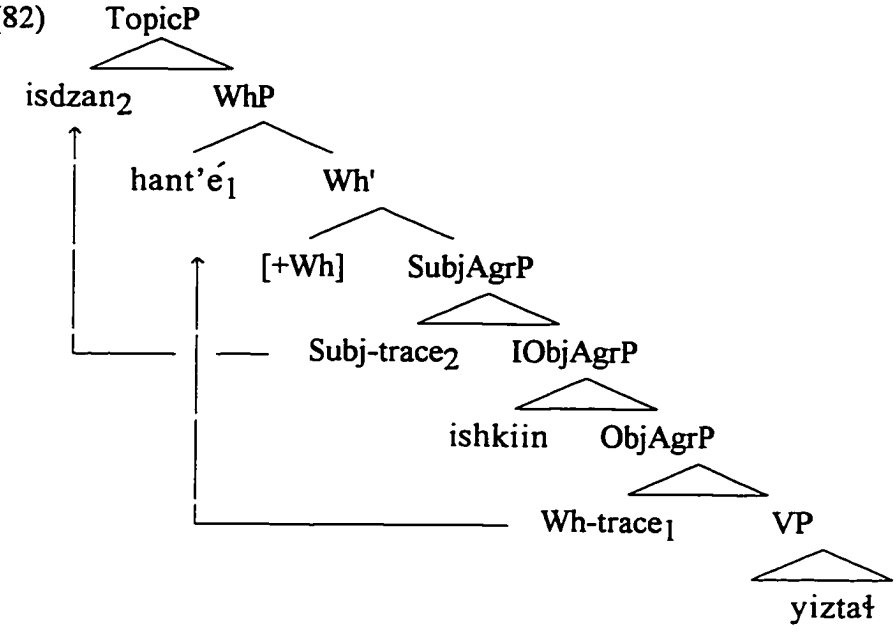
Within the overt Wh movement analysis, the Wh object in (81) surfaces, as always, in Spec WhP, and the subject DP preposes to the clause initial Topic position. The proposed derivation is illustrated in (82).[32]

(82)



The possibility of overt topicalization in Western Apache is necessarily required in the overt Wh movement analysis. Evidence for or against overt topicalization is thus critical to the debate between the overt and optional Wh movement analyses. Schauber (1979) provides one argument that subject DP in Navajo may topicalize over the canonical clause initial position of a preposed Wh phrase. Schauber discusses the interpretation of subordinate clauses in sentences headed by a 'direct discourse' verb. The set of direct discourse verbs in Navajo includes 'say, tell', 'think, want, wonder', and 'expect of'. Subordinate clauses in sentences with these verbs may be interpreted from

[32] Of course (82) could apply within the optional Wh movement analysis as well. The Wh object in (81) undergoes optional movement to Spec WhP and the subject DP topicalizes to a higher specifier position. The point is that the overt movement analysis does not require optional Wh movement.

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the perspective of the subject of the direct discourse verb. In (83), for example, the subordinate verb is marked with 1sg subject morphology, but, within a direct discourse interpretation, is interpreted as having a 3sg subject coreferential with the 3sg subject of the direct discourse verb.

(83) Bíl béégashii deeshłoh nízin. [Schauber 1979:19]
Bill cow 3sgObj.1sgSubj.fut.rope 3sg.think
Bill$_1$ thinks he$_1$ will rope a cow.

With direct discourse subordinate clauses, Schauber notes that in situ Wh phrases are interpreted as questions on the part of the matrix subject (84) while preposed Wh phrases are interpreted from the viewpoint of the speaker (85).

(84) Jáan Bíl háágóóla doogáał nízin. [Schauber 1979:145]
John Bill where.to.Q 3sg.fut.go 3sg.want
i) John is wondering where Bill will go.
ii) * Where does John want Bill to go ?[33]

(85) Háágóóla Jáan Bíl doogáał nízin ? [Schauber 1979:147]
where.to.Q John Bill 3sg.fut.go 3sg.want
Where does John want Bill to go ?

Given (84) and (85), Schauber notes that the interpretation of the direct discourse subordinate clause in (86) is problematic.

(86) Jáan ha'át'íísh nahideeshnih ní ? [Schauber 1979:149]
John what.Q 3sgObj.1sgSubj.fut.buy 3sg.say
What did John say he'll buy ?

[33] The absence of a matrix Wh interpretation in this example suggests that the subordinate subject 'Bill' cannot be topicalized. This challenges the overt Wh movement analysis which requires that all DP preceding an in situ Wh phrase are topicalized.

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The embedded Wh object in (86) is not sentence initial and, by default hypothesis, is either in situ or in an initial position within the embedded clause. In either case, the Wh phrase is presumably within the direct discourse clause and should be interpreted from the point of view of the matrix subject, and not, as given, from the viewpoint of the speaker. Schauber suggests that this example be analyzed as Wh preposing to the matrix clause with subsequent topicalization of the matrix subject.

Schauber's argument for subject topicalization in Navajo does not extend to Western Apache. Subordinate clauses in sentences with the verb *níí* 'say' can be interpreted as direct discourse clauses. The subordinate verb in (87) is inflected for a 1sg subject but interpreted with a 3sg subject coreferential with the matrix subject.

(87) Isdzan ḳih ágoshłaa níí.
woman house 1sg.perf.build 3sg.say
The woman said that she built a house.
[The woman said, 'I built a house.']

Regardless of its position, however, a Wh phrase generated in a direct discourse clause cannot be interpreted from the viewpoint of the speaker . The in situ Wh object in (88a) and the preposed Wh object in (88b) are interpreted as questions on the part of the matrix subject.

(88a) Isdzan hant'é ágoshłaa níí.
woman what 1sg.perf.build 3sg.perf.say
The woman said, 'what did I build ?'

(88b) Hant'é isdzan ágoshłaa níí.
what woman 1sg.perf.build 3sg.say
The woman asked, 'What have I built ?'

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While these examples do not exclude the possibility of subject topicalization in Western Apache, the absence of variation in viewpoint for a Wh question in direct discourse contexts eliminates such examples as evidence in support of topicalization.

I am aware of no direct evidence that topicalization does occur in Western Apache questions with in situ Wh phrases and cannot at this point provide direct support for the overt Wh movement analysis outlined above. Moreover, there are several problems introduced by the overt movement analysis. Below, I briefly summarize one such problem pertaining to the complexity of the derivations required if Wh phrases obligatorily and overtly raise to Spec WhP. I discuss additional problems in Chapter 7, building on particular aspects of Western Apache syntax introduced in chapters 3 through 6. Beyond the discussion below and in Chapter 7, I will pursue only the optional movement analysis for Western Apache Wh phrases in the remainder of this dissertation.[34]

One problem faced by the overt Wh movement analysis is that it requires exceptionally complex derivations with massive topicalization and otherwise unattested constraints on that topicalization to derive the full surface distribution of Wh phrases. While it may be reasonable to assume that a topicalization rule can front a non-Wh DP to a position preceding a Wh phrase in Spec WhP, the full paradigm in Western Apache is much more complicated. Consider once again the case of an in situ Wh object in a ditransitive clause (89).

[34] The overt movement analysis, however, remains an interesting, albeit problematic alternative.

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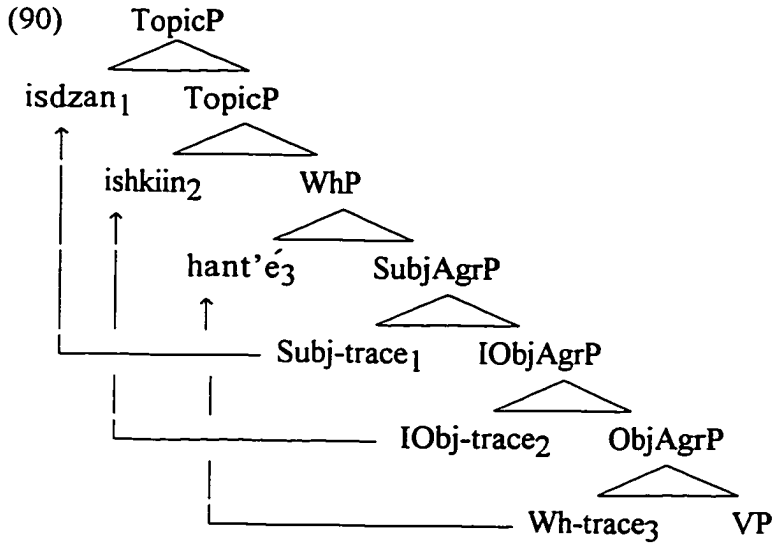
(89) Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
i) What did the woman give the boy ?
ii) * What did the boy give to the woman.

Within an overt movement analysis, the in situ Wh object in (89) has overtly raised to Spec WhP. The overt movement analysis thus requires that both the subject and indirect object DP have topicalized past the Wh object. More generally, the overt movement analysis requires for any sentence that *all* constituents preceding a Wh phrase are topicalized. (90) provides the proposed derivation for (89).

(90)



The presence of multiple and/or recursive Topic projections is not in itself problematic and has been proposed for other languages in recent literature (cf. Rizzi 1995). What is problematic is that the word order, subject precedes indirect object, is fixed in these cases. The initial DP in (89) is necessarily interpreted as subject. The overt movement analysis will require that when multiple constituents topicalize they maintain their canonical word order with respect to each other. Possibly this can be accounted for by

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principles of Economy as evoked to explain the fixed word order of multiple fronted Wh phrases in languages such as Bulgarian and Romanian (cf. Rudin 1988, Cheng 1991).

An additional condition on the hypothesized topicalization in Western Apache is that if it applies it must apply to the most hierarchically superior constituent eligible for topicalization. In other words, a given DP argument cannot topicalize past a hierarchically superior in situ DP argument. To illustrate, it is clear from examples such as (91) that DP topicalization is not required in all sentences. As the Wh object is clause initial in (91), the subject and indirect object DP must not have topicalized.

(91) Hant'é isdzan ishkiin yaayiné' ?
what woman boy 3sg.perf.give
What did the woman give to the boy ?

Topic status is not a necessary property of DP arguments, however, and it can be argued that topicalization only applies in sentences where a given DP argument is specifically marked as +topic. In this case, however, it is not clear what prevents a derivation of (92) in which only the indirect object is marked as +topic, and only this constituent topicalizes. Within such a derivation, *isdzan* in (92) would be interpreted as a topicalized indirect object and *ishkiin* would be interpreted as an in situ subject. The relevant interpretation is not attested for this example.

(92) Isdzan hant'é ishkiin yaayiné' ?
boy what woman 3sg.perf.give
i) What did the woman give to the boy ?
ii) * What did the boy give to the woman ?

To explain the obligatory interpretation of isdzan in (92) as subject, the overt movement analysis will require a condition that if a DP is to be marked as topic in a sentence, the

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most hierarchically superior eligible DP must be marked. Again, this requirement could follow as an aspect of Economy. To maintain the shortest steps in the derivation of a sentence with a topic, the most hierarchically superior DP, i.e., the DP hierarchically closest to the Topic projection, is marked as topic.

Economy alone, however, will not account for the lack of object topicalization in (93) and (94). In these examples, the non-Wh object DP is the hierarchically superior constituent, and in fact the only constituent, eligible for topic marking. Nevertheless, these examples cannot be interpreted with the OSV word order predicted if object topicalization occurs.[35]

(93) Gósée hadín yiztał ?
dog who 3sg.perf.kick
i) Who did the dog kick ?
ii) * Who kicked the dog ?

(94) * Isaa hadín áyíílaa ?
drum who 3sg.perf.make
i) * Who did the drum make ?
ii) * Who made the drum ?

Moreover, (93) and (94) cannot be taken as evidence that a Wh phrase in Spec WhP blocks topicalization. The hypothesized instances of DP topicalization in (89) and (92)

[35] Object topicalization across a focused subject, arguably associated with a Focus projection hierarchically below any Topic projection (see chapters 5 and 6), is similarly prohibited. (i) cannot be interpreted with the OSV word order that would result from object topicalization.

(i) Hastiin gósée go yiztał.
old.man dog FOC 3sg.perf.kick
a) The old man kicked THE DOG.
b) *THE DOG kicked the old man.

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require that topicalization can occur in clauses with Spec WhP overtly filled by a Wh phrase.

Descriptively, Western Apache clauses exhibit a fixed linear ordering of arguments, SOV and S-IO-OV, and only Wh phrases[36] can alter this canonical ordering. Wh phrases can surface in their canonical linear position or in higher (linearly preceding) positions. These facts are consistent with an analysis in which all DP arguments occupy hierarchically ordered Case/Agreement positions, a Wh movement operation optionally applies in the overt syntax, and non-Wh DP topicalization is not overt. An obligatorily overt Wh movement analysis, however, requires a complex process of topicalization as outlined above. While such an analysis can be formulated, the optional Wh movement analysis, particularly given the lack of direct evidence in support of overt topicalization, is preferable on the grounds of simplicity. I will tentatively adopt the optional movement analysis. In Chapter 7, I return to this issue and discuss several additional problems faced by the obligatorily overt approach to Wh movement.

2.3 The Position and Interpretation of Wh Adjuncts

The Wh adjuncts 'why', 'how', 'where', and 'when' must precede the verb in Western Apache clauses but are otherwise freely positioned with respect to overt arguments. Each of the Wh adjuncts may surface clause initially, between any two arguments, or between the hierarchically lowest argument and the verb. The particular interpretation of a Wh adjunct, however, may vary on the basis of its surface position. This section demonstrates the distributional freedom of the Western Apache Wh adjuncts in simple transitive sentences and illustrates the correlation between position and

[36] Non-interrogative *ha-* words may also alter the canonical linear ordering of a clause (Section 3.5).

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interpretation. I propose an analysis, similar in spirit to proposals for Chinese, French, and English (cf. Tsai 1994, Lin 1992, Rizzi 1990), in which Wh adjuncts with sentential and VP adverbial interpretations are generated in distinct structural positions. I provide additional motivation for the approach in sections 3.5 and 5.5, and incorporate the analysis into an argument against a Pronominal Argument analysis of the Western Apache clause in Chapter 8.

2.3.1 The Position and Interpretation of 'Why'

The Wh adjunct *hant'éwạ* 'why' can occur preverbally in any position relative to the overt arguments of a clause. Sentence initial 'why' has a very general interpretation, glossed as 'for what reason', and can be answered by any of the responses possible for 'why' questions in English. Example (95) demonstrates sentence initial 'why' in Western Apache.

(95) Hant'éwạ hastiin kịh náágolaa ?
why old.man house 3sg.perf.build
i) For what reason did the old man build the house ?
ii) For what purpose did the old man build the house ?
[Purpose context: to prove he is in as good shape as his sons.]

Note that sentence initial *hant'éwạ* can also have the more specific interpretation glossed as 'for what purpose'. This is the only interpretation available for *hant'éwạ* in any position between the subject and verb. In such cases, 'why' implies intent to accomplish something in particular on the part of the subject. In English, appropriate responses to this interpretation of 'why' might begin with the phrase 'in order to'. An appropriate answer to (96a) or (96b), for example, might note that the 'old man' was trying to prove that he was in as good physical condition as his sons.

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(96a) Hastiin kịh hant'éwạ náágolaa ?
old.man house why 3sg.perf.build
For what purpose did the old man build a house ?
[Possible answer: He's trying to prove something because he's an old man.]

(96b) Hastiin hant'éwạ kịh náágolaa ?
old.man why house 3sg.perf.build
For what purpose did the old man build a house ?

As discussed below in Section 2.3.4, distributional factors also influence the choice between 'reason' and 'purpose' interpretations of French *pourquoi* and Chinese *weishenme*.

2.3.2 The Position and Interpretation of 'How'

The Western Apache Wh adjunct *hagot'úgo* 'how' can also surface preverbally in any position relative to the overt arguments of a clause. As demonstrated in (97), sentence initial 'how' can be interpreted as a sentential operator which questions a proposition as a whole or as VP adverbial which questions the means and methods by which a verbal action occurs.

(97) Hagot'úgo hastiin kịh náágole' ?
how old.man house 3sg.imprf.build
i) How can it be that the old man is building a house ?
ii) By what means/method is the old man building a house ?
[Possible answers to (ii): With hammer and nails. Step #1 ... Cannot be answered by 'He is building it well.']

The sentential interpretation of 'how' can be translated as 'how can it be' and implies some surprise on the part of the speaker. The VP adverbial interpretation of 'how' is best translated as 'by what means/method'. Tsai (1994) labels this interpretation of Chinese *zenmeyang* 'how' as the instrumental reading. Felicitous answers to instrumental 'how' in

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Western Apache could include descriptions of the tools, materials, techniques, and procedures (etc.) used in performing a given action. As the examples in (98) demonstrate, the instrumental interpretation of 'how' is the only reading available when the adjunct surfaces in position between the subject and verb.

(98a) Hastiin hagot'ú́go ḳih náá́gole' ?
old.man how house 3sg.imprf.build
i) By what means/method is the old man building a house ?
ii) *How can it be that the old man is building a house ?
[Cannot be answered by 'He is building it well.']

(98b) Hastiin ḳih hagot'ú́go náá́gole' ?
old.man house how 3sg.imprf.build
i) By what means/method is the old man building a house ?
ii) *How can it be that the old man is building a house ?
[Cannot be answered by 'He is building it well.']

2.3.3 The Position and Interpretation of 'Where' and 'When'

'Where' and 'when' are also freely positioned with respect to the overt arguments present in a sentence. Unlike the situation with 'why' and 'how', however, there is no variation in the interpretation of these Wh adjuncts based on position.[37] The examples in (99) demonstrate the positional freedom of *hayú́* 'where at/to'.

(99a) Hayú́ hastiin ḳih náá́gole' ?
where old.man house 3sg.imprf.build
Where is the old man building the house ?

[37] The speaker comment for (99b) does suggest a distinct, more specific interpretation for pre-object 'where'. This distinction is extremely rare in the data files supporting this dissertation, and similar distinctions have not been indicated for 'when', purpose 'why', or instrumental 'how'.

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(99b) Hastiin hayú ḳih náágole' ?
old.man where house 3sg.imprf.build
Where is the old man building a house ?
[Very clear interpretation, implies exact place/position, picking out a spot.]

(99c) Hastiin ḳih hayú náágole' ?
old.man house where 3sg.imprf.build
Where is the old man building a house ?

The examples in (100) demonstrate the positional freedom of *hadí'* 'where from'.

(100a) Hadí' hastiin mé' yịnłtíí ?
where.from old.man baby 3sg.perf.carry
From where did the old man bring the baby ?

(100b) Hastiin hadí' mé' yịnłtíí ?
old.man where.from baby 3sg.perf.carry
From where did the old man bring the baby ?

(100c) Hastiin mé' hadí' yịnłtíí ?
old.man baby where.from 3sg.perf.carry
From where did the old man bring the baby ?

The examples in (101) demonstrate the positional freedom of *das'áh* 'when' (nonpast).

(101a) Das'áh hastiin ḳih náágole' ?
when.nonpast old.man house 3sg.imprf.build
When will the old man build a house ?

(101b) Hastiin das'áh ḳih náágole' ?
old.man when.nonpast house 3sg.imprf.build
When will the old man build a house ?

(101c) Hastiin ḳih das'áh náágole' ?
old.man house when.nonpast 3sg.imprf.build
When will the old man build a house ?

Finally, the examples in (102) demonstrate the position freedom of *dadạ́'* 'when' (past).

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(102a) Dadą́' hastiin kịh náágolaa ?
when.past old.man house 3sg.perf.build
When did the old man build a house ?

(102b) Hastiin dadą́' kịh náágolaa ?
old.man when.past house 3sg.perf.build
When did the old man build a house ?

(102c) Hastiin kịh dadą́' náágolaa ?
old.man house when.past 3sg.perf.build
When did the old man build a house ?

2.3.4 A Structural Analysis for Wh Adjuncts

The previous sections demonstrate that while Western Apache 'where', 'when', instrumental 'how', and purpose 'why' are freely positioned within the sentence,[38]

[38] The Wh adjuncts may also appear, albeit marginally, in sentence final position. Mr. Dawson indicates that the sentences below might be uttered by someone who is very excited.

(i) ? Hastiin góséé yizkah hant'éwą ?
old.man dog 3sg.perf.shoot why
Why did the old man shoot the dog ?

(ii) ? Hastiin góséé yizkah hagot'úgo ?
old.man dog 3sg.perf.shoot how
How did the old man shoot the dog ?

(iii) ? Hastiin góséé yizkah hayú ?
old.man dog 3sg.perf.shoot where
Where did the old man shoot the dog ?

(iv) ? Hastiin góséé yizkah dadą́' ?
old.man dog 3sg.perf.kick when.past
When did the old man shoot the dog ?

Selected Wh arguments may not, even marginally, occur sentence finally. This is demonstrated for 'who' and 'what' in (v) - (viii) in both *yi* and *bi* sentences.

(v) * Hastiin yizkah hant'é ?
old.man 3sg.perf.shoot what

(vi) * Hastiin bizkah hant'é ?
old.man 3sg.inv.perf.shoot what

(vii) * Góséé yizkah hadín ?
dog 3sg.perf.shoot who

(viii) * Góséé bizkah hadín ?
dog 3sg.inv.perf.shoot who

Selected 'where' also cannot occur sentence finally (ix) - (x). My only test for 'where' being selected, however, is whether it is marginal or ungrammatical sentence finally - an obviously circular argument.

(ix) Hayú diyaa ?
where 3sg.incpt.go
Where is he going ?

(x) * Diyaa hayú ?
3sg.incpt.go where
Where is he going ?

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sentential 'how' and reason 'why' can only appear in sentence initial position. Similar distributional asymmetries in Wh adjunct interpretation are found in Mandarin Chinese and French.

Tsai (1994) notes that Mandarin *weishenme* 'why' is ambiguous between purpose and reason interpretations.[39] With respect to distribution, purpose 'why' must occur low in a clause while reason 'why' surfaces in a high structural position. Purpose 'why', for example, obligatorily follows any modal elements present in a sentence. Examples (103a) and (103b), with 'why' on its purpose reading but in a position preceding and hierarchically superior to the modal elements 'will' or 'should', are ungrammatical.

(103a) *Akiu wei(-le) shenme hui/yinggai li- jia- chu- zou ? [Mandarin - Tsai 1994:165]
Akiu for what will/should leave home out go
For what purpose will/should Akiu go away from home ?

(103b) *Wei(-le) shenme Akiu hui/yinggai li- jia- chu- zou ? [Mandarin - Tsai 1994:166]
for what Akiu will/should leave home out go

Example (103c), with purpose 'why' following and hierarchically below the modal elements, is grammatical.

(103c) Akiu hui/yinggai wei(-le) shenme li- jia- chu- zou ? [Mandarin - Tsai 1994:166]
Akiu will/should for what leave home out go

[39] Tsai writes reason 'why' as *weishenme* and purpose 'why' as *wei(-le)shenme*. Tsai notes *-le* is optional and *wei* is emphatically stressed in its absence. Although *-le* can be used to mark perfective aspect, no perfective reading is inherent to *wei(-le)shenme*. Tsai suggests *-le* reflects the verbal origin of *wei* in Ancient Chinese. Li (1992) and Li and Thompson (1981) note that *-le* can also be used to denote change of state or the occurence of an event realized through direct observation or inference.

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The reverse paradigm holds for reason 'why'. Examples (104a) and (104b), in which reason 'why' precedes and is hierarchically superior to the modal elements, are grammatical.

(104a) Akiu weishenme hui/yinggai li- jia- chu- zou ? [Mandarin - Tsai 1994:171]
Akiu why will/should leave home out go
Why will/should Akiu go away from home ?

(104b) Weishenme Akiu hui/yinggai li- jia- chu-zou ? [Mandarin - Tsai 1994:171]
why Akiu will/should leave home out go

Reason 'why' is ungrammatical in a position following the modals (104c).

(104c) *Akiu hui/yinggai weishenme li- jia- chu-zou ? [Mandarin - Tsai 1994:171]
Akiu will/should why leave home out go

While Tsai does not discuss a sentential interpretation of Mandarin *zenmeyang* 'how', he does demonstrate that 'how' on its instrumental reading patterns with purpose 'why' in obligatorily surfacing in a structural position below any overt modal elements. Examples (105a) and (105b), with instrumental 'how' preceding the modals, are ungrammatical, while example (105c), with instrumental 'how' following the modals, is acceptable.

(105a) * Akiu zenmeyang hui/yinggai chuli zhe-jian shi ? [Mandarin - Tsai 1994:166]
Akiu how will/should handle this CL matter
How will/should Akiu work ?

(105b) * Zenmeyang Akiu hui/yinggai chuli zhe-jian shi ? [Mandarin - Tsai 1994:166]
how Akiu will/should handle this CL matter

(105c) Akiu hui/yinggai zenmeyang chuli zhe-jian shi ? [Mandarin - Tsai 1994:166]
Akiu will/should how handle this CL matter

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In summary, purpose 'why' and instrumental 'how' in Mandarin are obligatorily associated with lower structural positions than is reason 'why'. Tsai proposes that reason 'why' is generated as an adjunct to the IP node (see also Lasnik & Saito 1984), while purpose 'why' and instrumental 'how' are generated in VP internal adjunct positions. Additional Wh adjunct asymmetries are discussed by Tsai as well as in Lin (1992).[40] On the basis of these additional asymmetries and the modal paradigm illustrated above, Lin concludes that Mandarin 'why' is generated in the specifier of CP while instrumental 'how' is generated within the VP.[41]

Additional arguments for a structural distinction between various Wh adjuncts have been made on the basis of French *comment* 'how' and *pourquoi* 'why'. French instrumental 'how' and purpose 'why' may remain in situ but reason 'why' must obligatorily surface in a high structural position within the clause (cf. Aoun 1986, Rizzi 1990, Tsai 1994). Example (106), with 'why' in situ, can only be interpreted with the purpose reading of 'why'.

(106) Tu es venu pourquoi ? [French - Aoun 1986:27]
you are come why (for what)
Why did you come ?
A: pour étuider la géometrie 'to study geometry' (purpose)
A: *parce que je suis malade 'because I am sick' (reason)

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[40] Additional asymmetries discussed in Lin (1992) include the unacceptability of 'why' and the acceptability of 'how' in sentential subjects, complex NP, and embedded contexts which are not introduced by verbs of conjecture such as 'say', 'guess', and 'think'. Lin argues that 'why' is excluded in all contexts that lack a CP projection or a strong C capable of licensing a Wh trace. Tsai argues that the distinctions follow from a hypothesized referential status of instrumental 'how' and non-referential status of reason 'why' within a Generalized Binding (Aoun 1986) approach.

[41] Lin does not discuss asymmetries between reason 'why' and purpose 'why' although her examples necessarily reflect the reason interpretation if the distinction noted in Tsai (1994) is robust. Lin glosses 'how' as 'what is the manner' but the examples are equivalent to Tsai's examples with instrumental 'how'.

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Example (107) demonstrates that instrumental 'how' may also surface in situ in French.

(107) Tu as ouvert la porte comment ? [French - Aoun 1986:27]
you have opened the door how
How did you open the door ?

Moreover, as discussed in Rizzi (1990), sentential adverbs in French do not induce stylistic inversion (108) although VP adverbs do (109) (cf. Cornulier 1974).

(108) *? Pourquoi a parlé Jean ? [French - Rizzi 1990:48]
Why spoke Jean ?

(109) Comment a parlé Jean ? [French - Rizzi 1990:47]
How spoke Jean ?

For an analysis, Rizzi adopts a proposal in Kayne (1986) that stylistic inversion is dependent upon the presence of well-formed operator-variable chains and argues that French sentential (reason) 'why' is generated in Comp and does not involve a clause internal trace. The generation of reason 'why' directly in Comp also explains the ungrammaticality of (106) with reason 'why' in a position lower than Comp. Rizzi (p. 46) proposes that "sentential adverbs, in order to be properly interpreted, simply require to have the clause they modify in their immediate c-domain, and hence the Wh version of a sentential adverb can be directly base-generated in Comp".[42]

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[42] Arguments for the generation of English 'why' in Spec CP are provided in Rizzi (1990) and Lin (1992). Rizzi suggests that VP external adverbials such as 'why', if generated in Comp, vacuously satisfy the head-government requirement of the ECP. This argument is unsatisfactory given current Minimalist efforts to eliminate the ECP (cf. Hornstein 1995). Lin argues that the generation of English 'why' in CP explains its exceptional ability to move across negation. Lin notes that the examples in (ii) are ungrammatical without an echo interpretation. I also find these examples acceptable if 'didn't' is emphatically focused.

(i) Why didn't he go. (ii) *When/*Where/*How didn't he go.

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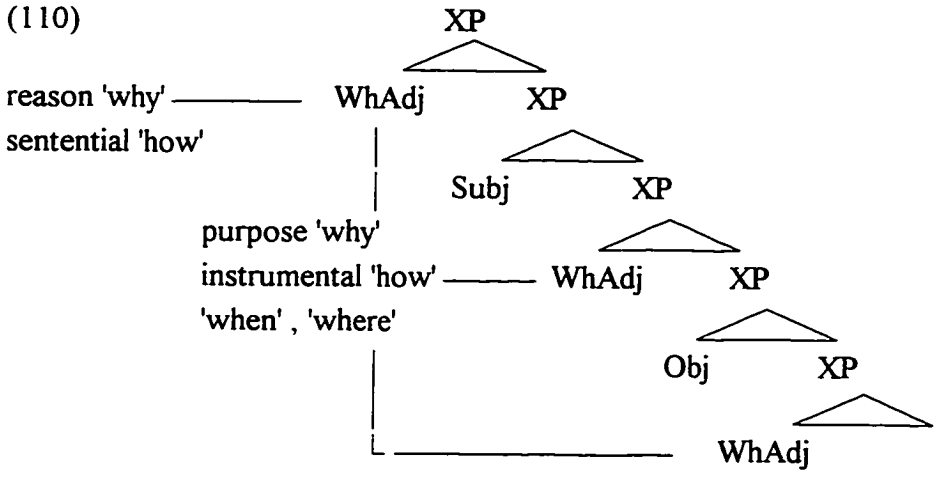
In the preceding discussion, a variety of cross-linguistic phenomena converge to suggest the conclusion that different Wh adjuncts are associated with distinct structural positions in a clause. Specifically, while instrumental 'how' and purpose 'why' may surface in a low structural position in Mandarin and French, sentential (reason) 'why' must surface in a high structural position and is possibly generated directly in CP. The correlation between the surface position and interpretation of the Western Apache Wh adjuncts supports a similar conclusion. As summarized in (110), sentential 'why' (i.e., reason 'why') and 'how' in Western Apache are obligatorily associated with a structural position hierarchically superior to the surface position of the subject, while purpose 'why', instrumental 'how', 'when', and 'where' may be associated with lower structural positions.

(110)



Lin also suggests the generation of 'why' in CP explains the paradigm in (iii) - (vi) where 'why' cannot be interpreted within the scope of a constituent lacking a CP node. (iv) and (vi) cannot be interpreted with 'why' originating in the subordinate clauses. It is not clear to me, however, that other Wh adjuncts are acceptable in (iv) and (vi) as adverbials originating in the subordinate clauses.

(iii) Why do you believe [cp John is crazy] ? (iv) * Why do you believe [John to be crazy] ?
(v) Why do you think [cp John is foolish] ? (vi) * Why do you think [John foolish] ?

Each of the arguments for the generation of English 'why' directly in CP, must be reconsidered with respect to purpose and reason interpretations of 'why'. By hypothesis, purpose 'why' is not generated in CP and should pattern with the other Wh adjuncts in the environments above.

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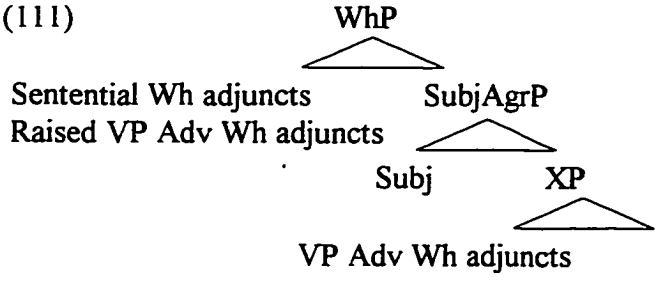
Given the discussion of optional Wh movement in Section 2.2.5, one possible analysis of the Wh adjunct distribution in (110) is that Western Apache 'why' and 'how', as sentential Wh adjuncts, are generated directly in Spec WhP, while the VP adverbial Wh adjuncts are generated in a position below the subject position but may optionally raise to Spec WhP (111).[43]

(111)



An alternative analysis for the sentential Wh adjuncts is that they are generated below WhP, but must obligatorily raise to Spec WhP to be interpreted as sentential adjuncts. I will exclude this alternative analysis on the basis of Wh/Focus interaction in Section 5.5. Focused subjects block the raising of a Wh adjunct to Spec WhP, but sentential Wh adjuncts may nevertheless precede a focused subject.

As to the base generated position of the VP adverbial Wh adjuncts, the fact that these elements can either precede or follow an overt object argument suggests three possible approaches. First, VP adverbial Wh adjuncts could be freely generated as

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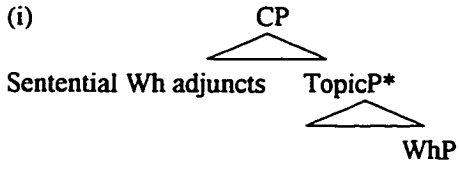
[43] The overt Wh movement analysis (Section 2.2.5) entails that DP arguments can topicalize past WhP. Since sentential Wh adjuncts necessarily precede all overt DP, the overt movement analysis will require that these adjuncts are generated in a complementizer projection that dominates the Topic projections.

(i)



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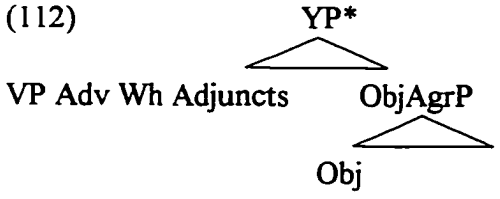
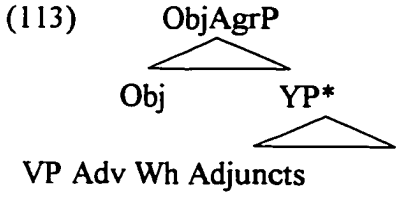
adjuncts to any projection within a clause. I will reject this possibility, however, as it is incompatible with my theoretical position (Section 1.7) that lexical and inflectional elements in a clause, including adverbs, are licensed in particular functional projections (cf. Cinque forthcoming, Sportiche 1996).[44] Alternatively, the VP adverbial Wh adjuncts may be generated in particular, thematically licensed projections above or below ObjAgrP.[45] If the adjuncts are generated above ObjAgrP (112), sentences with an overt object DP preceding an adjunct must be derived by object scrambling.

(112)



If the VP adverbial adjuncts are generated below ObjAgrP (113), sentences with an adjunct preceding an overt object DP must be derived by either scrambling or partial Wh movement of the adjunct past ObjAgrP.

(113)



[44] Such an approach is also problematic given particular facts of Wh/Focus interaction (Section 5.5). Wh adjuncts may precede focused arguments below the subject but may not precede a focused subject. Adjunction to SubjAgrP would have to excluded by stipulation.

[45] I assume that each of the adverbial adjuncts is generated in a distinct structural position (cf. Cinque forthcoming), but do not provide arguments herein as to the relative ordering of these projections.

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In Section 5.5, I provide an argument against (113). That argument additionally excludes the possible generation of VP adverbial Wh adjuncts in projections dominating SubjAgrP.[46]

[46] Wh adjuncts may precede a focused object but not a focused subject. I argue that focused arguments block Wh raising and derive Wh/Focus interaction given the generation of the adjuncts below SubjAgrP but above ObjAgrP.

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CHAPTER 3

THE *ha-* WORDS AS INDEFINITES AND POLARITY ITEMS

In this chapter, I explore the interpretation and distribution of the Western Apache *ha-* words as non-interrogative indefinites and polarity expressions. Section 3.1 discusses indefinite readings of the *ha-* words in the presence of the syntactic particle *shi*, and Section 3.2 focuses on the interpretation of the *ha-* words as polarity items in negative contexts. Similar paradigms have been recognized for numerous other languages (cf. Cheng 1991), and it has been argued that Wh words in these languages are variables which receive their quantificational force from other elements in the sentence (Nishigauchi 1986, 1990, Cheng 1991, Li 1992). I propose a similar analysis for the Western Apache *ha-* words in sections 3.3 and 3.4, and argue that indefinite, polarity, and interrogative interpretations of the *ha-* words are derived through binding relationships with the particle *shi*, the negative adverb *doo*, and a covert +Wh operator, respectively. Section 3.5 investigates the syntax of *shi* in greater detail and explores its implications for Western Apache clause structure.

3.1 The Interpretation of *ha-* Words as Indefinites

Western Apache *ha-* words are interpreted as indefinites when immediately preceding the particle *shi*.

3.1.1 The Modal Particle *shi*

Modal possibility in Western Apache can be expressed by the epistemic particle *shi*. As with the other particles for tense, mood, and modality discussed in Section 1.6.7,

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shi, in its role as a modal element, surfaces in postverbal position.[1] The examples in (1) demonstrate the use of *shi* with an imperfective verb.

(1a) Iskąą magashi nasood doleeł.
tomorrow cattle 1sg.imprf.herd FUT
Tomorrow I will herd cattle.

(1b) Iskąą magashi nasood doleeł shi.
tomorrow cattle 1sg.imprf.herd FUT might
Tomorrow I might herd cattle.

The examples in (2) illustrate the use of *shi* with a perfective verb.

(2a) Nailín magashi náizyood.
girl cattle 3sg.perf.herd
The girl finished herding the cattle.

(2b) Nailín magashi náizyood shi.
girl cattle 3sg.perf.herd might
The girl might have finished herding the cattle.

Edgerton (1963) glosses *shi* as 'probability' while the Navajo cognate, *shíí*, is glossed as 'probably' or 'maybe' in Willie (1996), and as a dubitative enclitic 'possibly' or 'perhaps' in Young & Morgan (1987).[2] In this dissertation, the modal use of *shi* will be translated as

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[1] Willie (1996) reports that the Navajo cognate, *shíí*, typically surfaces in 2nd position in a clause but can surface sentence finally if there is only one verb in the sentence. Willie further notes that the particle has clausal scope regardless of position.

[2] Perry et. al. (1972) also suggest that *shi* in Western Apache can be translated as 'I wonder' (i).

(i) Ndaaz shi. [Perry et. al. 1972:103]
It's-heavy
I wonder if it's heavy. | Maybe it's heavy.

Such translations possibly support the grouping of 'degree of speaker commitment' with possibility and necessity in the category of 'epistemic' modality (cf. Palmer 1986). The translation also supports Lyons (1977: 748) note that, crosslinguistically, the Dubitative mood might include 'posing questions as well as
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'might'. To capture both its use as a marker of modal possibility and its role in the interpretation of *ha-* words as indefinites (Section 3.1.2), *shị* will be glossed as UNCERT(ainty).

3.1.2 *ha-* Indefinites with the Particle *shị*

The particle *shị* can also surface immediately following any of the Western Apache *ha-* words. In such cases, the *ha-* words receive a non-interrogative indefinite interpretation. The examples in (3) demonstrate the correspondence between interrogative *hadín* 'who' and indefinite *hadínshị* 'someone'.[3]

(3a) Hadín kịh náágole' ?
who house 3sg.imprf.build
Who is building a house ?

(3b) Hadínshị kịh náágole'.
who.UNCERT house 3sg.imprf.build
Someone is building a house.
[Possible contexts: You come into a clearing and see a house under construction. No one is around and you have no idea who is doing the building. OR You see someone building the house.]

The examples in (4) demonstrate the parallel correspondence between *hant'é* 'what' and *hant'éshị* 'something'.

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expressing doubt or uncertainty'. The interpretation in (i), however, is more typically expressed in Western Apache with the particle *shạ'* (ii) (Section 1.6.7.6). Edgerton (1963) glosses *shạ'* as 'doubt', while Navajo *shạ'* is glossed as an interrogative marker in Willie (1996), Young & Morgan (1987), Schauber (1979) and Elgin (1973).

(ii) Iskạạ magashi nadahiidzood shạ'.
tomorrow cattle 1pl.imprf.herd Q
I wonder if we'll (3+) be herding cattle tomorrow.

[3] For convenience, the *ha-* words will be glossed as Wh words.

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(4a) Hastiin hant'é yiztał ?
old.man what 3sg.perf.kick
What did the old man kick ?

(4b) Hastiin hant'éshị yiztał.
old.man what.UNCERT 3sg.perf.kick
The old man kicked something.
[Possible contexts: You see him kick the television, but when asked you just say 'something'. OR You hear him kick something, but don't see it.]

Note that there are no restrictions on the grammatical role available to *ha-* arguments used as indefinites. While *ha...shị* indefinites serve the role of subject and object in the sentences above, they can also be used, for example, as indirect objects (5b).

(5a) Hadíń yił ch'ígon'aał ?
who 3sg.to 3sg.fut.teach
Who will he teach ?

(5b) Hadínshị bił ch'ígont'aał.
who.UNCERT 3sg.to 1dl.fut.teach
We (2) will teach someone.

The *ha-* adjuncts used as interrogative 'where', 'when', 'why', and 'how' also receive non-interrogative indefinite interpretations when immediately preceding the particle *shị*. The examples in (6) demonstrate the correspondence between *hayú* 'where' and *hayúshị* 'somewhere'.

(6a) Hayú bił ch'ígonoł'aał ?
where 3sg.to 2dl.fut.teach
Where will the two of you teach him ?

(6b) Hayúshị bił ch'ídagont'aał.
where.UNCERT 3sg.to 1pl.fut.teach
We (3+) will teach him somewhere.

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Similarly, interrogative *das'áh* 'when.nonpast' corresponds to indefinite *das'áhshi* 'sometime.nonpast' (7), and interrogative *dadą́'* 'when.past' corresponds to indefinite *dadą́'shi* 'sometime.past' (8).

(7a) Das'áh biɬ ch'ígo'aaɬ ?
when.nonpast 3sg.to 3sg.fut.teach
When will he teach him ?
[Probably wouldn't use *ch'ígon'aaɬ* here.]

(7b) Das'áhshi biɬ ch'ígonoɬ'aaɬ.
when.nonpast.UNCERT 3sg.to 2dl.fut.teach
You (2) will reveal it to him sometime.

(8a) Dadą́' biɬ ch'ígonoɬ'ąą ?
when.past 3sg.to 2dl.perf.teach
When did you (2) teach him ?

(8b) Dadą́'shi biɬ ch'ígonoɬ'ąą.
when.past.UNCERT 3sg.to 2dl.perf.teach
Sometime in the past you (2) taught him.

The situation is more complex with the *ha-* words *hant'éwą* 'why' and *hagot'ú́go* 'how'. These adjuncts, as noted in Section 2.3, have both sentential and non-sentential interpretations, and each of these readings must be distinguished here. As discussed, clause internal *hant'éwą* and *hagot'ú́go* are obligatorily interpreted as VP adverbial 'for what purpose' and 'by what means/method'. In clause internal environments immediately preceding *shi*, *hant'éwą* (9) and *hagot'ú́go* (10) do receive the indefinite interpretations 'for some purpose' and 'by some means/method' corresponding to their Wh VP adverbial readings.

(9) Hastiin hant'éwąshi ishkiin yiɬ ch'ígon'ąą́.
old.man why.UNCERT boy 3sg.to 3sg.perf.teach
The old man taught the boy in order to accomplish something/for some purpose.

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(10) Hastiin hagot'ú́goshị ishkiin yił ch'ígon'ą́ą́.
old.man how.UNCERT boy 3sg.to 3sg.perf.teach
The old man taught the boy by some method.

In clause initial position, *hant'é́wạ* and *hagot'ú́go* may be interpreted as either VP adverbial modifiers or sentential operators 'for what reason' and 'how can it be'. In clause initial position immediately preceding *shị*, however, these *ha-* words are interpreted only with respect to their sentential readings. Moreover, as (11) and (12) demonstrate, in these cases *hant'é́wạ* and *hagot'ú́go* maintain their interrogative status despite the presence of the particle *shị*.

(11) Hant'é́wạ shị hastiin ishkiin yił ch'ígon'ą́ą́?
why UNCERT old.man boy 3sg.to 3sg.perf.teach
Why did the old man teach the boy?
[This is a question, not a statement.]

(12) Hagot'ú́go shị hastiin ishkiin yił ch'ígon'ą́ą́?
how UNCERT old.man boy 3sg.to 3sg.perf.teach
How can it be that the old man taught the boy?
[This is a question, not a statement.]

In summary, the indefinite reading induced by *shị* with the *ha-* arguments used as interrogative 'who' and 'what', and the non-sentential *ha-* adjuncts 'where' and 'when' is available for *hant'é́wạ* 'why' and *hagot'ú́go* 'how' only on their non-sentential readings. Section 3.5 explores this paradigm in detail and argues that *ha...shị* indefinites must be licensed in a particular projection within the Western Apache clause which is below and inaccessible to the sentential *ha-* adjuncts.

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3.2 The Interpretation of *ha-* Words as Polarity Items

Western Apache *ha-* words are interpreted as negative polarity items when under the scope of the negative particle *doo*.

3.2.1 Negation

Negation in Western Apache is marked by the simultaneous occurrence of a postverbal particle *da* and a preverbal particle *doo*. The postverbal particle *da* occurs in a fixed position, immediately adjacent to the verb stem, and is necessarily the closest particle to the verb stem when multiple postverbal particles are present (cf. Potter & Dawson 1996). The preverbal particle *doo* is not restricted to a fixed structural position and may precede almost any constituent in the clause.[4] The position of *doo* strongly influences the interpretation of a sentence. When *doo* immediately precedes the verb, the sentence is interpreted with a neutral negative reading as in (13).

(13) Nądą́' doo k'edishłéé́ da.
corn NEG 1sg.imprf.plant NEG
I'm not planting corn.

When *doo* precedes the object in a transitive clause, the sentence can be interpreted either with a neutral negative reading (14i) or with contrastive constituent negation of the object (14ii).[5] In the latter reading, the action denoted by the verb occurs but it is specifically denied that the given object is relevant.

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[4] There are some exceptions to this generalization which are ignored here.

[5] Elgin (1973) reports that the neutral reading is available in Navajo only with *doo* immediately preceding the verb. The Navajo judgements reported in Lapointe (1996), however, are consistent with the Western Apache paradigm.

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(14) Doo nạdą́' k'edịịdlé́é́ da.
NEG corn 1dl.imprf.plant NEG
i) We (2) are not planting corn.
ii) We (2) are not planting CORN.
[With respect to (ii): e.g. - It's not corn that we are planting. We are planting watermelon/wheat/etc.]

Finally, when *doo* precedes the subject in a transitive clause, the sentence can only be interpreted with contrastive constituent negation of the subject (15).

(15) Doo hastiinyú nạdą́' k'edadilé́é́ da.
NEG old.men corn 3pl.imprf.plant NEG
THE OLD MEN are not planting corn.
[The old men are not the ones planting corn. Somebody else is.]

While the syntax of negation in Western Apache will not be explored in detail in this dissertation, I will briefly outline a few of my assumptions about the structural configuration of *doo* and *da* in the clause. The examples above indicate that the position of the particle *doo* is crucial in the determination of the focus of negation. I assume that *doo* is a negative adverbial element which surfaces as an adjunct to select constituents within the clause.[6] I additionally assume that *da* is the X^0 head of a Negative projection intermediate between the Case/Agreement projections for subject and object arguments.[7] I label this Negative projection NegP, but maintain the possibility that there is an additional Negative projection above SubjAgrP.[8] Consistent with Kayne's (1994) claim that phrase structure is universally head-initial, I analyze NegP as head initial. Since *da* is

[6] This approach raises several questions which I will not address: is *doo* is generated in its various surface positions or moved to those positions, is adjunction attachment to a maximal projection or insertion into a specifier position (Kayne 1994) ?

[7] See Nkemnji (1995) for a similar approach to discontinuous negation in Nweh.

[8] Alternatively, *da* might be analyzed as the head of this higher NegP with movement of the entire clause to its specifier position.

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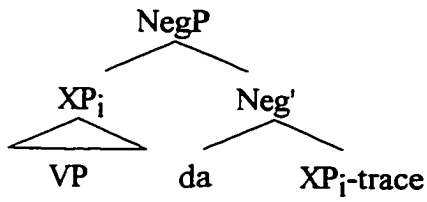
necessarily postverbal, the complement of the Neg head *da* must overtly raise to the specifier of NegP. As illustrated in (16), this obligatorily yields *da* in a postverbal position under the standard assumption that NegP dominates VP.

(16)



Examples such as (14) with *doo* preceding the object are ambiguous between constituent and neutral negative readings because *doo* can surface as an adjunct to either the object itself or the constituent containing both the object and the verb.[9] The former case yields object constituent negation, the verbal action is not negated, while the latter case yields neutral negation. Subject constituent negation (15) arises when *doo* surfaces as an adjunct to the subject argument. The lack of a neutral negative reading in (15) suggests that *doo* cannot be adjoined to a projection which overtly dominates both the subject and the verb. This requires that subject arguments, by hypothesis generated VP internally, necessarily raise out of the constituent which dominates both the object and verb in sentences with neutral negative readings such as (14i).

The diagram in (17) illustrates the proposed structural analysis. As indicated, *doo* can surface in at least three positions within the clause: as adjunct to the subject, as adjunct to the object, or as adjunct to a constituent which dominates both object and verb. This latter constituent is labeled YP in (17).

[9] Examples such as (13) in which *doo* immediately precedes the verb suggest either that objects can raise out of the complement of Neg prior to the raising of that complement to Spec NegP, or, that *doo* can be generated in a projection below ObjAgrP.

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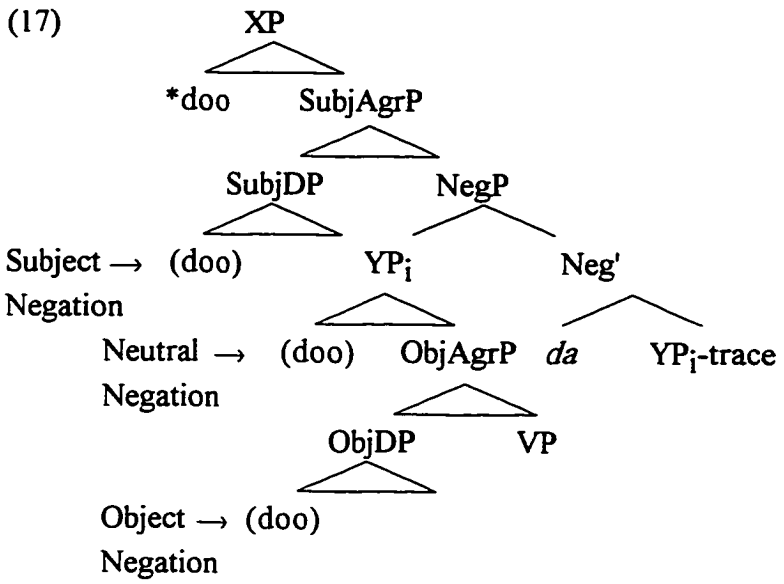
(17)



The primary question that arises in (17) is what prohibits adjunction of *doo* to projections dominating the subject. As noted, this constraint is required to explain the lack of a neutral negative reading when *doo* precedes an overt subject. One possibility is that *doo* is for some reason excluded from positions which directly c-command NegP. Given this constraint, *doo* could surface as adjunct to any projection dominated by NegP, but could only surface within constituents, and be realized as constituent negation, of projections dominating NegP. An alternative possibility is that *doo* can only be generated in positions dominated by NegP. Such positions would include adjoined positions to subject and object constituents, by hypothesis generated VP internally, as well as an adjoined position to the complement of Neg itself. If subject arguments obligatorily raise out of the complement of Neg, *doo* preceding a subject argument must necessarily be situated in an adjoined position within the subject constituent and the sentence is necessarily interpreted with constituent negation of the subject.[10]

[10] The ability of *doo* to precede the *ha-* adjuncts 'why' and 'how' on their sentential interpretations (Section 3.2.2) poses a challenge to this analysis. Sections 2.3, 3.5, and 5.5 argue that the sentential *ha-*

- *Continued on Next Page* -

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3.2.2 Negation and *ha-* Words as Polarity Items

The negative adverbial element *doo* may also surface immediately preceding *ha-* words. In such cases, the *ha-* words are obligatorily interpreted as polarity items. The words *hadíń* 'who' and *hant'é* 'what', for example, are translated as the polarity elements 'anyone' and 'anything' when following *doo*. Examples (18) and (19) illustrate the polarity interpretations of *hadíń* and *hant'é* as subject and object arguments respectively. Note that the negated polarity expressions, e.g. 'not anyone', may be translated as negative quantified expressions, e.g. 'no one'.

(18) Doo hadíń naljeeh niɬ ch'ígon'ąąą́ da.
NEG who 3sg.imprf.hunt 2sg.to 3sg.perf.teach NEG
No one taught you how to hunt.

(19) Doo hant'é yiɬ ch'ídagon'aaɬ da.
NEG what 3sg.to 3dl/pl.fut.teach NEG
They (2+) won't teach him anything. | They (2+) will teach him nothing.

As with the *ha...shi* indefinites, there is no restriction on the grammatical role available to *ha-* words interpreted as polarity items. Example (20) demonstrates polarity *hadíń* as an indirect object.

(20) Bíí doo hadíń yiɬ ch'ídagon'aaɬ da.
they NEG who 3sg.to 3dl/pl.fut.teach NEG
They (2+) won't teach anyone

Western Apache *ha-* words are not interpreted as polarity items in all sentences including negation. Crucially, *doo* must precede/c-command a *ha-* word for that word to

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adjuncts are generated in positions above SubjAgrP, i.e., positions which are not dominated by NegP. I will not attempt to resolve this issue herein.

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be interpreted as a polarity item. Example (21) demonstrates the interrogative interpretation of a *ha-* word in a negative sentence where *doo* does not precede the *ha-* word.

(21) Hant'é doo bił ch'ígon'áá́ł da.
what NEG 3sg.to 2sg.fut.teach NEG
What won't you teach him ?

While *doo* must precede a *ha-* word to yield a negative polarity interpretation, *doo* need not be adjacent to the *ha-* word in such cases. The paradigm in (22) - (24) illustrates this point. In (22), *doo* precedes the subject argument and the sentence is interpreted with subject constituent negation.

(22) Doo hastiin naljeeh nił ch'ígon'ą́ą́ da.
NEG old.man 3sg.imprf.hunt 2sg.to 3sg.perf.teach NEG
THE OLD MAN didn't teach you how to hunt.
[It's not the old man who taught you how to hunt.]

Example (23) demonstrates the canonical situation in which *hant'é* 'what', as object, is interpreted as polarity 'anything' when immediately following the negative marker *doo* .

(23) Hastiin doo hant'é nił ch'ígon'ą́ą́ da.
old.man NEG what 2sg.to 3sg.perf.teach NEG
The old man did not teach you anything.

Finally, example (24) demonstrates that while *doo* immediately preceding the subject argument, as in (22), yields subject constituent negation, *hant'é*, as object, still receives a polarity interpretation. This example thus indicates that any preceding/c-commanding

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negative element, either a negated constituent or the negative adverbial *doo* marker, can induce the polarity reading of a *ha-* word.[11]

(24) Doo hastiin hant'é niɬ ch'ígon'ąą́ da.
NEG old.man what 2sg.to 3sg.perf.teach NEG
THE OLD MAN didn't teach you anything.
[Its not the old man that taught you anything. This is a statement with emphasis on the old man.]

The *ha-* words used as interrogative adjuncts 'where' and 'when' also receive negative polarity interpretations when c-commanded by a negative expression. The examples in (25) demonstrate the interpretation of *hayú* 'where at/to' as polarity 'not anywhere'/'nowhere'.

(25a) Hayú doo biɬ ch'ídagonoɬ'aaɬ da ?
where NEG 3sg.to 3pl.fut.teach NEG
Where will you (3+) not teach him ? | Where won't you teach him ?

(25b) Doo hayú biɬ ch'ídagonoɬ'aaɬ da.
NEG where 3sg.to 2pl.fut.teach NEG
You (3+) won't teach him anywhere.

The examples in (26) illustrate the use of *das'áh* 'when (nonpast)' as polarity 'not at anytime (nonpast)'/'never (nonpast)'.

(26a) Das'áh doo biɬ ch'ígonoɬ'aah da doleeɬ ?
when.nonpast NEG 3sg.to 2dl.imprf.teach NEG FUT
When will you (2) not be teaching him ?

(26b) Doo das'áh biɬ ch'ígonoɬ'aah da doleeɬ.
NEG when.nonpast 3sg.to 2dl.imprf.teach NEG FUT
You (2) will not teach him at anytime. | You'll never teach him.

[11] Despite the fact that only the immediate c-command domain of *doo* itself is relevant in determining constituent versus neutral negative readings (see Section 3.2.1).

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Similarly, the examples in (27) demonstrate the interpretation of *dadą́'* 'when (past)' as polarity 'not at anytime (past)'/'never (past)'.

(27a) Dadą́' doo bił ch'ígonoł'ąą da ?
when.past NEG 3sg.to 2dl.perf.teach NEG
When didn't you (2) teach him ?
[Requires special situation, assume person taught every day but one.]

(27b) Doo dadą́' bił ch'ígonoł'ąą da ...
NEG when.past 3sg.to 2dl.perf.teach NEG ...
(You say) you (2) did not teach him at an particular time/ever ...
... adąądą́' shą' go bił ch'ígonoł'ąą.
... yesterday QFOC -*go* 3sg.to 2dl.perf.teach
... but I wonder if you taught him yesterday.
[Like a lawyer asking a question.]

Finally, polarity interpretations are possible for the *ha-* words *hant'éwą* 'why' and *hagot'ú́go* 'how' on both their sentential and VP adverbial readings. Examples (28) and (29) demonstrate the polarity interpretations of *hant'éwą* for both its sentential 'reason' and VP adverbial 'purpose' readings.

(28) Ishkiin doo hant'éwą itsį' yiłt'ees da.
boy NEG why meat 3sg.imprf.fry NEG
The boy is not frying the meat for any purpose in particular.
[Strong interpretation of 'why'.]

(29) Doo hant'éwą ishkiin itsį' yiłt'ees da.
NEG why boy meat 3sg.imprf.fry NEG
The boy is not frying the meat for any reason in particular.
[General interpretation of 'why'.]

Examples (30) and (31) demonstrate the polarity interpretations of *hagot'ú́go* for both its VP adverbial 'by what means/method' and sentential 'how can it be' readings.

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(30) Ishkiin doo hagot'ú́go itsı̨' yiłt'ees da.
boy NEG how meat 3sg.imprf.fry NEG
The boy isn't frying the meat in any way.
[He is unable to, he has no means.]

(31) Doo hagot'ú́go ishkiin itsı̨' yiłt'ees da.
NEG how boy meat 3sg.imprf.fry NEG
There's no way (it can't be) that the boy is frying the meat.

Note that neutral negative readings are available in the examples with *ha-* words for 'where' (25), 'when' (26) - (27), and 'how' on its VP adverbial interpretation (30), and the action/event specified by the verb did not or will not occur. With 'why', on both its reason and purpose interpretations (28) - (29), and also with 'how' on its sentential interpretation (31), however, the action/event is not negated. To explicitly negate the action/event in these latter cases, a second *doo* must be included in the sentence. Examples (32) and (33) illustrate this situation with *hant'é́wą* 'why' on its reason interpretation. In (32), the 'frying' action occurs, but it is specifically denied that there is any particular reason motivating the action.

(32) Doo hant'é́wą yiłt'ees da.
NEG why 3sg.imprf.fry NEG
He's not frying it for any reason in particular. |
There's no reason for him to be frying it.
[We have no idea why he's frying it. There's no reason. Maybe he's crazy or a little kid playing .. could be frying his boots. General interpretation of 'why'.]

To explicitly negate the 'frying' action in this example, an additional negative marker *doo* is required (33).

(33) Doo hant'é́wą doo yiłt'ees da.
NEG why NEG 3sg.imprf.fry NEG
There's no reason for him not to be frying it.
[Camp context - each night cook gives different reason for not frying the meat. Manager finally resolves all problems but next night cook is still not frying.]

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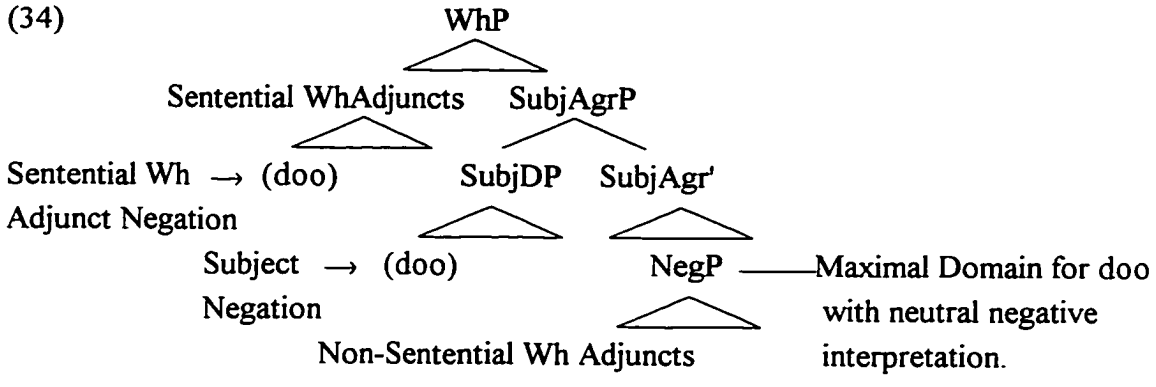
With respect to *hagot'ǘgo* and *hant'ẻwạ* on their sentential interpretations, this paradigm parallels the cases in which *doo* precedes a subject and yields only a constituent negation reading (Section 3.2.1). Recall that those examples were tentatively explained by the hypothesis that *doo* could surface as an adjunct to the subject but not as an adjunct to any projection dominating the subject. The lack of verbal negation, i.e. a neutral negative reading, with *hagot'ǘgo* and *hant'ẻwạ* thus could follow from the hypothesized generation of these adjuncts, on their sentential interpretations, in positions above the overt position of the subject (Section 2.3.4). *doo* preceding these *ha-* words can only surface as an adjunct to the *ha-* constituent itself and only a constituent negation reading is possible. The proposal is illustrated in (34).

(34)



Also illustrated in (34), neutral negative readings with the VP adverbial *ha-* words 'where', 'when', and 'how' (instrumental) are possible because these adjuncts, like object arguments, may surface in a position below NegP. This account leaves unexplained, however, the lack of a sentential negation reading with *doo* preceding purpose *hant'ẻwạ* (28), as this *ha-* word is presumably generated with the other VP adverbial adjuncts below the overt position of the subject. Possibly these examples indicate that purpose 'why' is generated above NegP although 'when', 'where', and VP adverbial 'how' are generated below NegP.

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Alternatively, or in combination with the proposed structural analysis, the paradigm presented above may have a pragmatic explanation. Actions/events must take place at a particular time, in a particular place, and by some particular means/method. Denying the existence of any relevant time, place, or method through constituent negation of the relevant *ha-* adjunct necessarily entails that an action/event does not occur.[12] Actions/events, however, do not necessarily have to occur for a particular purpose and denying the existence of a purpose, through constituent negation of *hant'éwạ*, does not entail that the action/event does not occur.[13]

3.3 A Crosslinguistic Survey of the Wh/Indefinite Relationship

The preceding sections demonstrate that there is a strong relationship in Western Apache between words used as interrogative Wh elements and words used as non-interrogative indefinite/polarity expressions. Specifically, Western Apache Wh phrases, indefinites, and polarity expressions are all based on the same lexical roots, the *ha-* words. A relationship between words used as interrogative Wh elements and words used as non-interrogative indefinites and polarity expressions has long been recognized for languages other than Western Apache (cf. Chomsky 1964, Katz & Postal 1964, and Klima 1964). Cheng (1991), for example, discusses Wh/Indefinite relationships in Polish, Bulgarian, Hungarian, Mandarin Chinese, Japanese, and Korean, as well as in the

[12] To fill out this paradigm, instances of *doo* with VP adverbial 'where', 'when', and 'how' in positions preceding an overt subject should be checked. If the hypotheses in Section 3.2.1 are correct, *doo* in these positions can only be an instance of constituent negation, and the pragmatic analysis will be supported if neutral negative readings are nevertheless available.

[13] A pragmatic explanation receives some support in that subject constituent negation of *hadín* 'who' in (18) receives an interpretation in which the verbal action is negated. Such negation is not found with constituent negation of non-*ha* subjects (Section 3.2.1), but makes pragmatic sense with the polarity subject 'not anyone/no one'. If 'no one' teaches you how to hunt, the 'teaching' action does not occur.

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Australian languages Martuthunira, Diyari, and Panyjima. This section briefly summarizes the data and analyses for the Wh/indefinite paradigms in Mandarin, Japanese, Hungarian, and Polish (cf. Nishigauchi 1986, 1990, Cheng 1991, Li 1992), and compares and contrasts the paradigms in these languages with the Wh/Indefinite relationship in Western Apache. Section 3.4 adopts the common element proposed in the analyses of each of the other languages, that the words used as Wh words are variables which receive their quantificational force from other elements in the clause, in an analysis of the Western Apache Wh/Indefinite paradigm.

3.3.1 The Core Facts

In each of the languages discussed in Cheng (1991), the indefinite words such as 'someone' or 'somewhere' are based on the same root morphemes present in their corresponding Wh interrogatives, such as 'who' and 'where'. The Wh/Indefinite relationships in the languages summarized by Cheng can be divided into three classes, broadly defined with respect to the morphological or syntactic operation active in the Wh/Indefinite relationship.

In one class, indefinites consist of a bare Wh word and an obligatory affix. This affix lacks typically lacks an independent role in the synchronic grammar and is arguably combined with a Wh word during morphological derivation. In Polish, Bulgarian, and Hungarian, for example, the indefinites are formed from the bare Wh words plus the affixes *-ś*, *nja-*, and *vala-*, respectively. Examples (35) - (36) demonstrate the Wh/Indefinite relationship in Polish.

(35a)	kto who	(35b)	ktoś someone	[Polish, Cheng 1991:79]

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(36a) kiedy
when

(36b) kiedyś
sometime

Examples (37) - (38) demonstrate the Wh/Indefinite relationship in Hungarian.[14]

(37a) ki
who

(37b) valaki
someone

[Hungarian, Cheng 1991:79]

(38a) mikor
when

(38b) valamikor
sometime

In another class of Wh/Indefinite relationships, the indefinite words also consist of a bare Wh word and an obligatory affix. This class is distinguished from the first, however, in that the affix present with indefinites does have an independent function in the synchronic grammar and is arguable combined with a Wh word through syntactic affixation. In Japanese, indefinites consist of the bare Wh words plus the affix *-ka*. This affix also surfaces as a disjunctive particle with A ka B (ka) translated as '(either) A or B' (Nishigauchi 1990:117). Nishigauchi (1986, 1990) argues that the *-ka* element present in Japanese indefinites is a syntactic particle and is not combined with the Wh words through a morphological derivation. The examples in (39) illustrate the Wh/Indefinite relationship in Japanese with *dare* 'who' and *dare-ka* 'somebody'.

(39a) dare
who

(39b) Dare-ka-kara henna tegami-ga todoi-ta
who-ka-from strange letter-N arrived
'A strange letter came from somebody.'

[Japanese, Nishigauchi 1990:121]

[14] Anna Szabolcsi (personal communication) notes that *vala-* is identical to a now obsolete form of 'be', but that this is not transparent to present speakers. Minden in *minden-ki* 'everyone' is used as 'every' on its own, but minden-ki is probably lexically listed as a unit.

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In the third class of Wh/Indefinite relationships, bare Wh words, without the addition of a morphological or syntactic affix, may be used as indefinites. The particular interpretation of the Wh words as interrogative Wh elements or non-interrogative indefinites is determined by syntactic context. The Mandarin Wh words, for example, can be interpreted as indefinites in matrix clauses containing expressions denoting uncertainty or tentativeness such as the modal elements 'probably', 'seem', and 'perhaps' in (40) - (42).

(40) Ta dagai/keneng xihuan shenme. [Mandarin, Li 1992:131]
he probably like what
'He probably likes something.'

(41) Ta haoxiang xihuan shenme. [Mandarin, Li 1992:131]
he seem like what
'He seems to like something.'

(42) Ta yexu xihuan shenme. [Mandarin, Li 1992:132]
he perhaps like what
'He may like something.'

Note that the Mandarin Wh words are obligatorily interpreted as interrogative outside of the various syntactic contexts which induce an indefinite or polarity interpretation. (43) demonstrates the default interrogative interpretation of Mandarin Wh 'what'.

(43) Wo xihuan shenme ? [Mandarin, Li 1992:125]
I like what
i) What do I like ?
ii) *I like something.

The morpho-syntactic status of the Western Apache Wh/Indefinite paradigm is unclear with respect to the types of Wh/Indefinite relationships discussed above. In the examples presented so far, the Western Apache *ha-* words, typically used as Wh elements, require the presence of the particle *shi* to be interpreted as indefinites (44).

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This parallels the situations in Polish and Japanese, for example, where the Wh words are also interpreted as indefinites in the presence of an affix.

(44) Hastiin hant'éshị yiztał. = (4b)
old.man what.UNCERT 3sg.perf.kick
The old man kicked something.

No evidence has been presented as to the morpho-phonological nature of the association between the *shị* particle and a *ha-* word, however, or to the morphological or syntactic processes which derive this association. As noted, the *shị* particle does have an independent function as a modal marker (45) (see sections 1.6.7.5 and 3.1.1).

(45) Nailín magashi náizyood shị. = (2b)
girl cattle 3sg.perf.herd UNCERT
The girl might have finished herding the cattle.

The Western Apache Wh/Indefinite relationship thus at least superficially parallels that in Japanese where an indefinite affix (*-ka*) also serves an independent syntactic role. Moreover, in both languages the independent role of the indefinite affix is that of a marker of uncertainty, modal possibility in Western Apache and disjunction in Japanese.

On the other hand, the independent use of the Western Apache indefinite affix *shị* as a modal element also suggests parallels to the Wh/Indefinite relationship in Mandarin. As examples (40) - (42) demonstrated, modal elements in Mandarin provide one of the various syntactic contexts in which Wh words may be interpreted as indefinites. The parallel between Western Apache and Mandarin in this respect is not complete, however, as *shị* in its role as a modal element cannot induce an indefinite interpretation of a bare *ha-* word. In fact, bare *ha-* arguments are prohibited from clauses marked by modal *shị*.

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(46) * Hastiin hant'é yizkah shi.
old.man what 3sg.perf.shoot UNCERT
i) * What might the old man have shot ?
ii) * The old man shot something.

The availability of polarity readings for bare Western Apache *ha-* words does suggest that the interpretation of these words as ±interrogative is not rigidly determined by the presence versus absence of an affix. As noted in Section 3.2, bare *ha-* words receive non-interrogative, polarity interpretations under the scope of negation. Example (47) demonstrates the interpretation of *hant'é* 'what' as polarity 'anything'.

(47) Hastiin doo hant'é náágole' da.
old.man NEG what 3sg.imprf.build NEG
The old man isn't building anything.

In this respect, the Western Apache Wh/Indefinite relationship resembles that in Mandarin where bare Wh words also receive non-interrogative, polarity interpretations under the scope of negation. Example (48) demonstrates the interpretation of Mandarin *xihuan* 'what' as polarity 'anything' in the presence of the negative particle *bu*.[15]

(48) Ta bu xihuan shenme. [Mandarin, Li 1992:127]
he not like what
'He doesn't like anything.'

[15] The polarity interpretation is optional under negation in Chinese, but obligatory in Western Apache.

(i) [Mandarin, Li 1992:143]
Shei mei zou shenme ne ?
who not do what Q
i) 'Who did not do anything ?'
ii) 'Who didn't do what ?'

(ii) [Western Apache]
Hadín doo ishkiin hant'é yaayiné' da ?
Who NEG boy what 3sg.perf.give NEG
Who didn't give THE BOY anything ?

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Cheng (1991) and Li (1992) discuss several syntactic contexts in which bare Wh words in Mandarin receive non-interrogative interpretations. These contexts are characterized as affective environments by Cheng and as clauses in which the truth value of the proposition is not fixed or is negated by Li. In addition to clauses containing negation (48) or modal expressions of uncertainty (40) - (42), Mandarin Wh words receive indefinite/polarity interpretations in complement clauses of the non-factive verbs 'think', 'guess', and 'hope', in yes/no questions, in conditionals, and in contexts of inference.[16] The sections below compare and contrast Western Apache and Mandarin with respect to the interpretation of Wh/*ha-* words in yes/no questions, conditionals, and inference contexts.[17]

3.3.2 Yes/No Questions

Yes/no questions in Mandarin are indicated by the presence of the postverbal yes/no question marker *ma*. As example (49) illustrates, bare Wh objects are interpreted as indefinite/polarity expressions in Mandarin yes/no questions.

(49) Ta xihuan shenme ma ? [Mandarin, Li 1992:128]
he like what Q
'Does he like something(anything) ?'

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[16] Cheng (1991) and Li (1992) also note the availability of indefinite/polarity interpretations for Wh objects in Mandarin A-not-A questions (see Huang 1982). Western Apache syntax does not include a construction parallel to this construction.

(i) Ta xi-bu-xihuan shenme ? [Mandarin, Li 1992:137]
he like-not-like what
'Does he like something/anything ?'

[17] Non-factive complement clauses are discussed in Chapter 6. Bare *ha-* words overtly situated in these clauses are marginally interpreted as indefinites. The interrogative Wh interpretation is preferred.

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There is some discrepancy in the literature on Mandarin syntax as to the availability of an indefinite/polarity reading for Wh subjects in yes/no questions. Example (50a), from Li (1992), suggests such readings are possible. Cheng (1991) and Huang (1982), however, claim that subject indefinite/polarity readings are not possible in Mandarin yes/no questions. Example (50b) is from Huang (1982). The relevance of this discrepancy to analyses of the Mandarin Wh/Indefinite paradigm is discussed in sections 3.3.6 and 3.4.5.

(50a) Shei/Shenme ren xihuan ta ma ? [Mandarin, Li 1992:128]
who/what man like him Q
'Does anyone like him ?'

(50b) *Shei xian chi pingguo ma ? [Mandarin, Cheng 1991:115, Huang 1982:244]
who want eat apple Q
'Does anyone want to eat apples ?'

As discussed in Section 1.6.7.4, yes/no questions in Western Apache are marked by the preverbal particle *ya'* and/or the postverbal particle *neé*. Either particle is optional, although one is necessarily required to supply an interrogative interpretation to the clause. I analyze *ya'* as a question particle and *neé*, defined as 'query for corroboration' in Edgerton (1963), as a tag element.

(51) Ya' nohwíí á'iidle' néé ?
YNQ we 1dl.imprf.make TAG
Are we (2) preparing the meal ?
We (2) are preparing the meal, aren't we / right ?

Bare *ha-* words in Western Apache are interpreted as Wh interrogatives in questions introduced by *ya'*. As the translations in (52) suggest, *ya'* in these cases indicates that the speaker did not hear or understand a statement made in the immediately preceding discourse.

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(52a) Ya' hastiin hant'é yizkah ?
YNQ old.man what 3sg.perf.shoot
Come again | what was that ? What did the old man shoot ?
[Double question - Someone says the old man shot something, you don't quite hear it or you're surprised. This is not 'Did the old man shoot anything?' because you already know he shot something.]

(52b) Ya' hadín ma' yizkah ?
YNQ who coyote 3sg.perf.shoot
Come again, who shot the coyote ?

Bare *ha-* words, under any interpretation, are not permitted in Western Apache yes/no questions marked by *neé*.

(53a) * Hadín ma' yizkah neé ?
who coyote 3sg.perf.shoot TAG
i) * (Come again...) Who shot the coyote ?
ii) * Someone shot the coyote, right ?

(53b) * Hastiin hant'é yizkah neé ?
old.man what 3sg.perf.shoot TAG
i) * (Come again...) What did the old man shoot ?
ii) * The old man shot something, right ?

The ungrammaticality in (53) follows from the status of *neé* as tag element and the general incompatibility of tag questions with Wh questions as in the English examples (54) and (55).

(54) John ate a pizza, right | didn't he ?

(55) *Who ate a pizza, right | didn't he ?

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An indefinite/polarity reading of a *ha-* word in a Western Apache yes/no question is available only if the particle *shi* immediately follows the *ha-* word. The examples in (56) demonstrate the use of *ha...shi* indefinites in yes/no questions.[18]

(56a) Ya' hastiin hant'éshi yizkah ?
YNQ old.man what.UNCERT 3sg.perf.shoot
Did the old man shoot something/anything ?

(56b) ? Ya' hadínshi ma' yizkah ?
YNQ who.UNCERT coyote 3sg.perf.shoot
Did someone shoot the coyote ?
[Probably ok but not sure. Example with 'something' (56a) definitely ok.]

3.3.3 Conditionals

Bare Wh words in Mandarin Chinese are also interpreted as indefinite/polarity items in conditionals. Mandarin conditional clauses are marked by the presence of clause initial *yaoshi* or *ruguo* 'if'. The examples in (57) demonstrate the indefinite/polarity interpretation of subject and object Wh in Mandarin conditional clauses. Cheng (1991:113) notes that conditionals work 'the same way' as yes/no questions with respect to the Mandarin Wh/Indefinite paradigm, and thus presumably excludes the subject indefinite/polarity reading in (57a).

(57a) Yaoshi/Ruguo shenme ren (shei) xihuan ta ... [Mandarin, Li 1992:128]
if what man (who) like him
'If anyone likes him ...'

(57b) Yaoshi/Ruguo ta xihuan shenme ... [Mandarin, Li 1992:128]
if he like what
'If he likes anything ...'

[18] While both examples are grammatical, subject indefinite (56b) is considered slightly less natural than object indefinite (56a).

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Conditional clauses in Western Apache are marked by the postverbal particle *yúgo*.[19] As demonstrated in (58), conditional clauses precede the verb to which they are subordinate.

(58) Hastiin isáá áyíílaa yúgo shił gozhǫǫ́ doleeł.
old.man drum 3sg.perf.make if 1sg.to 3sg.please FUT
If the old man made a drum, I'll be happy.

As illustrated in (59), a bare *ha-* object in a Western Apache conditional clause can be interpreted as a polarity item.

(59) Hastiin hant'é áyíílaa yúgo shił gozhǫǫ́ doleeł.
old.man what 3sg.perf.make if 1sg.to 3sg.please FUT
If the old man made something/anything, I'll be happy.
[Possible context: He's been depressed for months, but has recently been talking about making things.]

A bare *ha-* subject, however, cannot be interpreted as a polarity item in a conditional clause with canonical SOV word order. As example (60) illustrates, a *ha-* subject, under any interpretation, is prohibited from an SOV conditional clause.

(60) * Hadín isáá áyíílaa yúgo shił gozhǫǫ́ doleeł.
who drum 3sg.perf.make if 1sg.to 3sg.please FUT
If who/someone/anyone made a drum, I'll be happy.

Note that a subject polarity reading is marginally acceptable if the conditional clause is realized with OSV word order. Example (61) illustrates this situation. The marginality in

[19] *yúgo* is clearly related to the *-go* subordinator discussed in Section 2.1.4, Chapter 5, and Chapter 6. For convenience, *yúgo* is glossed as 'if'.

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(61) probably follows from the marked OSV word order, generally ungrammatical for clauses with verbal *yi-* morphology (Section 1.6.6).[20]

(61) ?? Isaa hadín áyíílaa yúgo shił gozhǫǫ́ doleeł.
drum who 3sg.perf.make if 1sg.to 3sg.please FUT
If anyone made a drum, I'll be happy.
[Marginal, but much better than example with *hadín isaa áyíílaa* (60).]

The subject/Object asymmetry with respect to the availability of polarity readings in conditional clauses, (59) and (60), parallels the situation with Mandarin Wh words as discussed in Cheng (1991) and Huang (1982). Contra Li (1992), Cheng and Huang suggest that polarity readings are available for Wh objects, but not Wh subjects, in Mandarin conditional clauses. The relevance of examples (59) and (60), as well as the marked OSV construction in (61), to analyses of the Wh/Indefinite paradigm will be discussed in Section 3.4.5.

In comparison to (59) - (61), subject and object *ha-* words in Western Apache conditional clauses are more readily interpreted as indefinite/polarity items in the presence of the *shi* particle. Examples (62) and (63) demonstrate conditional clauses with *ha...shi* indefinites as subject and object, respectively.[21]

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[20] *áyíílaa* includes the 3sg.Subj/3sg.Obj *yi-* marker.

[21] The indefinite/polarity interpretation is also available if the question focus particle *sha'* immediately follows the *ha-* word. Possibly the *shi* examples are distinguished from the *sha'* examples in that the former permit a future perfective interpretation of the action in the conditional clause, i.e., 'will have made', while the latter favor a past interpretation. Possibly the availability of a future perfective reading in the *shi* cases follows from the unrealized (irrealis) nature of the particle as a modal expression. The data presently available, however, do not consistently distinguish *shi* and *sha'* cases in this manner.

(i) Hadín sha' isáá áyíílaa yúgo shił gozhǫǫ́ doleeł.
who QFOC drum 3sg.perf.build if 1sg.to 3sg.please FUT
If anyone built a drum, I'll be happy.

- *Continued on Next Page* -

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(62) Hadínshị isaa áyíílaa yúgo shił gozhǫǫ́ doleeł.
who.UNCERT drum 3sg.perf.make if 1sg.to 3sg.please FUT
If anyone/someone made the drum, I'll be happy.
[Possibly also: If someone will have made the drum, I'll be happy.]

(63) Hastiin hant'éshị áyíílaa yúgo shił gozhǫǫ́ doleeł.
old.man what.UNCERT 3sg.perf.make if 1sg.to 3sg.please FUT
If the old man made anything/something, I'll be happy.
[Possibly also: If the old man will have made something, I'll be happy.]

3.3.4 Inference Contexts

Inference clauses are the final context to be considered in which bare Wh words in Mandarin Chinese may be interpreted as indefinite/polarity expressions. Li (1992) demonstrates that sentence final *le* in Mandarin can be used to indicate that an event or change of state referenced in the sentence has not been witnessed by the speaker but is assumed based on inference/circumstantial evidence (see also Li & Thompson 1981). In such contexts, *le* serves the role of an epistemic modal which indicates the degree of commitment on the part of the speaker to the expressed proposition. Example (64) demonstrates the interpretation of a bare Wh object as an indefinite in a Mandarin inference context.

(64) Ta kandao (le) shenme le. [Mandarin, Li 1992:132]
he see what
He saw something.

As discussed in Section 1.6.7.3, Western Apache grammar includes the postverbal marker *lẹ́nk'eh* which indicates that a past event is assumed to have occurred through

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(ii) Hastiin hant'é shạ' áyíílaa yúgo shił gozhǫǫ́ doleeł
old.man what QFOC 3sg.perf.build if 1sg.to 3sg.please FUT
If the old man built something/anything, I'll be happy.
[Different from example with *hant'éshị*, but not clear how.]

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hearsay or circumstantial evidence. Similar to Mandarin *le*, Western Apache *lę́nk'eh* serves the role of epistemic modal and expresses the degree of commitment the speaker has to the validity of the given proposition. Bare *ha-* subjects (65a) and objects (65b) in *lę́nk'eh* clauses are ungrammatical as interrogatives and only marginally interpreted as indefinites or polarity items.

(65a) * Hadín kịh náágolaa lę́nk'eh.
who house 3sg.perf.build I-PAST
i) * Who does it seem built the house ?
ii) ??? It seems someone built the house.
[Marginal if you force the interpretation with 'someone'.]

(65b) * Hastiin hant'é náágolaa lę́nk'eh.
old.man what 3sg.perf.build I-PAST
i) * What does it seem the old man built ?
ii) ??? It seems the old man built something.
[Marginal if you force the interpretation with 'something'.]

Indefinite interpretations are completely grammatical with subject and object *ha-* words if the *shị* particle is present (66).

(66a) Hadínshị kịh náágolaa lę́nk'eh.
who.UNCERT 3sg.perf.build I-PAST
It seems someone has built a house.

(66b) Hastiin hant'éshị náágolaa lę́nk'eh.
old.man what.UNCERT 3sg.perf.build I-PAST
It seems the old man has built something.

3.3.5 A Note on Variation in the Wh/Indefinite Relationship

The preceding discussion demonstrates that while it is not uncommon for languages to exhibit a relationship between words used as Wh interrogatives and words used as indefinite/polarity items, the overt expression of that relationship can vary both

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cross-linguistically and within a given language. Bare Wh words are regularly used as indefinites, polarity items, and interrogative elements in Mandarin, while non-interrogative readings of the Wh roots in Hungarian require an affix.[22] In Western Apache, the *shi* particle is strongly preferred for indefinite/polarity readings of the *ha-* words in most syntactic contexts, but bare *ha-* words are used as polarity items under the scope of negation, and indefinite/polarity interpretations of bare *ha-* words are marginally available in conditional clauses and inference contexts. In the analysis of the Wh/Indefinite relationship sketched in the remainder of Section 3.3, however, there is no fundamental distinction between the Wh/Indefinite relationships in Mandarin, Hungarian, Western Apache, or any of the languages mentioned above. In each of these languages, the Wh roots are elements which are assigned an interpretation by other elements in the clause. Variation arises only with respect to which elements assign the interpretations and the morphosyntactic details of the association between those elements and the Wh roots.

It is interesting to speculate, however, that the variation between the languages exhibiting Wh/Indefinite relationships constitutes indirect evidence as to the diachronic development of those relationships. The Wh/Indefinite relationship in Western Apache, for example, could constitute an intermediate stage between a strict indefinite affix relationship in languages such as Hungarian and a strict indefinite context relationship in

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[22] Anna Szabolcsi (personal communcation) notes that bare Wh in Hungarian can receive non-interrogative readings in a few special cases such as (i). Typically, non-interrogative negative readings require the negative prefix *sem-*.

(i)	Nincs <u>kit</u> meg-k'er-n-em. there.isn't <u>whom</u> perf-ask-cond-1sg 'I have nobody to ask.'	(ii)	sem-mikor neg-when 'no time'

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languages such as Mandarin. Western Apache indefinites typically require a particular affix, the *shi* particle, but that element is associated with a particular syntactic context that derives indefinite readings in Mandarin. Moreover, bare Western Apache *ha-* words are marginally interpretable as indefinites in two other syntactic contexts which induce indefinite readings in Mandarin.

The direction of any potential diachronic change in the Western Apache Wh/Indefinite relationship is unclear. That such relationships evolve over time is expected. Moreover, evidence from Polish presented in Cheng (1991) supports such diachronic development. As discussed by Cheng and noted in examples (35) - (36) above, Polish indefinites consist of a Wh root plus the obligatory affix *-ś*. Cheng reports that while some speakers of Polish accept a polarity interpretation of bare Wh words in yes/no questions (67) and conditionals (68), many speakers find such cases ungrammatical and, more specifically, 'archaic'. These latter speakers require the presence of the affix *-ś* for a polarity interpretation of a Wh root in any syntactic context.[23]

(67) czy Janek tam kogo zobaczył [Polish: Cheng 1991:104]
whether Janek there who-acc saw
'Did Janek see anyone ?'

(68) Jezeli kto tu zapali papierosa, to ja się wścieknę [Polish: Cheng 1991:104]
if who here will light cigarette, then I refl will get mad
'If anyone smokes here, then I will get mad.'

In theory, the speakers who reject (67) and (68) have a grammar which relies more heavily on the presence of an obligatory affix, and less on syntactic context, for non-

[23] Cheng cites Anna Ciszewska-Wilkens (personal communication) on this point.

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interrogative Wh interpretations than do the grammars of preceding generations of the language.

3.3.6 Wh Words as Variables

Regardless of the hypothetical origins of the Wh/Indefinite relationships present in the languages discussed above, the proposed synchronic analyses of those relationships are largely consistent and share common roots in Heim's (1982) analysis of indefinites as variables. Heim (1982), building on Lewis' (1975) discussion of 'adverbs of quantification', notes that the quantificational nature of an indefinite is dependent upon the quantificational nature of some other element in the indefinite's environment. As an illustration, Heim provides sentences such as those in (69) - (71).

(69) If a man owns a donkey he *always* beats it.

(70) *In most cases*, if a table has lasted for 50 years, it will last for another 50.

(71) *Sometimes*, if a cat falls from the fifth floor, it survives.

Heim notes that each of these examples may be paraphrased by sentences in which the adverb of quantification, in italics, is eliminated and the relevant indefinite, underlined, is replaced by a quantified expression of the same force as that adverb. Heim offers (72) - (74) as paraphrases for (69) - (71). The adverbs of quantification 'always', 'in most cases', and 'sometimes' are replaced by the quantifiers 'every', 'most', and 'some', respectively.

(72) For *every* man and *every* donkey such that the former owns the latter, he beats it.

(73) *Most* tables that have lasted for 50 years last for another 50.

(74) *Some* cats that fall from the fifth floor survive.

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Heim proposes that indefinites have no quantificational force of their own, but are variables which may be bound, and receive quantificational force, from other quantificational elements in their environment. The existential adverb of quantification 'sometimes' in (71), for example, binds the indefinite 'a cat' and supplies the existential interpretation to that indefinite parallel to the situation in (74) where the existential quantifier 'some' supplies the existential force to the quantified expression 'some cats'. Heim argues that the quantificational force of an indefinite must always be supplied by some other element in the environment. If an indefinite lacks its own quantifier and an adverb of quantification is not present in the sentence, quantifiers associated with other NP in the clause may unselectively bind the indefinite. In (75), for example, the quantifier 'every' associated with the subject binds the object indefinite 'a donkey'.

(75) Every man who owns a donkey beats it.

This analysis leaves unexplained, however, the existential interpretation of indefinites in sentences where there is no other overt, or independently motivated covert, quantificational element (76), as well as cases in which an indefinite is interpreted existentially in the presence of another quantifier (77).

(76) A cat arrived.

(77) Every man saw a cat.

To account for these cases, Heim proposes a rule of 'Existential Closure'. Existential Closure attaches an existential quantifier to the nuclear scope of every quantifier and to the Text-Node which Heim argues dominates a sequence of sentences. Heim defines the nuclear scope of a quantifier as the third element in the tripartite representation of a sentence with a quantified expression. (77), for example, is analyzed as in (78) with

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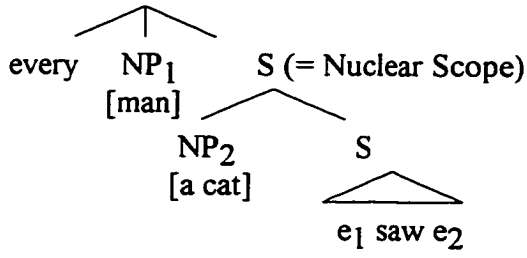
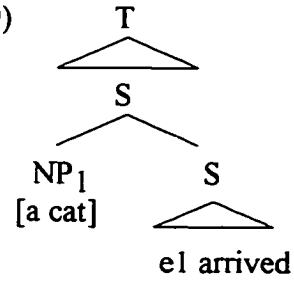
'every' as quantifier, 'man' as its restriction, and 'saw a cat' as its nuclear scope. Existential closure attaches an abstract existential quantifier to the nuclear scope in (78) and, for example (76), to the T node in (79).

(78) 'Every man saw a cat.' [Heim 1982:137]



(79) 'A cat arrived.' [Heim 1982:163]



Nishigauchi (1986, 1990) proposes that the Wh/Indefinite relationship in languages where the Wh words are ambiguous between interrogative Wh and non-interrogative indefinite/polarity interpretations can be explained using Heim's analysis of indefinites as variables. Nishigauchi specifically addresses the Wh/Indefinite paradigm in Japanese and argues that the Japanese Wh words, which can be used as indefinites, are variables which receive their quantificational force from other elements in the clause. As noted above, Japanese Wh words are interpreted as indefinites in the presence of the syntactic affix *-ka*, used elsewhere in disjunctive environments 'A or B'. Furthermore, the Wh words are interpreted with universal force in the presence of the syntactic affix *-mo*, used elsewhere in conjunctive environments 'A and B'. Example (80) illustrates the use of *dare* 'who' as *dare-mo* 'everyone' and *nani* 'what' as *nani-ka* 'something'.

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(80) Dare-mo ga nani-ka o tabe-te-iru. [Japanese, Nishigauchi 1990:117]
everyone N something A eating-be
'Everyone is eating something.'

The Japanese Wh words are interpreted as interrogatives in the presence of the sentence final question particle *ka* (81).

(81) Dare-ga nani-o kai-masi-ta ka ? [Japanese, Nishigauchi 1990:105]
who-N what-A buy did Q
'Who bought what ?'

Nishigauchi argues that the syntactic affixes *-ka* and *-mo* act, respectively, as existential and universal binders to the Wh words as variables. Interrogative force is supplied by the question particle *ka* as Wh binder. Formally, Nishigauchi notes that the binding relationship could either be established directly between the Wh word, as variable, and the binder, or, between a raised Wh and its trace.

Cheng (1991) and Li (1992) provide analyses of the Wh/Indefinite relationship in Mandarin Chinese which adopt Nishigauchi's analysis of Japanese Wh words as variables. While Cheng and Li provide fundamentally similar analyses in that the quantificational force of the Mandarin Wh words is supplied through a binding relationship with some other element in the clause, the accounts vary with respect to the identity of the binders for indefinite/polarity Wh readings.

Li argues that Mandarin Wh words must be licensed by some other element in a clause and that that same element binds the Wh word as variable and supplies its quantificational force. For indefinite/polarity interpretations, such licensor/binder elements include conditional *ruguo/yaoshi* 'if' (57), the yes/no question particle *ma* (49), the negative particle *bu* (48), expressions of modal possibility (40) - (42), the inference

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marker *le* (64), and non-factive verbs. As noted, Li characterizes the environments created by these elements as contexts in which 'the truth value of the proposition is not positively fixed in a definite manner' (Li 1992:134). Li further argues that the licensor/binder must c-command the Wh word at S-Structure. The negative marker *bu*, for example, precedes/c-commands the object in Mandarin sentences and can bind an object Wh variable. In such cases (82), the Wh word receives a polarity interpretation.

(82) Ta bu xihuan shenme. [Mandarin, Li 1992:127]
he not like what
'He doesn't like anything.'

The negative marker *bu* cannot precede/c-command the subject in Mandarin sentences, however, and, as indicated in (83), cannot bind a subject Wh variable.[24]

(83) * Shenme ren bu xihuan ta. [Mandarin, Li 1992:127]
what man not like him
'Someone/Anyone does not like him.'

The interrogative interpretation of a Wh word is supplied by a Wh question operator realized as the overt Wh question marker *ne* in (84). As this marker is optional, Li hypothesizes the existence of an abstract covert Wh question operator as well.

(84) hufei chi-le shenme (ne) [Mandarin, Cheng 1991:112]
Hufei eat-ASP what Qwh
'What did Hufei eat ?'

---

[24] Li's strongest argument for an S-Structure requirement on Wh binding is that subject Wh in A-not-A questions cannot receive an indefinite interpretation although such a reading is possible with objects. Li adopts Huang's (1982) argument that the A-not-A form raises to Comp at LF. The A-not-A licensor/binder thus asymmetrically c-commands the object, as opposed to the subject, only at S-Structure.

(i) *Shei/Shenme ren xi-bui-xihuan ta ?
who/what man like-not-like him
Does someone/anyone like him ?

(ii) Ta xi-bu-xihuan shenme ? [Mandarin, Li 1992:128]
he like-not-like what
Does he like something/anything ?

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Cheng (1992) provides a similar analysis of Wh words in Mandarin Chinese, with the exception that the Wh words are treated as polarity items which require a licensor independently of their need for a binder. In certain cases, the licensor and binder are the same element. In Wh questions, for example, the overt or covert Wh question particle demonstrated in (84) acts as both licensor and binder to Wh words in the clause. Also, the adverb *dou* 'all' acts as both licensor and binder, providing a universal interpretation to Wh words as in examples (85) and (86).

(85) botong shenme dou chi [Mandarin, Cheng 1991:115]
Botong what all eat
'As for Botong, he eats everything.'

(86) shei dou kan-guo zhe-ben-shu [Mandarin, Cheng 1991:115]
who all read-ASP this-CL-book
'Everyone read.'

In these cases, where the licensor and binder for a Wh variable are the same element, the approaches in Cheng and Li are similar. In affective contexts where Wh words receive indefinite/polarity interpretations, however, Cheng argues that an overt marker, such as the yes/no question marker *ma*, or the negative marker *bu*, acts only as licensor to a Wh word while Heim's rule of Existential Closure provides the existential binder. Cheng specifically adopts Diesing's (1990) version of Existential Closure where the semantic notion of 'nuclear scope' is correlated with the VP constituent in syntax, and, following Kadmon (1987), the application of Existential Closure is restricted to this nuclear scope/VP domain.[25]

[25] It is not crucial that nuclear scope be identified specifically with VP, as opposed to some other hypothesized projection below the canonical position of the subject.

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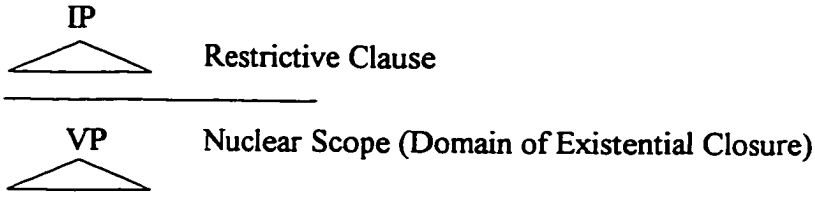
(87)



The restriction of Existential Closure in this manner rules out all instances of polarity/indefinite Wh in subject position, a position outside of the VP domain. This is a positive result for Cheng (1991) and Huang (1982) given their claims that indefinite/polarity interpretations of subject Wh in conditional clauses and yes/no questions (214) are not possible.

(88) *Shei xian chi pingguo ma ? [Mandarin, Cheng 1991:115, Huang 1982:244]
who want eat apple Q = (50b)
'Does anyone want to eat apples ?'

As noted, however, Li suggests that indefinite/polarity subject Wh are possible in Mandarin conditional clauses and yes/no questions. Examples (50a) and (57a) are repeated below as (89) and (90).

(89) Shei/Shenme ren xihuan ta ma ? [Mandarin, Li 1992:128]
who/what man like him Q = (50a)
'Does anyone like him ?'

(90) Yaoshi/Ruguo shenme ren (shei) xihuan ta ... [Mandarin, Li 1992:128]
if what man (who) like him = (57a)
'If anyone likes him ...'

If examples such as these are grammatical, they are problematic for Cheng (1991) and suggest that the polarity licensors themselves, or an abstract existential operator provided by the application of VP external Existential Closure, may serve as Wh binders. If these examples are ungrammatical, they support Cheng's restriction of indefinite/polarity Wh binding to Existential Closure in the VP domain. On the other hand, if the acceptability

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of indefinite/polarity interpretations for subject Wh in Mandarin is speaker or dialect dependent, the analysis of such readings is necessarily more complex than suggested in the approaches of either Cheng or Li.

3.4 The Analysis of *ha-* Words as Variables

The analysis of Wh words as variables can be applied to the Wh/Indefinite relationship present with Western Apache *ha-* words. As noted, the *ha-* words are typically interpreted as interrogative Wh elements, but receive indefinite interpretations in the presence of the modal particle *shị* and polarity interpretations in the presence of the negative marker *doo*. Given the proposals in Nishigauchi (1990), Cheng (1991), and Li (1992) for Wh words in other languages, the Western Apache *ha-* words are plausibly analyzed as variables which receive their quantificational force from other elements in the clause.

3.4.1 *shị* and *doo* as Binders

The first issue to consider in a variable analysis of the Western Apache *ha-* words is whether the elements *shị* and *doo* bind the *ha-* words and supply their quantificational interpretation, or, license the *ha-* words as polarity items with Existential Closure providing the quantificational binder. Cheng's (1991) primary motivation to adopt a VP restricted rule of Existential Closure is the claimed presence of subject/Object asymmetries with indefinite/polarity Wh in Mandarin. As noted, Cheng argues that indefinite/polarity subject Wh are impossible in Mandarin because the subject position is outside of the domain of the existential binder provided by Existential Closure. With Western Apache *ha-* words, however, there is no subject/Object asymmetry in the availability of indefinite/polarity interpretations. Examples (3b) and (4b), repeated here

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as (91) and (92), demonstrate the possibility of an indefinite interpretation for *ha-* words in both subject and object position.

(91) Hadínshı̨ kı̨h náágole'. = (3b)
who.UNCERT house 3sg.imprf.build
Someone is building a house.
[Possible contexts: You come into a clearing and see a house under construction. No one is around and you have no idea who is doing the building. OR You see someone building the house.]

(92) Hastiin hant'éshı̨ yiztał. = (4b)
old.man what.UNCERT 3sg.perf.kick
The old man kicked something.
[Possible contexts: You see him kick the television, but when asked you just say 'something'. OR You hear him kick something, but don't see it.]

Examples (18) and (19), repeated here as (93) and (94), demonstrate the availability of polarity interpretations for *ha-* words in both subject and object position.

(93) Doo hadín naljeeh nił ch'ígon'ą́ą́ da. = (18)
NEG who 3sg.imprf.hunt 2sg.to 3sg.perf.teach NEG
No one taught you how to hunt.

(94) Doo hant'é yił ch'ídagon'aał da. = (19)
NEG what 3sg.to 3dl/pl.fut.teach NEG
They (2) won't teach him anything. | They (2) will teach him nothing.

The subject indefinite/polarity readings in (91) and (93) are not predicted if the quantificational force of the *ha-* words in these examples is supplied by a VP restricted rule of Existential Closure. The lack of a subject/Object asymmetry follows straightforwardly, however, if the *shı̨* and *doo* markers, which may surface with either subject or object arguments, serve as binders.

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The possible cooccurrence of interrogative *ha-* words and indefinite *ha-* words in Western Apache also argues against the use of a VP restricted rule of Existential Closure. Cheng (1991) notes that a Wh word licensed by a +Wh marker in Mandarin Chinese must be bound by that marker. In example (95), the sentence final +Wh question marker *ne* is the only Wh licensor present in the clause and both Wh words are obligatorily interpreted as interrogatives.

(95) shei mai-le sheme (ne) [Mandarin, Cheng 1991:126]
who buy-ASP what Qwh
i) 'Who bought what ?'
ii) *'Who bought something ?'

What is potentially surprising about (95) is that the second Wh word cannot be interpreted as an indefinite bound by the rule of Existential Closure. Cheng suggests this impossibility follows from principles of Economy (Chomsky 1991). Specifically, since the +Wh question operator is present and can both license and bind the object Wh word, application of the rule of Existential Closure would require an additional, otherwise unnecessary operation, and yield a less economical derivation.

In Western Apache, however, indefinite *ha-* objects are possible in sentences with interrogative *ha-* subjects (96).

(96) Hadín hant'éshị yizkah ?
who what.UNCERT 3sg.perf.shoot
Who shot something ?

If Existential Closure provided the binder for indefinite *ha-* objects, the derivation of (96), which includes an indefinite *ha-* object, would necessarily require application of the rule of Existential Closure. Following Cheng's argument for (95), however, the

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derivation of (96) would involve an additional step, and be less Economical, than a derivation in which the binder providing the interrogative force for the subject *ha-* word (see Section 3.4.2) also served as binder, supplying interrogative force, to the object.[26] Again, if *shi* serves as the binder for indefinite *ha-* words Existential Closure is irrelevant to the derivation.

One final argument against the use of a domain restricted rule of Existential Closure in the binding of *ha...shi* indefinites follows from variation in the overt positioning of these indefinites. First, note that what is crucial for Cheng's analysis of Mandarin Wh subject/Object asymmetries is that Existential Closure be restricted to a domain below the canonical subject position, whether or not this domain correlates specifically with the VP. Western Apache *ha...shi* indefinites, however, can overtly raise to positions above the subject, clearly out of the proposed domain of Existential Closure, and still maintain an indefinite reading.[27] The examples below demonstrate the essential paradigm. A *ha-* indefinite object generated within an embedded clause (97) can optionally raise to a clause initial position preceding an overt subject (98). These examples are not problematic if *shi*, which raises with the *ha-* word, binds the *ha-* word.

(97) Hastiin isdzan hant'éshi náágolaa go nyígołsih.
old.man woman what.UNCERT 3sg.perf.build COMP 3sg.imprf.know
The old man knows that the woman built something.

---

[26] An alternative possibility is that *shi* is incompatible with an interrogative Wh reading. The straightforward analysis of such a constraint, however, would again be that *shi* acts as a non-interrogative binder to the *ha-* word and blocks the potential binding relationship between the *ha-* word and any interrogative operator.

[27] Section 3.4.3 argues that it is the overt position of the *ha-* word, not its trace, that is crucial in the establishment of a binding relationship.

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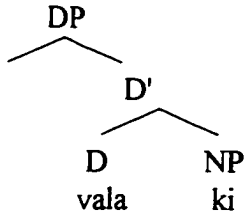
(98) Hant'éshị hastiin isdzan náágolaa go ṇyígołsịh.
what.UNCERT old.man woman 3sg.perf.build COMP 3sg.imprf.know
The old man knows that the woman built something.
[One reading: The old man knows what it is but we don't.]

The discussion above argues that the particle *shị* and the negative marker *doo*, when present, serve as binders to the Western Apache *ha-* words. In such cases, the grammar does not make use of an abstract existential operator supplied, by hypothesis, by a VP restricted rule of Existential Closure.[28] In fact, Cheng provides a similar analysis for the obligatory affixes present with Wh indefinites in Hungarian, Polish, and Bulgarian. Recall, for example, that the prefix *vala-* transforms a Hungarian Wh word, such as *ki* 'who', into its corresponding indefinite, *valaki* 'someone'. Cheng suggests that the prefix *vala-* be analyzed as a determiner, equivalent to an existential quantifier, which binds a core Wh NP lacking any inherent quantificational force.

(99) *valaki* = 'someone' [Cheng 1991:85]



Western Apache *shị* can be similarly analyzed as a head which takes a *ha-* NP complement and acts as existential binder to the variable inherent to that complement.

[28] Another alternative is to return to Heim (1982), contra Cheng (1991), and allow Existential Closure to apply to the hypothesized T node dominating a sequence of sentences. Such an approach would be problematic, however, in that it is argued (Section 3.4.4) that the closest c-commanding operator to a *ha-* word binds that *ha-* word. An existential operator inserted above a sequence of sentences is necessarily inserted above any +Wh operator present in an individual sentence. Indefinite *ha-* objects should therefore not be possible in the presence of a +Wh operator, but examples such as (221) clearly indicate such readings are available.

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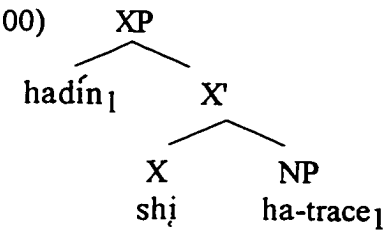
(100) illustrates the essential structure required to derive *hadínshị* 'someone'. In accordance with the UG claims of Kayne (1994), it is assumed that the *shị* projection is head initial. The complement of *shị* must necessarily raise to the specifier of the *shị* projection to derive the appropriate surface order of morphemes.

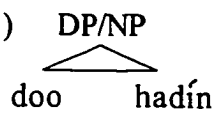
(100)



As a binder, *shị* is necessarily quantificational in nature and XP in (100) is most likely identified as QP, a quantified NP expression. The identity and status of the *shị* projection is discussed further in Section 3.5 where parallels between the use of *shị* as a quantifier and the use of *shị* as a postverbal modal expression are considered in detail.

The brief discussion of Western Apache negation in Section 3.2.1 provides the core structure required for an analysis of *doo* as a binder. Section 3.2.1 analyzes *doo* as a negative adverbial adjunct to particular constituents within a clause. As represented in (101) for *doo hadín* 'not anyone/no one', *doo*, as binder, surfaces as an adjunct to the NP or DP constituent dominating a *ha-* word.

(101)



3.4.2 A Covert +Wh Operator

Given the analysis of Western Apache *ha-* words as variables which lack any inherent quantificational force, the question arises as to what supplies the interrogative

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force to *ha-* words in their use as Wh question elements. For Mandarin, both Cheng (1991) and Li (1992) suggest that the interrogative force of Wh words is supplied by either the overt +Wh question operator *ne* or its hypothesized covert counterpart. Although, as discussed below, the presence of an overt +Wh marker in Western Apache grammar is unclear, such markers are present in Navajo Wh questions. This section explores the distribution of overt Wh question markers in Navajo and considers what overt or covert counterparts to these markers may be present, as interrogative *ha-* binders, in Western Apache.

Schauber (1979) discusses the use of Navajo *ha-* words as interrogative Wh elements and claims that Navajo Wh questions must obligatorily include an overt question particle. Schauber identifies two Wh question particles, *lá* and *-sh*, and argues that one of these markers must surface immediately following a *ha-* word itself or in 2nd position within any clause dominating the *ha-* word. The examples below demonstrate the basic positioning of the question marker *lá* in Navajo. In (102), *lá* surfaces immediately following a *ha-* word.

(102) Jáan ha'át'íí-lá yiyiiłtsą́ [Navajo, Schauber 1979:118]
John what-Q 3.perf.see
What did John see ?

In (103) and (104), *lá* surfaces in 2nd position of a matrix clause with a *ha-* word, and in 2nd position of a matrix clause dominating an embedded clause with a *ha-* word, respectively.

(103) Ashiiké-lá ha'át'íí yiyiiłtsą́ [Navajo, Schauber 1979:119]
boys-Q what 3.perf.see
What did the boys see ?

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(104) Jáán-lá Mary háádęęʼ naaghá ní [Navajo, Schauber 1979:165]
John-Q Mary where.from 3.perf.come 3.say
Where did John say Mary is from ?

Example (105) illustrates the use of the question particle *-sh* immediately following a *ha-* word.

(105) Ashkii haʼát'íísh yiyiiłtsą́ [Navajo, Schauber 1979:118]
boy what-Q 3.perf.see
What did the boy see ?

Schauber notes that *lá* and *-sh* seem to be interchangeable in Navajo but suggests that more work is required to determine if there is any substantive difference in their use as question markers. Schauber does tentatively suggest that *lá* may be used as a focus marker when it surfaces on a *ha-* word that is not in second position, but notes that there is no positive evidence to support such an analysis.[29]

A *lá* particle can also surface in Wh questions in Western Apache. This particle is not a neutral Wh question marker. In (106) and (107), for example, *hadín lá* and *hant'é lá* are not interpreted as neutral 'who' and 'what', but as Discourse-Linked Wh expressions such as English 'which of you' that refer to a presupposed set of individuals or entities over which the Wh question ranges (Pesetsky 1987).[30]

---

[29] Schauber does argue that such an approach plausibly explains the impossible cooccurrence of *lá* and the emphatic focus particle *ga'* in a single clause in Navajo.

(i) Ashkii łíí' ga' nabíiłgo'
boy [horse FOC] 3.perf.throw
It's the horse that threw the boy.

(ii) * Haíla łíí' ga' nabíiłgo' [Schauber 1979:178]
who.Q [horse FOC] 3.perf.throw

[30] Interestingly, the presupposed 'set' of entities reading is not present if overt Wh movement occurs, although the raised Wh word does still seem to refer to a particular entity in the discourse.

- *Continued on Next Page* -

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(106) Hadín lá ḳih náágole' ?
who Q-FOC? house 3sg.imprf.build
Who is building a house ?
[Who among you? Which of them?]

(107) Hastiin hant'é lá náágole' ?
old.man what Q-FOC? 3sg.imprf.build
What is the old man is building ?
[Question behind choosing - e.g., 'which one out of 5 things?']

As with Navajo *lá*, Western Apache *lá* can also surface in second position following non-*ha*- DP. As demonstrated in (108), *lá* in these cases supplies an emphatic reading, consistent with focus, to the preceding DP.

(108) Hastiin lá hant'é náágole' ?
old.man Q? what 3sg.imprf.build
What is the old man building ?
[Maybe emphasizes the fact that the man is an older person.]

Unlike the case in Navajo, however, Western Apache *lá* need not precede/c-command a *ha*- word in a Wh question. Again, *lá* appears to supply a focus interpretation to the preceding and adjacent DP.

(i) Hant'é lá hastiin náágole' ?
what Q-FOC? old.man 3sg.imprf.build
What is the old man building ?
[Doesn't refer to which one, general question, person is curious but doesn't know what the old man is building - e.g., wife sees it but doesn't know what it is.]

Variation in the interpretation of apparently in situ versus raised Wh phrases is not expected within the obligatory Wh movement analysis presented in Section 2.2. In that approach, Wh phrases are always in Spec WhP. However, an overt movement approach to bare Wh phrases cannot be ruled out by these examples which are distinct in being marked by the *lá* Q-Focus particle. It is also interesting to note that the 'presupposed set' D-Linked reading is present in the in situ example. Pesetsky (1987) argues that D-Linked Wh phrases can be licensed in situ.

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(109) Hadín kịh lá náágole' ?
who house Q? 3sg.imprf.build
Who is building the house ?
[It has already been decided that the house is going to be built.]

In summary, while the particle *lá* is optionally present in Wh questions in Western Apache, it is not necessarily associated with an interrogative *ha-* word and appears to be used primarily as a particle for focus or Discourse-Linking. While it remains a theoretical possibility, there is not enough evidence to conclusively argue that Western Apache *lá* is an overt +Wh question marker which can bind and supply interrogative force to the *ha-* words in Wh questions.

With respect the other Navajo question particle, *-sh*, Western Apache appears to lack this marker altogether. The examples in (110) - (112), which attempt to place the particle *-sh* on a *ha-* word used as an interrogative Wh element, are not recognized by Mr. Dawson.

(110) * Hadínsh kịh náágole' ?
who+Navajo:Q house 3sg.imprf.build
Who is building a house ?

(111) * Hadínísh kịh náágole' ?
who+Navajo:Q house 3sg.imprf.build
Who is building a house ?

(112) * Hastiin hant'ésh náágole' ?
old.man what+Navajo:Q 3sg.imprf.build
What is the old man building ?

The preceding discussion suggests that Western Apache lacks overt +Wh question particles. Overt +Wh markers are present and required, however, in Navajo Wh questions. Given the presence of these elements in Navajo, the theoretical necessity of an

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interrogative binder in Western Apache Wh questions, and the postulation of covert +Wh operators in other languages (cf. Cheng 1991, Li 1992), I conclude that Western Apache grammar includes a covert +Wh operator corresponding to the overt markers present in Navajo.

3.4.3 *ha-* Words and their Traces

Nishigauchi (1990) suggests that there are two possible analyses of Wh words as variables. One, the Wh words themselves may be interpreted as variables with quantificational force determined through a direct binding relationship between the Wh words and their binders. Two, all Wh words undergo obligatory movement and the traces created by that movement are interpreted as variables. In this latter approach, quantificational force is determined through a binding relationship between the raised Wh word, in its licensing position, and its trace. This section investigates the interpretation of raised and in situ *ha-* words in Western Apache and concludes that it is the *ha-* words themselves, not their traces, that are crucial in the determination of quantificational force.

As noted in Section 3.2.2, Western Apache *ha-* words receive a polarity interpretation if the negative marker *doo* is in a position preceding the *ha-* word. In such cases, however, there is no requirement that *doo* be adjacent to the *ha-* word. Examples (113) and (114) demonstrate the polarity interpretation of *ha-* words preceded by non-adjacent *doo* markers in transitive and ditransitive clauses respectively.

(113) Doo hastiin hant'é yizkah da.
NEG old.man what 3sg.perf.shoot NEG
THE OLD MAN didn't shoot anything.

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(114) Isdzan doo ishkiin hant'é yaayiné' da.
woman NEG boy what 3sg.perf.give NEG
The woman didn't give THE BOY anything.

Examples (113) and (114) exhibit the canonical and underlying S-(IO)-O-V word order of Western Apache.[31] The *ha-* objects in these sentences, however, can also surface in clause initial positions, arguably through the application of a Wh Movement operation (Section 2.2), preceding the *doo* marker. As examples (115) and (116) illustrate, in such positions the *ha-* words are interpreted as interrogative Wh elements rather than non-interrogative polarity items. Note that the traces of the raised *ha-* words in these examples are marked by 't_i'.

(115) Hant'é$_i$ doo hastiin t_i yizkah da ?
what NEG old.man wh-trace 3sg.perf.shoot NEG
What didn't THE OLD MAN shoot ?

(116) Hant'é$_i$ isdzan doo ishkiin t_i yaayiné' da ?
what woman NEG boy wh-trace 3sg.perf.give NEG
What didn't the woman give to THE BOY ?

These examples demonstrate that it is the overt position of the *ha-* word itself, and not the position of the trace of a raised *ha-* word, that is critical in the determination of quantificational force. If the traces in (115) and (116), rather than the *ha-* word heads of the movement chains created by *ha-* raising, were the 'variables' to be bound and supplied quantificational force by a quantificational binder, the lack of a polarity interpretation for the *ha-* words would be unexplained. The traces in (115) and (116) are in the same structural configuration with the polarity binder *doo* as are the overt *ha-* words in (113)

[31] S-IO-O is the hypothesized Universal order in ditransitive clauses (cf. Beghelli 1996 and the literature on thematic hierarchies such as Jackendoff 1972, Grimshaw & Mester 1988) and is specifically motivated for Western Apache in Section 5.4.4.

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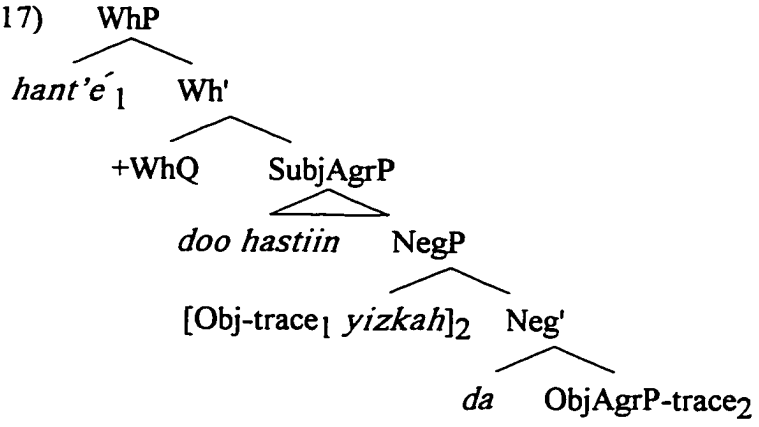
and (114).[32] If the *ha-* words themselves are the 'variables' relevant to the assignment of quantificational force, however, the lack of a polarity interpretation for the raised *ha-* words follows directly from their position outside of the c-command/binding domain of *doo*. (117) illustrates the proposed analysis for (115). By hypothesis, the *ha-* object raises to a position licensed as +Wh by the covert +Wh question particle.

(117)



The cooccurrence of interrogative and indefinite *ha-* words in Western Apache provides an additional argument that it is a *ha-* word itself, and not its trace, that is directly relevant to the determination of quantificational force. As demonstrated in (118), a bare *ha-* word in a position preceded/c-commanded by a *ha...shi* indefinite is interpreted as indefinite.

(118) Hadínshi hant'é yizkah.
who.UNCERT what 3sg.perf.shoot
Someone shot something.

[32] Additional support for this argument is provided in Section 3.4.4 where it is argued that *doo* is an obligatory binder that can block the potential binding relationship between a *ha-* word and the covert +Wh question operator. An alternative analysis is that interrogative *ha-* words must obligatorily and overtly raise to WhP, but *ha-* words to the right of *doo* are necessarily in lower structural positions.

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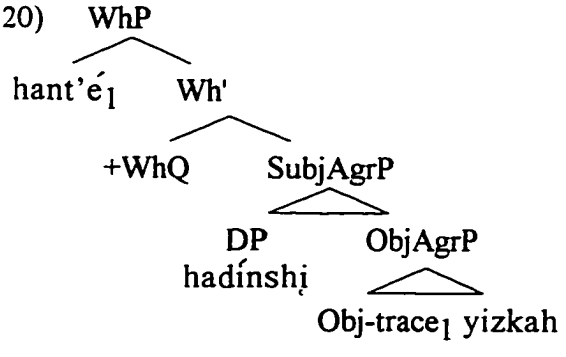
This example indicates that the constituent containing a *ha-* word and its indefinite *shị* binder also qualifies as a binder which can supply an indefinite interpretation to other *ha-* words in its c-command domain. (118) thus parallels examples such as (113) in which a negated DP constituent acts as a polarity binder to *ha-* words within its c-command domain. Also parallel to the negated constituent examples, the bare *ha-* word in (118) receives an interrogative interpretation if it raises to a position not c-commanded by the indefinite *ha...shị* constituent. (119) provides the relevant example.

(119) Hant'é$_i$ hadínshị t$_i$ yizkah ?
what who.UNCERT wh-trace 3sg.perf.shoot
What did someone shoot ?

As illustrated in (120), the *ha...shị* subject in (119) c-commands the trace left by the movement of the *ha-* object but does not c-command the *ha-* word itself. Again, this indicates that it is the actual *ha-* word, and not its trace, that is crucial in the binding relationship which establishes the quantificational force of the *ha-* word.

(120)



3.4.4 Minimality Effects

Examples (235) and (240) demonstrate that bare *ha-* words, typically translated as interrogatives, obligatorily receive polarity/indefinite interpretations when c-

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commanded by polarity/indefinite binders. Section 3.4.2 argues that interrogative force in Western Apache Wh questions is supplied by a covert +Wh operator in the Wh licensing projection. Under the hypothesis that such a covert operator is potentially available in (235) and (240), these examples suggest that it is the closest c-commanding binder to a *ha-* word that supplies that *ha-* word's quantificational force. In other words, a *ha...shi* indefinite or a *doo* constituent, as potential *ha-* binders, block the binding relationship between a lower *ha-* word and a +Wh operator in WhP.

Li (1992) argues for such a Minimality requirement (cf. Chomsky 1986b, Aoun & Li 1989, Rizzi 1990) on the binding of Wh variables in Mandarin Chinese. Consider examples (121) and (122).

(121) Ta yiwei shei xihuan shenme. [Mandarin, Li 1992:138]
he think who like what
He thought somebody liked something.

(122) Ta yiwei shei xihuan shenme ne ? [Mandarin, Li 1992:138]
he think who like what Wh-Q(uestion marker)
i) Who(x), what(y), he thought x liked y ?
ii) *Who(x), he thought x liked something ?
iii) *What(y), he thought somebody liked y ?

Li notes that an indefinite interpretation of Mandarin Wh words is optionally available in clauses subordinate to non-factive verbs such as 'think' (121), but that these indefinite readings are not available if the overt +Wh question marker *ne* is present (122). Li argues that *ne*, as a Wh operator, must necessarily bind at least one Wh word in any sentence. This requirement on *ne*, however, does not explain why both of the embedded Wh words in (122) must be interpreted as interrogative.

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Li proposes that a Minimality requirement holds for the binding relationship between Wh words and their licensors and additionally suggests that while the +Wh question operator *ne* is an obligatory binder, all non-question operators are optional binders. Li argues that example (122) is grammatical with both Wh words interpreted as interrogative because the non-factive verb is not acting as a binder to the Wh words and therefore does not count as a closer binder than the +Wh operator. If either of the embedded Wh words in (122) is interpreted as an indefinite, however, the non-factive verb is necessarily serving as a binder to that Wh word. As a binder, it counts as a closer binder to both of the embedded Wh words than the matrix +Wh question operator and blocks the binding relationship between that operator and the Wh words. Since the +Wh operator must but cannot bind a variable in this case, these readings of (122) are ruled out.[33]

A similar argument can be provided for a Minimality requirement on the binding relationship between the Western Apache *ha-* words and the elements which provide their quantificational interpretation. The *ha-* object in (123), preceded by the negated indirect object constituent, is obligatorily interpreted as a polarity item although the interrogative interpretation of the subject *ha-* word indicates that the covert +Wh operator is present.

---

[33] Note that there is nothing wrong with the cooccurrence of an interrogative Wh word and indefinite Wh word in a Mandarin sentence. Such cooccurrence is possible as long as the indefinite binder does not block the binding relationship between one Wh word and the +Wh operator.

(i)	Shei yiwei ta zuo le shenme le ? who think he do le what le Who thought that he did something ?	(ii)	Shei mei zuo shenme ne ? [Mandarin, Li 1992:143] who not do what Q Who did not do anything ?

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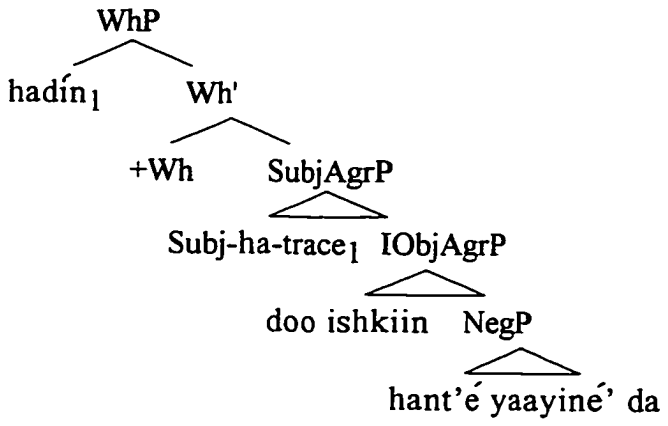
(123) Hadín doo ishkiin hant'é yaayiné' da ?
who NEG boy what 3sg.perf.give NEG
Who didn't give THE BOY anything ?

As illustrated in (124), the negated indirect object constituent, as a *ha-* binder, is the closest binder to the *ha-* object and blocks the potential binding relationship between the object and the covert +Wh operator.[34]

(124)



Given the minimality effects on the binding of *ha-* words as variables, the examples in (125) indicate that the hypothesized covert +Wh operator necessarily surfaces in the matrix complementizer system. The embedded *ha-* objects in (125a) and (125b) are c-commanded by a negated matrix subject and are necessarily interpreted as polarity items. If a +Wh operator could surface in an embedded clause, it would qualify as a closer *ha-* binder than the matrix subject and these examples would be at least optionally interpreted as Wh questions.

[34] It is arbitrarily assumed in (124) that the *ha-* subject has overtly raised to WhP and that IObjAgrP dominates NegP. With respect to the argument for Minimality effects on *ha-* binding, nothing crucial rests on either of these assumptions.

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(125a) Doo isdzan [ishkiin hant'é nayisniih go] ńzı̨h da
NEG woman [boy what 3sg.perf.buy COMP] 3sg.imprf.think NEG
THE WOMAN doesn't think the boy bought anything/something.
[Statement only.]

(125b) Doo isdzan [hant'é$_i$ ishkiin t$_i$ nayisniih go] ńzı̨h da.
NEG woman [what boy wh-trace 3sg.perf.buy COMP] 3sg.imprf.think NEG
i) THE WOMAN doesn't think the boy bought anything/something.
ii) *What doesn't THE WOMAN think the boy bought ?
[Statement only.]

If the embedded *ha-* object overtly raises to a matrix position that is not c-commanded by the negated matrix subject, it does receive an interpretation as an interrogative Wh element (125c).

(125c) Hant'é$_i$ doo isdzan [ishkiin t$_i$ nayisniih go] ńzı̨h da ?
what NEG woman [boy wh-trace 3sg.perf.buy COMP] 3sg.imprf.think NEG
What doesn't THE WOMAN think the boy bought ?
[Question.]

The interpretation of the *ha-* words in examples (125) follows straightforwardly from the hypothesis that the covert +Wh operator obligatorily surfaces in WhP of the matrix clause. Any negated DP that intervenes between the matrix WhP and a *ha-* word, such as the negated subject in (125a) and (125b), qualifies as a closer binder to the *ha-* word and blocks the potential binding by a +Wh operator in matrix WhP.

The examples in (126) provide a similar argument on the basis of the interpretation of embedded *ha-* objects in sentences with matrix *ha...shı̨* indefinites. A *ha-* word is interpreted as an indefinite when under the scope of an indefinite matrix subject regardless of its in situ or raised status internal to the embedded clause.

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(126a) Hadínshị [ishkiin hant'é nayisniih go] ṇ́zịh.
who.UNCERT [boy what 3sg.perf.buy COMP] 3sg.imprf.think
i) Someone thinks the boy bought something.
ii) *What does someone think the boy bought ?
[Statement only.]

(126b) Hadínshị [hant'é$_i$ ishkiin t$_i$ nayisniih go] ṇ́zịh.
who.UNCERT [what boy wh-trace 3sg.perf.buy COMP] 3sg.imprf.think
i) Someone thinks the boy bought something.
ii) *What does someone think the boy bought ?
[Contexts for (i): 'His mom' thinks he bought something. OR You believe the boy has not bought anything in a particular store, but you see a list of people who have bought something and the boys name is on the list.]

The embedded *ha-* word can raise out of the domain of the matrix subject (126c) and establish a binding relationship with the covert +Wh operator in WhP.

(126c) Hant'é$_i$ hadínshị [ishkiin t$_i$ nayisniih go] ṇ́zịh ?
what who.UNCERT [boy wh-trace 3sg.perf.buy COMP] 3sg.imprf.think
What does someone think the boy bought ?
[Question.]

3.4.5 A Note on Existential Closure

Finally, although the conclusions are very tentative, the Western Apache Wh/Indefinite paradigm may provide some evidence relevant to the application of a VP restricted rule of Existential Closure in the binding of bare Wh/*ha-* DP. As discussed in Section 3.3, Cheng (1991) argues that indefinite readings of Mandarin Wh words in yes/no questions, conditionals, and negative sentences are supplied by an abstract existential quantifier inserted by a VP restricted rule of Existential Closure. For Cheng, this explains the absence of indefinite/polarity subject Wh in these contexts. Li (1992), however, suggests that indefinite/polarity subject Wh are possible in yes/no questions and conditionals, and argues that the Wh words in these contexts are bound by the overt

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question/conditional markers themselves. Since the typical instances of non-interrogative *ha-* words in Western Apache are derived via the *shi* and *doo* binders, and since these binders may be generated with *ha-* DP in any grammatical role, the core Western Apache facts provide no evidence for or against VP Existential Closure. The distribution of bare indefinite/polarity *ha-* words in Western Apache conditional clauses, however, is relevant to the debate.

As noted in Section 3.3.3, bare *ha-* objects in conditional clauses can be interpreted as indefinite/polarity expressions although such readings are not readily available for bare *ha-* subjects. Examples (59) and (60), repeated below as (127) and (128), illustrate the basic subject/Object asymmetry in Western Apache conditional clauses.

(127) Hastiin hant'é áyíílaa yúgo shił gozhǫǫ́ doleeł. = (59)
old.man what 3sg.perf.make if 1sg.to 3sg.please FUT
If the old man made something/anything, I'll be happy.
[Possible context: He's been depressed for months, but has recently been talking about making things.]

(128) * Hadín isáá áyíílaa yúgo shił gozhǫǫ́ doleeł. = (60)
who drum 3sg.perf.make if 1sg.to 3sg.please FUT
If who/someone/anyone made a drum, I'll be happy.

It is unclear what provides the indefinite/polarity interpretation of the *ha-* object in (127). The *shi* and *doo* binders are not present, and the conditional marker *yúgo*, which presumably c-commands both the subject and object of the conditional clause, should be able to bind both the subject and object if it can bind either. The subject/Object asymmetry in (127) - (128), however, follows straightforwardly if, in the absence of *shi* or *doo*, an indefinite/polarity interpretation of a *ha-* word is supplied by a rule of

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Existential Closure restricted to some projection between the surface positions of the subject and object. Example (61), repeated here as (129), supports such an analysis.

(129) ?? Isaa hadín áyíílaa yúgo shił gozhǫǫ́ doleeł. = (61)
drum who 3sg.perf.make if 1sg.to 3sg.please FUT
If anyone made a drum, I'll be happy.
[Marginal, but much better than example with *hadín isaa áyíílaa* (60).]

Although example (129) is only marginally grammatical, the subject *ha-* word in the conditional clause does receive an indefinite/polarity interpretation. Crucially, the conditional clause surfaces with OSV word order. Section 5.6 notes that OSV word order is acceptable in certain marked constructions and argues that such examples are derived by the lack of subject raising. Specifically, the VP generated subject argument remains VP internal and does not overtly raise to SubjAgrP. The conditional clause in (129), however, does not constitute one of the marked constructions in which OSV word order is acceptable, and this ordering probably accounts for the marginality of the example. If the OSV word order nevertheless indicates that the *ha-* subject has not raised to the canonical subject position, the indefinite/polarity interpretation of the subject in (129) and the absence of such a reading in (128) clearly motivate the presence of an existential binder provided by a rule of Existential Closure restricted to a projection below the canonical subject position.

In summary, the availability of indefinite readings with *ha-* objects and low *ha-* subjects in (127) - (129) offers some support for the claims in Cheng (1991) and Diesing (1992) that Existential Closure is limited to a 'VP' domain. The overall marginality of bare *ha-* indefinites in Western Apache, the marked status of (249), and the judgment

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variability for subject Wh indefinites in the Mandarin literature, however, detract significantly from the strength of this argument.

3.5 The Syntax of shi

This section explores in greater detail the syntax of the Western Apache particle *shi* briefly discussed in Section 3.1 and Section 3.3. It is argued that *shi* is an X^0 level operator of tentative force. *shi* selects a complement which contains a variable, but is otherwise thematically specified in a sense defined below, and binds that variable. *shi* is associated with a particular projection in the functional hierarchy and may be generated either directly in that projection or in a lower constituent which raises to the *shi* projection for licensing by LF.

3.5.1 The Complement of shi

As noted in Section 3.1, the particle *shi* has two primary functions in Western Apache clauses. As demonstrated in (130), *shi* serves as a postverbal marker of modal possibility.

(130) Hastiin góséé yizkah shi.
old.man dog 3sg.perf.shoot UNCERT
The old man may have shot the dog.

In addition, *shi* serves as binder and provides an indefinite interpretation to *ha-* arguments and adjuncts. Examples (4b) and (6b), repeated here as (131) and (132), illustrate the use of *shi* with *ha-* arguments and adjuncts, respectively.

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(131) Hastiin hant'éshị yiztał. = (4b)
old.man what.UNCERT 3sg.perf.kick
The old man kicked something.
[Possible contexts: You see him kick the television, but when asked you just say 'something'. OR You hear him kick something, but don't see it.]
The old man kicked something.

(132) Hayúshị bił ch'ídagont'aał. = (6b)
where.UNCERT 3sg.to 1pl.fut.teach
We (3+) will teach him somewhere.

Instances of *shị* in preverbal position must immediately follow a *ha-* word. Examples (133) and (134), with *shị* following non-*ha-* subject and object arguments, are ungrammatical. In these cases, *shị* provides neither an indefinite reading to the preceding DP nor a modal possibility interpretation to the clause as a whole.[35]

(133) * Hastiin shị góséé yizkah.
old.man UNCERT dog 3sg.perf.kick
The old man might have kicked the dog.

(134) * Hastiin góséé shị yizkah.
old.man dog UNCERT 3sg.perf.kick
The old man may have kicked the dog.

Section 3.3 argues that *shị* provides an indefinite interpretation to *ha-* words through an operator-variable relationship. By their very nature, operators require variables, and sentences containing an operator without a corresponding variable are ruled out as instances of vacuous quantification. Examples (133) and (134) can thus be ruled out in this manner. *shị*, an operator, is present in (133) and (134), but the DP preceding *shị* do not qualify as variables themselves and do not contain variables. Postverbal instances of

[35] *shị*, as a marker of modal possibility, can also surface immediately following adverbs such as *iskąą* 'tomorrow' which are derived from verbal roots.

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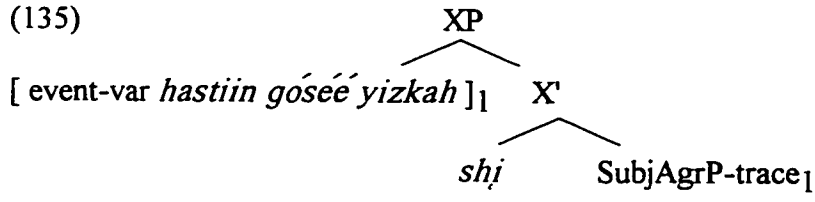
shi as a modal element (130) are grammatical under the assumption that *shi*, as a modal operator, binds the event variable present in a clause.

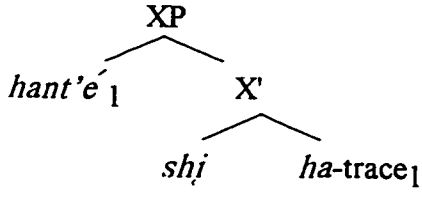
The two uses of *shi* can be unified if *shi* is analyzed as an operator of tentative force. When *shi* binds the event variable of a clause, tentative force is realized as uncertainty with respect to the occurrence of an event. This uncertainty is best expressed in English by modal elements such as 'might'. When *shi* binds the inherent variable of a *ha-* word, tentative force is realized with respect to the identity of the notion referenced by the *ha-* word. *Hadínshi* 'someone', for example, notes that the identity of an individual is unknown or not explicitly stated, while *hayúshi* 'somewhere' indicates similar tentativeness with a location.

The diagrams in (135) and (136) illustrate the essential structure required in the analysis of *shi* as an operator of tentative force within the head-initial approach to phrase structure (Kayne 1994) adopted in Chapter 1. By hypothesis, *shi* selects a complement which contains a variable, either the event variable of a clause or the inherent variable of a *ha-* word, and this complement obligatorily raises to the specifier of *shi*. The identity of the projections in (135) and (136) will be discussed in Section 3.5.2.

(135)



(136)



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There are two additional restrictions, related but presently unexplained, on the complement of *shị*. First, *shị*, as a postverbal modal operator, is incompatible with clauses containing bare *ha-* arguments. As examples (137) and (138) demonstrate, *shị* final clauses including the words *hadín* 'who' and *hant'é* 'what' are ungrammatical, although there is nothing a priori wrong with the potential interpretation of these particular examples as 'Who may have shot the coyote?' and 'What might the old man have shot?', respectively.[36]

(137) * Hadín ma' yizkah shị ?
who coyote 3sg.perf.shoot UNCERT
i) * Who may have shot the coyote ?
ii) * Someone shot the coyote.

(138) * Hastiin hant'é yizkah shị ?
old.man what 3sg.perf.shoot UNCERT
i) * What may the old man have shot ?
ii) * The old man shot something.

This restriction is not due to a general restriction against bare *ha-* words in *shị* clauses, or, to an incompatibility of Wh interrogatives and *shị* clauses. As the examples below indicate, bare *ha-* adjuncts, as interrogative Wh elements, can surface in *shị* clauses.[37]

---

[36] Modal possibility with arguments in Wh questions is indicated with the particle shạ'(i) - (ii) which seems to simultaneously express both uncertainty and interrogation. More generally, shạ' is used to indicate uncertainty in a question (Section 1.6.7.6).

(i) Hadín gosé yizkah shạ' ?
who dog 3sg.perf.shoot QFOC
Who shot the dog ?
Who may have shot the dog ?

(ii) Hastiin hant'é yizkah shạ' ?
old-man what 3sg.perf.shoot QFOC
What did the old man shoot ?
What may have the old man shot ?

[37] Such examples are not generally translated as expressions including modal possibility. This suggests that the uncertainty/tentativeness present in *shị* clauses can also be expressed as interrogation.

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The examples in (139) demonstrate the use of *hagot'ú́go* 'how' in clause initial and clause internal position with postverbal *shi.*

(139a) Hagot'ú́go hastiin ma' yizkah shi ?
how old.man coyote 3sg.perf.shoot UNCERT
By what means/method has the old man shot the coyote ?
[Uncertain if this can be 'how can it be'.]

(139b) Hastiin hagot'ú́go ma' yizkah shi ?
old.man how coyote 3sg.perf.shoot UNCERT
By what means/method did the old man shoot the coyote ?

Similarly, the examples in (140) demonstrate the use of *hayú́* 'where' in clause initial and clause internal position with postverbal *shi.*

(140a) Hayú́ hastiin ma' yizkah shi ?
where old.man coyote 3sg.perf.shoot UNCERT
Where did the old man shoot the coyote ?

(140b) Hastiin hayú́ ma' yizkah shi ?
old.man where coyote 3sg.perf.shoot UNCERT
Where did the old man shoot the coyote ?
[More specifically, 'In what area did the old man shoot the coyote ?' Distinct from sentence with 'where' initial.]

Examples (137) - (140) thus demonstrate an argument/adjunct asymmetry in the distribution of bare *ha-* words in Western Apache *shi* clauses. While bare *ha-* adjuncts may surface in clauses marked by postverbal *shi*, bare *ha-* arguments may not.

The second additional restriction on *shi* complements, clearly related to the first, is that *ha...shi* indefinite arguments are excluded from clauses marked by postverbal *shi.* Examples (141) and (142) demonstrate the ungrammaticality of *ha-* arguments *hadínshi* 'someone' and *hant'éshi* 'something' in *shi* clauses.

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(141) * Hadínshị kịh náágole' shị.
who.UNCERT house 3sg.imprf.build might
Someone might be building a house.

(142) * Hastiin hant'éshị náágole' shị.
old.man what.UNCERT 3sg.imprf.build UNCERT
The old man may be building something.

Parallel to the restriction with bare *ha-* words, the prohibition against *ha...shị* indefinites in *shị* clauses applies only to *ha-* words used as arguments. As examples (143) and (144) demonstrate with *hagot'ugoshị* 'by some means/method' and *hayúshị* 'somewhere', *ha...shị* indefinite adjuncts may surface in clauses marked by postverbal *shị*.[38]

(143) Hastiin hagot'ugoshị kịh náágole' shị.
old.man how.UNCERT house 3sg.imprf.build UNCERT
The old man might be building a house in some way.

(144) Hastiin hayúshị kịh náágole' shị.
old.man where.UNCERT house 3sg.imprf.build UNCERT
The old man might be building a house somewhere.

In summary, bare *ha-* arguments and *ha...shị* indefinite arguments are excluded from *shị* clauses while bare *ha-* adjuncts and *ha...shị* adjuncts are permitted. While argument/adjunct asymmetries surface crosslinguistically with respect to movement, however, it is unlikely that the Western Apache asymmetry in *shị* clauses is directly related to constraints on movement. While the *ha-* adjuncts are freer in distribution in *shị* clauses than their *ha-* argument counterparts, adjunct movement, from a

[38] These examples indicate that the ungrammaticality in (141) and (142) is not due to a constraint against two *shị* particles in one clause.

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crosslinguistic perspective, is typically more constrained than that of arguments.[39] Descriptively then, while the complement of *shi* must include a variable such as the inherent variable of a *ha-* word or the event variable of a clause, the obligatory, selected arguments within the *shi* complement cannot themselves be realized as *ha-* variables. As hypothesized, the former requirement follows from the role of *shi* as an operator and a ban on vacuous quantification. The latter requirement, that the selected thematic arguments within a *shi* complement be specified, i.e., not interrogative or indefinite, is presently unexplained.

3.5.2 The *shi* Projection

Section 3.1.2 introduced a puzzle with respect to the availability of indefinite readings for *ha...shi* adjuncts. While non-sentential *ha-* adjuncts such as *hayú* 'where' receive an indefinite reading in clause initial position, immediately preceding the particle *shi*, the sentential *ha-* adjuncts *hant'éwą* 'for what reason' and *hagot'ú́go* 'how can it be' are interpreted as interrogatives in this same environment. Example (145) demonstrates the clause initial indefinite reading of *hayúshi* 'somewhere'.

(145) Hayúshi hastiin ishkiin yił ch'ígon'ą́ą́.
where.UNCERT old.man boy 3sg.to 3sg.perf.teach
The old man taught the boy somewhere.

[39] Cinque (1990) provides a comprehensive survey of argument/adjunct asymmetries with respect to Wh movement in English and Italian. Cinque notes that adjuncts must undergo successive cyclic movement and are subject to both strong islands (Subject island, Complex NP island, Adjunct island) and weak islands (Wh-Island, Inner island, Factive island, Extraposition island), while arguments may undergo long movement and are subject only to strong islands.

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Examples (9) and (10), repeated here as (146) and (147), demonstrate the interrogative interpretation of the sentential *ha-* adjuncts *hant'éwą* and *hagot'úgo* in clause initial position preceding *shį*.

(146) Hastiin hant'éwąshį ishkiin yił ch'ígon'ą́ą́. = (9)
old.man why.UNCERT boy 3sg.to 3sg.perf.teach
The old man taught the boy in order to accomplish something/for some purpose.

(147) Hastiin hagot'úgoshį ishkiin yił ch'ígon'ą́ą́. = (10)
old.man how.UNCERT boy 3sg.to 3sg.perf.teach
The old man taught the boy by some method.

As noted, the lack of an indefinite reading with *hant'éwą* and *hagot'úgo* is clearly related to the presence of sentential readings for these adjuncts. Examples (11) and (12), repeated as (148) and (149) below, indicate that indefinite readings are readily available for these *ha-* words in their role as VP adverbial elements 'for what purpose' and 'by what means/method'.

(148) Hant'éwą shį hastiin ishkiin yił ch'ígon'ą́ą́? = (11)
why UNCERT old.man boy 3sg.to 3sg.perf.teach
Why did the old man teach the boy ?
[This is a question, not a statement.]

(149) Hagot'úgo shį hastiin ishkiin yił ch'ígon'ą́ą́? = (12)
how UNCERT old.man boy 3sg.to 3sg.perf.teach
How can it be that the old man taught the boy ?
[This is a question, not a statement.]

While the absence of an indefinite *shį* reading is related to the presence of sentential interpretations for these adjuncts, however, the sentential readings themselves are not fundamentally incompatible with non-interrogative interpretations. Example (29),

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repeated below as (150), demonstrates that a non-interrogative polarity interpretation of sentential 'why' is possible in the presence of a preceding negative *doo* marker.

(150) Doo hant'éwą ishkiin itsį' yiłt'ees da. = (29)
NEG why boy meat 3sg.imprf.fry NEG
The boy is not frying the meat for any reason in particular.
[General interpretation of 'why'.]

Example (31), repeated here as (151), demonstrates the corresponding polarity interpretation of 'how' on its sentential reading.[40]

(151) Doo hagot'úgo ishkiin itsį' yiłt'ees da. = (31)
NEG how boy meat 3sg.imprf.fry NEG
There's no way (it can't be) that the boy is frying the meat.

Given the availability of non-interrogative polarity interpretations for sentential *hant'éwą* and *hagot'úgo*, the lack of indefinite readings in the presence of *shį* must follow from some other asymmetry between the sentential adjuncts and their non-sentential counterparts. Section 2.3 provided a distributional argument that the sentential *ha-* adjuncts are generated in a higher structural position than the VP adverbial *ha-* adjuncts. The asymmetry in the availability of indefinite *shį* readings could plausibly follow from this distinction if it is hypothesized that *shį* indefinites must be licensed in a particular projection, and that this projection is accessible to non-sentential *ha-* adjuncts but below the position in which sentential *ha-* adjuncts are generated.

The diagram in (152) provides a brief illustration of the proposal. Sentential *ha-* adjuncts are generated in a high structural position such as the Wh licensing projection

[40] That it is the sentential readings of 'why' and 'how' present in (150) and (151) is clear in comparison with the parallel examples with VP adverbial 'why' and 'how'. See examples (28) and (30).

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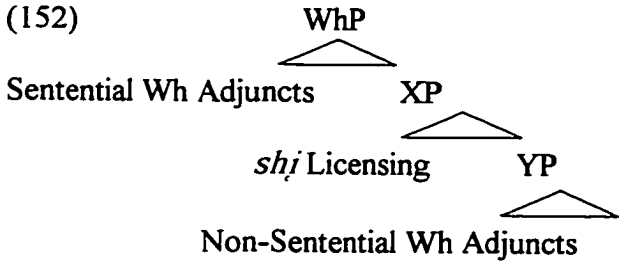
WhP. *ha...shi* adjuncts must be licensed in a lower projection, XP, by movement to that projection but lowering is prohibited.[41] Non-sentential *ha-* adjuncts are generated below the *shi* licensing projection and can raise into that projection.[42]

(152)



Putting aside for the moment questions concerning the identity of the *shi* licensing projection, the base generated position of *shi* particles, and the status of *shi* with sentential *ha-* adjuncts interpreted as interrogatives, there is an additional argument in support of a particular licensing projection for *shi* indefinites. Examples (143) and (144) demonstrated that VP adverbial *ha...shi* adjuncts are acceptable in clauses marked by postverbal *shi*. The adjuncts in (143) and (144), however, surface in clause internal positions following the overt subject. As (153) and (154) demonstrate, the VP adverbial *ha...shi* indefinites cannot surface in clause initial position, preceding an overt subject, in sentences marked by postverbal *shi*.

(153) * Hayúshi hastiin kih náágole' shi.
where.UNCERT old.man house 3sg.imprf.build UNCERT
The old man might be building a house somewhere.

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[41] This approach need only exclude overt movement. Since sentential *ha-* adjuncts are by hypothesis generated above the *shi* licensing projection, lowering in the form of LF Reconstruction will not be able to move these adjuncts to a position dominated by the *shi* projection.

[42] It remains to be explained why an indefinite interpretation is not an option with clause initial 'why' and 'how' since clause initial 'why' and 'how' as interrogatives may receive VP adverbial interpretations. Possibly the sentential readings are highly preferred when 'why' and 'how' are clause initial.

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(154) * Das'áhshị hastiin kịh náágole' shị.
when.nonpast.UNCERT old.man house 3sg.imprf.build UNCERT
The old man might build a house sometime.

Nevertheless, the parallel examples in (155) and (156) with clause initial sentential *ha-* adjuncts and postverbal *shị* are grammatical. In these cases, as in (146) and (147) without postverbal *shị*, the sentential *ha-* adjuncts are interpreted as interrogatives.

(155) Hagot'úgo shị hastiin kịh náágole' shị ?
how UNCERT old.man house 3sg.imprf.build UNCERT
How can it be that the old man is building a house ?

(156) Hant'éwạ shị hastiin kịh náágole' shị ?
why UNCERT old.man house 3sg.imprf.build UNCERT
Why is it that the old man is building a house ?
[This is the more general interpretation of 'why'.]

Note that the ungrammaticality of (153) and (154) is not due to a general restriction against VP adverbial *ha...shị* adjuncts in clause initial position. Clause initial *hayúshị* (157) and *das'áhshị* (158) are perfectly acceptable in the absence of postverbal *shị*.

(157) Hayúshị hastiin kịh náágole'.
where.UNCERT old.man house 3sg.imprf.build
The old man is building a house somewhere.

(158) Das'áhshị hastiin kịh náágole'.
when.nonpast.UNCERT old.man house 3sg.imprf.build
The old man will build a house sometime.

Moreover, the ungrammaticality of (153) and (154) is not due to a general constraint against clause initial VP adverbial *ha-* adjuncts in sentences marked by postverbal *shị*. Although *hayúshị* 'somewhere' and *das'áhshị* 'sometime' are excluded from initial position in clauses with postverbal *shị*, for example, parallel cases with interrogative *hayú* 'where' (159) and *das'áh* (160) 'when' are grammatical.

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(159) Hayú hastiin kịh náágole' shị ?
where old.man house 3sg.imprf.build UNCERT
Where might the old man be building a house ?

(160) Das'áh hastiin kịh náágole' shị ?
when.nonpast old.man house 3sg.imprf.build UNCERT
When might the old man build a house ?

Clearly, it is the simultaneous occurrence of a *shị* particle following a *ha-* adjunct and a *shị* particle in postverbal position that is key to the prohibition against clause initial VP adverbial *ha...shị* adjuncts in (153) and (154).

The ungrammaticality of (153) and (154), as well as the grammaticality of the parallel examples with sentential *ha-* adjuncts, (155) and (156), can be explained in an analysis which maintains the previous hypothesis that *ha...shị* indefinite expressions must be licensed in a particular syntactic projection. The analysis requires the additional assumption that clause initial VP adverbial *ha...shị* adjuncts have overtly raised to that licensing projection.[43] In grammatical sentences such as (157) with clause initial *hayúshị* and no postverbal *shị* particle, for example, *hayúshị* achieves a clause initial position by overtly raising to the *shị* licensing projection. (161) illustrates the proposed derivation. Since clause initial *ha...shị* adjuncts necessarily precede an overt subject, this analysis entails that the *shị* licensing projection dominates the overt position of the subject.

(161) *shị*-Licensing-Projection

hayúshị$_1$ SubjAgrP

hastiin ha-trace$_1$ *kịh náágole'*

[43] The possibility that VP adverbial *ha-* adjuncts may be generated directly in the *shị* licensing projection will not be considered. Section 5.5 provides an argument that VP adverbial *ha-* adjuncts are generated below the overt subject position.

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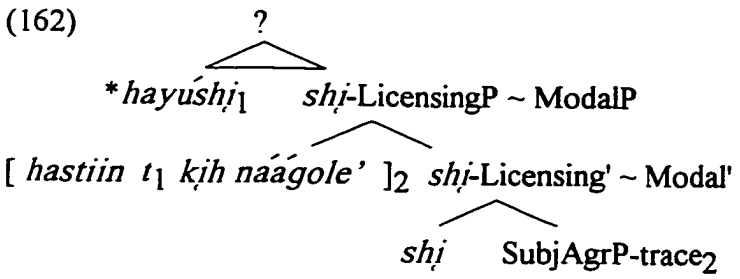
In examples such as (153) where a clause initial VP adverbial *ha...shi* indefinite is prohibited, the *shi* licensing projection must be unavailable to the indefinite. As (162) illustrates, the *shi* projection in such cases would be occupied by the complement of postverbal *shi* if *shi*, as a modal expression, is overtly realized as the head of the *shi* licensing projection itself.

(162)



Since the derivation in (162) is excluded, it must be the case that either *ha...shi* indefinites can raise only to *shi*-LicensingP and movement to some higher projection is prohibited, or, that *ha...shi* indefinites are licensed only in a position dominated by the *shi* licensing projection. Under the first approach, *hayúshi* may be licensed in (162), perhaps indirectly via its trace, but the derivation is excluded because *ha...shi* indefinites are not subject to a general movement operation. Under the second approach, while *ha...shi* indefinites may in principle raise beyond the *shi* projection, *hayúshi* in (162) is not dominated by *shi*-LicensingP and is therefore not licensed. As with the bare *ha*-words discussed in Section 3.3, the overt position of the *ha...shi* indefinite itself, and not that of its trace, is crucial in licensing and interpretation.

Clause internal *ha...shi* indefinites in sentences marked by postverbal *shi* are licensed either because they are specifically included within the constituent in the specifier of the *shi* licensing projection, or, simply in a position overtly dominated by the *shi* licensing projection. The diagram in (163) illustrates the essential analysis of example

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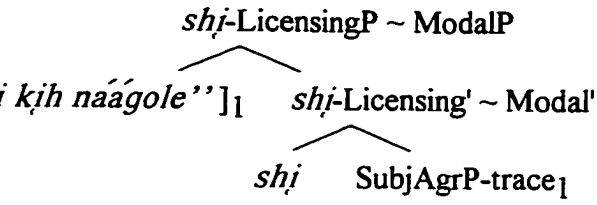
(144) with *hayúshi* 'somewhere' in a clause internal position in a sentence marked by postverbal *shi*.

(163)



As clause initial sentential *ha-* adjuncts are grammatical, as interrogatives, preceding *shi* in sentences simultaneously marked by postverbal *shi* (155) - (156), and as these adjuncts are generated, by hypothesis, above the *shi* licensing projection, the *shi* projection is arguably only relevant to *shi* constituents interpreted as indefinites. This explains the grammaticality of (155) and (156), in which the sentential *ha-* adjuncts are interpreted as interrogatives, as opposed to the ungrammaticality of the corresponding sentences with non-sentential *ha-* adjuncts interpreted as indefinites (153) - (154). The status and origin of the *shi* particle following the sentential *ha-* adjuncts in the former examples, however, remains unexplained.[44]

Section 3.5.1 argues that *shi* is an X^0 level operator of tentative force that selects a complement containing a variable, either the inherent variable of a *ha-* word or the event variable of a clause. As *shi* always follows its complement, the complement necessarily raises to the specifier position of the phrase projected by *shi*. When *shi* takes

[44] Possibly *shi* generated directly as the head of ModalP are not restricted from movement to higher positions. Alternatively, the lack of a modal possibility interpretation in (155) and (156) may indicate that *shi* in these cases is serving a role distinct from its use as either a modal expression or indefinite marker. Finally, it is also possible that the structures for (155) and (156) are complex in that the *shi* following the sentential *ha-* adjuncts is associated with a *shi* licensing projection independent of the projection in which the postverbal *shi* is realized.

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a *ha-* word complement, such as the locative expression *hayú*, the *shi* phrase, in this case *hayúshi* 'somewhere', is interpreted as a nominal expression. In this use, *shi* behaves as a determiner like, quantificational element.

(164) DP/QP

hayú $_1$ D'/Q'

shi LocNP-trace$_1$

Sentences in which *shi* takes the clause as complement and surfaces postverbally (130), are interpreted with modal possibility. In this use, *shi* behaves more like a modal element occupying a particular position within the functional hierarchy projected above the VP than like a determiner.

(165) ModalP

[*hastiin gośéé yizkah*]$_1$ Modal'

shi SubjAgrP-trace$_1$

The proposed analysis of the interaction between *shi* and the *ha-* adjuncts equates the *shi* licensing projection for *ha...shi* indefinites with the modal phrase projected by postverbal *shi*. This approach essentially equates the *shi* Licensing Projection for *ha...shi* indefinites with the Modal Phrase projected by postverbal *shi*. *shi* can thus be viewed as an element which either surfaces directly with a constituent such as a *ha-* NP and ultimately forces that NP to raise to the specifier of ModalP for licensing, or, as an element which surfaces directly as the head of ModalP and requires its clausal complement to raise to specifier position. As noted, in its constituent use, *shi* behaves essentially as a determiner taking an NP complement, while in its modal use, *shi* behaves

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essentially as a clausal functional head taking a clausal functional projection as complement. The nature of the phrase projected by *shị* is thus determined primarily by the nature of the complement *shị* takes.

There are two related analyses of the categorial status of *shị*. First, *shị* could be analyzed as a syntactic head with particular features but no specific categorial identity. In this approach, the principle features of *shị* are its status as an operator, its selection of a complement containing a variable, and its projection of a phrase interpreted with tentative force realized as indefiniteness or modal possibility. *shị* is not identified as a determiner, modal head, or any other particular syntactic entity. While this analysis is unusual in that it specifically denies a particular categorial status to *shị* as a head, it is not implausible. Recent works, most notably Beghelli & Stowell (1995, 1996), argue for a Landing Site selective theory of movement where a given constituent, based on its specificity, definiteness, quantificational nature, and a variety of other featural properties, must raise for featural licensing and targets a unique projection or series of projections as it raises. Since quantifiers and determiners often determine the featural status of NP constituents, these elements dictate to which projections a given NP may raise. Overt functional heads/complementizers serve as overt markers of those projections. From this perspective, the difference between a clausal functional head and a determiner is minimal. While determiners are generated with their NP arguments and clausal functional heads are generated in projections above the VP, both elements serve to mark the landing sites available to an NP as it raises.[45]

[45] Sportiche (1997) proposes a more radical approach in which determiners are generated as heads of clausal functional projections, discontinuous from the VP internal, base generated position of their NP arguments. The NP arguments raise to the determiner projections during syntactic derivation.

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The alternative approach to the categorial status of *shi*, that does not deny the privative existence of syntactic categories, is that there are two independent but related *shi* morphemes, one a determiner, the other a modal head. While the two *shi* select distinct complements, each is realized as an operator of tentative force with those complements. This approach is also plausible. Languages generally exhibit two means of expressing quantification. Partee, Bach, and Kratzer (1987) identify these two means as D-quantifiers, adnominal expressions such as 'every' and 'most' which behave like determiners and modify NP arguments, and A-quantifiers, adverbial elements such as 'always' and 'mostly' which form a constituent with projections in the functional hierarchy generated above the verb. Relationships clearly exist between D-quantifiers and A-quantifiers. In English, for example, the A-quantifier, or adverb of quantification in the sense of Lewis (1975), 'sometimes' is obviously based on the D-quantifier 'some'.[46] For Western Apache, this analysis essentially claims that *shi* is ambiguous between an A-quantifier and a D-quantifier, but both elements are expressions of tentative force associated with a particular position in the functional hierarchy.

3.5.3 The Movement of *ha...shi* Indefinites

Given the hypothesis that *ha...shi* indefinites must ultimately raise to Spec ModalP, this section considers at what stage of derivation such movement can or must take place. Note first that *ha...shi* indefinites can undergo overt raising. Example (166) illustrates the canonical object position of an object *ha-* indefinite, and example (167) demonstrates that this indefinite object can surface in a position above the subject as well.

[46] Also, Bittner (1995) and Evans (1995) include some discussion of A-quantifier/D-quantifier relationships.

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As discussed in Section 2.2, such positional variation is available to *ha-* words used as Wh interrogatives but not possible with non-*ha-* DP.

(166) Hastiin hant'éshị yiztał.
old.man what.UNCERT 3sg.perf.kick
The old man kicked something.

(167) Hant'éshị hastiin yiztał.
what.UNCERT old.man 3sg.perf.kick
i) Something (an animal) kicked the old man.
ii) The old man kicked something (animate or inanimate).
[Possible context for (ii) - It was in the dark, he didn't see it, but we know from noise he kicked something - e.g. a can that rattles. For (i) - Need to imagine an animal that can kick - e.g. a kangaroo.]

Examples (168) and (169) demonstrate that an embedded *ha...shị* indefinite object may raise to a matrix initial position.[47]

(168) Hastiin isdzan hant'éshị náágolaa go ṇyígołsịh.
old.man woman what.UNCERT 3sg.perf.build COMP 3sg.imprf.know
The old man knows that the woman built something.
[Something = 'something or other' or e.g. 'a house'.]

(169) Hant'éshị hastiin isdzan náágolaa go ṇyígołsịh.
what.UNCERT old.man woman 3sg.perf.build COMP 3sg.imprf.know
The old man knows that the woman built something.
[Something = 'something or other' - she came home in a tractor. or e.g. 'a house'.]

Again, such positional variation is not possible with non-*ha* DP (170) but acceptable with *ha-* words used as Wh interrogatives (171).

[47] Given the discussion of *ha-shị* licensing in the preceding section, it must be assumed that *ha-shị* indefinites raised out of embedded clauses raise to positions licensed by the Modal projection of the matrix clause. No distinction in specificity between raised and in situ *ha-shị* indefinites has been noted.

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(170) ?* Kịh hastiin isdzan náágolaa go ṇyígołsịh.
house old.man woman 3sg.perf.build COMP 3sg.imprf.know
The old man knows that the woman built the house.

(171) Hant'é hastiin isdzan náágolaa go ṇyígołsịh.
what old.man woman 3sg.perf.build COMP 3sg.imprf.know
What does the old man know that the woman built ?

These examples suggest that *ha...shị* indefinites may overtly raise to/through the Modal projection of their base generated clause and optionally on to/through Modal projections in clauses dominating the based generated clause. The ultimate landing site and motivation for such movement is presently unknown, and the superficially optional nature of the movement is as problematic for a Minimalist approach as is the optional nature of Wh movement discussed in Section 2.2.[48]

While it is clear that *ha...shị* indefinites can overtly raise, it cannot be directly determined if these elements obligatorily raise overtly. Given that multiple *ha...shị* indefinites may be present in a clause[49] and these elements need not be adjacent (172) -

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[48] It is not known if the overt position of a *ha-shị* indefinite correlates directly with its specificity/scope although Mr. Dawson has not suggested any variation in meaning based on position.

[49] It is curious, however, that sentences with multiple adjacent *ha-shị* indefinites are deemed marginal to ungrammatical.

(i) ?? Hadínshị hant'éshị náágole'.
who.UNCERT what.UNCERT 3sg.imprf.build
Someone is building something.

(ii) ?? Hadínshị hant'éshị náágolaa.
who.UNCERT what.UNCERT 3sg.perf.build
Someone built something.

Adjacent *ha-* indefinites are possible if one *ha-* word is marked by the question focus particle *shạ'*. Such examples, however, are necessarily interpreted as questions.

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(173), it is unlikely that all *ha...shi* indefinites must overtly raise to Spec ModalP. While *hadínshi* 'someone' in (172) is possibly situated in Spec ModalP, for example, the lower indefinite *hant'éshi* 'something' is separated from that position by the indirect object constituent.

(172) Hadínshi ishkiin hant'éshi yaayiné'.
who.UNCERT boy what.UNCERT 3sg.perf.give
Someone gave the boy something.

(173) Hadínshi iskaa hant'éshi náágole'.
who.UNCERT tomorrow what.UNCERT 3sg.imprf.build
Someone will build something tomorrow.

Moreover, an obligatorily overt movement approach to *ha...shi* indefinites faces all of the problems faced by the related approach to overt Wh movement discussed in Section 2.2 (see also Chapter 7). *ha...shi* indefinite adjuncts, for example, may surface in any preverbal position relative to the overt DP arguments of a clause. An overt movement analysis would require the presence of massive DP topicalization to explain (174) - (176) if the *ha...shi* indefinite is in the same position in each example.

(iii) Hadínsha' hant'éshi náágolaa ...
who.QFOC what.UNCERT 3sg.perf.build
I wonder if somebody built something.

(iv) Hadínshi hant'ésha' náágolaa ...
who.UNCERT what.QFOC 3sg.perf.build
I wonder if somebody built something.

One additional instance of multiple adjacent *ha-* indefinites is example (118), repeated here as (v). The bare *ha-* word below the *ha-shi* adjunct is interpreted within the domain of the *shi* binder.

(v) Hadínshi hant'é yizkah.
who.UNCERT what 3sg.perf.shoot
Someone shot something.

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(174) Hayúshị hastiin kịh náágole'.
where.UNCERT old.man house 3sg.imprf.build
The old man is building a house somewhere.

(175) Hastiin kịh hayúshị náágole'.
old.man house where.UNCERT 3sg.imprf.build
The old man is building a house somewhere.

(176) Hastiin hayúshị kịh náágole'.
old.man house 3sg.imprf.build where.UNCERT
The old man is building a house somewhere.

Finally, there is one additional paradigm to consider with respect to *ha...shị* indefinite movement. Section 2.2.4 notes that Western Apache *ha-* words, used as interrogative Wh elements, cannot surface as conjuncts in a coordinate DP. As coordinate structures crosslinguistically create a barrier to movement, this fact was argued as evidence in favor of Wh Movement, possibly delayed until LF, in Western Apache. As the examples below indicate, however, *ha...shị* indefinites can be used as conjuncts in coordinate DP. (177) - (178) illustrate that *hadínshị* 'someone' is acceptable as either left or right conjunct in a coordinate subject. A good context for these examples is that of a detective examining clues and creating hypotheses at a lakeside scene.

(177) Hadínshị k'eh nailín tsina'eeł ádayizlaa.
who.UNCERT and girl boat 3dl.perf.make
Someone and the girl made a boat.
[Possible context: Detective examines scene ... girl's unique shoe prints and big work boot prints in mud by newly built boat.]

(178) Hastiin k'eh hadínshị tsina'eeł ádayizlaa.
old.man and who.UNCERT boat 3dl.perf.make
The old man and someone made a boat.
[Same possible context as with *hadínshị k'eh hastiin* (177).]

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Examples (179) and (180), also best interpreted within a detective context, illustrate that *hant'éshị* 'something' is acceptable as either left or right conjunct in a coordinate object.

(179) Hastiin hant'éshị k'eh isaa áyíílaa.
old.man what.UNCERT and drum 3sg.perf.make
The old man made something and a drum.
[Possible context: Two workshop boxes, one is open and has a drum in it, one is closed but obviously full.]

(180) Hastiin tsina'eeł k'eh hant'éshị áyíílaa.
old.man boat and what.UNCERT 3sg.perf.made
The old man made a boat and something.
[Same possible contexts as with *hant'éshị k'eh isaa* (179).]

Since movement out of a coordinate structure is prohibited, these examples suggest that if *ha...shị* indefinites obligatorily raise, overtly or at LF, a larger constituent containing the indefinite may be pied-piped to the licensing projection as well.[50] In a sense, the coordinate DP in (177) - (180) take on the feature of an indefinite through their inclusion of an indefinite.[51] Alternatively, these examples may indicate that although *ha...shị*

[50] What remains to be explained is why such pied-piping is not possible with *ha-* words interpreted as Wh interrogatives. Possibly the distinction follows from the distinct structural relationships between *ha-* words and interrogative/indefinite binders. *shị*, as binder, is present within the coordinate NP, but the +Wh question operator which binds *ha-* words as Wh elements is by hypothesis in a complementizer projection above the canonical position of subject and object arguments.

[51] The restriction against *ha-shị* arguments in a clause marked by postverbal *shị* extends to cases where the *ha-shị* indefinite is a conjunct within an NP argument.

(i) * Hadínshị k'eh nailín tsina'eeł ádayizlaa shị.
who.UNCERT and girl boat 3dl.perf.make UNCERT
Someone and the girl may have made a boat.

(ii) * Hastiin k'eh hadínshị tsina'eeł ádayizlaa shị.
old.man and who.UNCERT boat 3dl.perf.make UNCERT
The old man and someone may have made a boat.

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indefinites may raise, they do not need to raise. If *ha...shi* indefinites only optionally raise to Spec ModalP, however, *ha...shi* licensing cannot be restricted to the Spec ModalP position. From this perspective, *ha...shi* indefinites must be licensable in any position dominated by the ModalP licensing projection.

(iii) * Hastiin hant'éshi k'eh isaa áyíílaa shi.
old.man what.UNCERT and drum 3sg.perf.make UNCERT
The old man may have made something and the drum

(iv) * Hastiin tsina'eeł k'eh hant'éshi áyíílaa shi
old.man boat and what.UNCERT 3sg.perf.build UNCERT
The old man may have made the boat and something.

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CHAPTER 4

MULTIPLE WH QUESTIONS

In this chapter, I explore the distribution and interpretation of the Western Apache *ha-* words in their role as interrogative elements in multiple Wh questions. In Section 4.1, I introduce Western Apache multiple Wh questions and discuss the availability of pair-list interpretations for these constructions. In Section 4.2, I demonstrate that the Wh words in a multiple Wh question need not be adjacent and discuss the implications for the obligatorily overt analysis of Western Apache Wh movement presented in Section 2.2. In sections 4.3 and 4.4, I examine ordering constraints between the Wh words in multiple Wh questions and demonstrate the presence of both Superiority (Chomsky 1973) and Anti-Superiority (Saito 1982, 1992, A. Watanabe 1992) effects. In Section 4.5, I briefly summarize several of the approaches to Superiority and Anti-Superiority in the literature and argue for an analysis of the Western Apache effects as Weak Cross Over phenomena following proposals for English, Japanese, and Chinese in Hornstein (1995).

4.1 The Interpretation of Multiple Wh Questions

The brief description of Western Apache verbal morphology provided in Section 1.5 notes that dual and plural 3rd person subjects obligatorily require either an inherently dual or plural verbal root, or the distributive/plural prefix *da-*.[1] Examples (1) and (2) demonstrate the obligatorily singular reading of subjects in the absence of dual/plural

[1] As also noted in Section 1.5, 1st and 2nd person dual/plural subject prefixes are distinct from their singular counterparts. Only 1st and 2nd person plural subjects require the *da-* prefix.

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verbal morphology. As discussed in Section 1.5, there is no prefix for 3rd person subjects in Western Apache. The verb stem *yiztaɬ* in (1) includes the canonical 3rd person object marker *yi-* and the root *taɬ* which is unmarked for number.

(1) Ishkiin ma' yiztaɬ.
boy coyote 3sg.perf.kick
The boy kicked the coyote.
[1 boy, 1 coyote]

The verb stem *naágole'* in (2) includes the object marker *go-* present with actions/objects that refer to a place or area (cf. Hoijer 1945a, Young & Morgan 1992:851 Navajo *ho-*), and the root *le'* which is unmarked for number.

(2) Ishkiin ḳih náágole'.
boy house 3sg.imprf.build
The boy is building a house.
[1 boy, 1 house]

Examples (3) and (4) demonstrate the plural subject reading present with verb stems for 'kick' and 'build' including the distributive/plural prefix *da-*. Note that in each example subject plurality can be interpreted as distributive, where two or more boys independently engage in separate 'kicking' or 'building' actions, or collective, where two or more boys as a group engage in the actions.

(3) Ishikín ma' dayiztaɬ.
boys coyote 3dl/pl.perf.kick
i) Each boy (2+) kicked a (possibly different) coyote.
ii) The boys (group) kicked a (one) coyote.

(4) Ishikín ḳih náádagole'.
boys house 3dl/pl.imprf.build
i) The boys are building (possibly different) houses.
ii) The boys (together) are building a house.

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When the subject in these examples is replaced by a *ha-* word, such as *hadíń* used as interrogative 'who', the resulting questions can be interpreted with distributive/plural subjects in the absence of the distributive/plural prefix *da-*. Example (5), 'who kicked the/a coyote?', could be posed to a group of people and it would be felicitous for several individuals to respond 'yes', each having kicked a potentially different coyote. Similarly, (6), 'who is building a house?', could be answered by several people, each of which could be building a different house.[2]

(5) Hadíń ma' yiztaɬ ?
who coyote 3sg.perf.kick
Who kicked the/a coyote ?
[1 person - which one of you. OR Several people could answer, i.e., I kicked the spotted one, I kicked the brown one, etc.]

(6) Hadíń ḳih náágole' ?
who house 3sg.imprf.build
Who is building a house ?
[Could pose this question to group, e.g., to a group of 5 people and 3 could answer yes, each could be building his own house.]

These distributive/plural interpretations, in the form of pair-list readings, are available in multiple Wh questions as well. Example (7) illustrates the multiple Wh counterpart of (6). The question in (7), 'who kicked what?', could be answered by simultaneously identifying several different people who kicked something and the

[2] The translations and contexts provided for plural subject readings in Wh questions with singular verbal morphology suggest only the distributive reading is available. Future work should investigate the availability of collective plural readings in Wh questions with and without dual/plural verbal morphology.

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potentially different object that each of those people kicked. A similar pair-list interpretation is present with (8), 'who is building what?'.[3]

(7) Hadín hant'é yiztał ?
who what 3sg.perf.kick
Who kicked what ?
Who kicked something ?
[I kicked the coyote. Posed to a group, several could answer, each could have kicked something different. Possibly also 'who kicked something?']

(8) Hadín hant'é náágole' ?
who what 3sg.imprf.build
Who is building what ?
[If posed to a group, each person responding could answer with a different item.]

4.2 The Position of Wh Arguments in Multiple-Wh Questions

As discussed in Section 2.2.5, it is unclear whether *ha-* words, interpreted as interrogatives, must obligatorily and overtly raise to the Wh licensing projection. Superficially, the *ha-* words may appear in a variety of surface positions, but it is difficult to determine if this distribution is due to optional application of a Wh movement operation, or obligatory Wh movement and optional topicalization of non-*ha* DP. As the examples below demonstrate, however, the Wh elements in a multiple Wh question in Western Apache need not be adjacent. This suggests that not all Wh words in a Wh question must overtly raise to WhP, although it leaves open the possibility that one Wh word must do so.

[3] Since *náágole'* includes the area object prefix *go-*, the items being built must necessarily be items that occupy a space/area such as the various types of buildings and dwellings.

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Examples (9) and (10) demonstrate that temporal and locative adverbial expressions may intervene between overt subject and object arguments in a non-interrogative construction.

(9) Hastiin iskąą kịh náágole'.
old.man tomorrow house 3sg.imprf.build
The old man will build the house tomorrow.

(10) Hastiin túbąąyú kịh náágole'.
old.man river.at house 3sg.imprf.build
The old man is building a house near the river.

Temporal (11) and locative (12) adverbials may also intervene between Wh subject and Wh object arguments in a multiple Wh question.

(11) Hadíń iskąą hant'é náágole' ?
who tomorrow what 3sg.imprf.build
Who will build what tomorrow ?

(12) Hadíń túbąąyú hant'é náágole' ?
who river.at what 3sg.imprf.build
Who is building what by the river ?

While it is possible that the initial Wh word, *hadíń*, in these examples is overtly situated in the Wh licensing projection, it is highly improbable that the second Wh word, *hant'é*, separated from *hadíń* by a -Wh adverbial constituent, is also in that projection.

Multiple Wh words in a Wh question may also be separated from each other by non-Wh DP arguments. In multiple Wh questions with ditransitive clauses, for example, subject and object Wh words may be separated from each other by an intervening non-Wh indirect object (13). As non-Wh arguments are excluded from the Wh licensing

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projection, it is impossible for two Wh words separated by a non-Wh argument to simultaneously occupy that projection.

(13) Hadín ishkiin hant'é yaayiné' ?
who boy what 3sg.perf.give
Who gave the boy what ?
[Could answer: Earl - acorn, John - berries. Cannot answer with just 'Earl'. Cannot answer with just 'acorn'.]

As noted in Section 2.2.3, a Wh object in a ditransitive clause may raise from its canonical position below the indirect object to either a position preceding the subject or a position intermediate between the subject and indirect object. Examples (14) - (16), repeated from Section 2.2.3 demonstrate the basic ditransitive Wh paradigm.

(14) Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
What did the woman give to the boy ?

(15) Hant'é isdzan ishkiin yaayiné' ?
what woman boy 3sg.perf.give
What did the woman give to the boy ?

(16) Isdzan hant'é ishkiin yaayiné' ?
woman what boy 3sg.perf.give
What did the woman give to the boy ?

The proposed analysis of raising the Wh object to an intermediate position between subject and object, within an approach in which Wh movement to WhP is obligatorily overt, held that *hant'é* in (16) was overtly in WhP but that the subject *isdzan* had topicalized to a position above WhP. With this analysis in mind, note that the intermediate Wh object position is also available in a multiple Wh question with a Wh subject (17).

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(17) Hadín hant'é ishkiin yaayiné' ?
who what boy 3sg.perf.give
Who gave the boy what ?

An analysis which derives the intermediate position of Wh objects in ditransitive examples such as (16) through overt movement to the Wh licensing projection also requires that the Wh object in (17) be in that projection. Given the discussion of examples (9) - (13), however, it is unlikely that both *hadín* and *hant'é* in (17) are overtly situated in the Wh licensing projection. As (18) illustrates, a temporal adverb may intervene between the clause initial Wh subject and the 'intermediately positioned' Wh object.

(18) Hadín adąądą́' hant'é ishkiin yaayiné' ?
who yesterday what boy 3sg.perf.give
Who gave the boy what yesterday ?

Example (18) thus suggests that Wh objects may surface in a position intermediate between subject and indirect object without necessarily raising to WhP. The possibility of raising to positions below WhP challenges, but does not preclude, the analysis of Western Apache Wh movement as obligatorily overt.[4]

4.3 Ordering Constraints on Wh Arguments

Sections 2.2 and 2.3 demonstrate that the Western Apache *ha-* words, in their role as Wh interrogatives, exhibit some freedom with respect to their surface distribution. In particular, Wh expressions in Western Apache may surface in situ or raise to positions above their base generated, in situ positions. The previous section further illustrates that

[4] It might be argued, for example, that *hant'é* is in WhP in (16) although only *hadín* occupies WhP in (18). Alternatively, the obligatorily overt Wh Movement analysis may be maintained if it can be demonstrated that *hant'é* in (18) is in WhP while *hadín* occupies some higher projection.

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at least some of this positional freedom is maintained in multiple Wh questions. The distribution of a given Wh argument or adjunct in a multiple Wh question, however, is more constrained than that of the same Wh argument or adjunct in a question, otherwise parallel, in which it is the only Wh element. This section and Section 4.4 demonstrate that ordering restrictions hold between the various Wh words present in a multiple Wh question. These constraints are similar in nature to Superiority constraints (Chomsky 1973) and Anti-Superiority constraints (A. Watanabe 1992) discussed at length in the literature for a variety of other languages. Section 4.5 summarizes several of the prominent approaches that have been proposed for these constraints and notes the implications of the Western Apache paradigm to the debate. As the distinction between Superiority and Anti-Superiority effects is largely a theoretical artifact, however, the data summary below will highlight the original analyses of these phenomena as aspects of the Empty Category Principle (Jaeggli 1980, Chomsky 1981, Aoun, Hornstein & Sportiche 1981).

4.3.1 Superiority Effects

As noted in Section 4.1, multiple Wh questions are possible in Western Apache and may be interpreted as pair-list constructions. Examples (19) and (20) illustrate straightforward multiple Wh questions with the transitive verbs 'build' and 'kick'.

(19) Hadín hant'é náágole' ?
who what 3sg.imprf.build
Who is building what ?

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(20) Hadíń hant'é yiztał ?
who what 3sg.perf.kick
i) Who kicked what ?
ii) *What kicked who ?
[Person/people doing the kicking.]

Also previously discussed (Section 2.2.1), Wh objects in Western Apache may raise to positions preceding the overt subject argument. Examples (21) and (236) illustrate Wh object raising in transitive clauses with 'build' and 'kick'.

(21) Hant'é hastiin náágole' ?
what old.man 3sg.imprf.build
What is the old man building ?

(22) Hant'é hastiin yiztał ?
what old.man 3sg.perf.kick
What did the old man kick ?

Wh object raising is prohibited in these examples, however, if the subject is itself a Wh word. Examples (23) and (24) are the multiple Wh counterparts of (21) and (22), respectively. Since examples (19) and (20) demonstrate that these sentences are not inherently unacceptable as multiple Wh questions, the ungrammaticality in (23) and (24) must follow from the raising of the Wh object past the Wh subject.[5]

(23) * Hant'é hadíń náágole' ?
what who 3sg.imprf.build
Who is building what ?
[Meaning interpretable, but sentence not ok on any reading. 'What is someone building?' probably not ok either.]

[5] The relevant, and ungrammatical, reading for (24) is with *hant'é* 'what' as raised object and *hadíń* 'who' as subject. The sentence is acceptable, as indicated, with 'what' interpreted as subject and 'who' as object. In this case, however, the Wh object has not raised past the Wh subject.

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(24) Hant'é hadín yiztał ?
what who 3sg.perf.kick
i) What (animal) kicked who ?
ii) * What did who kick ?

A similar constraint is present with extraction from embedded clauses. As noted in Section 2.2.2, a Wh phrase in Western Apache may surface in situ in an embedded clause (25) or raise to a clause initial position preceding the matrix subject (26).

(25) John Earl hant'é nyízkah go ṇ́zịh ?
John Earl what 3sg.perf.shoot COMP 3sg.imprf.think
What does John think Earl shot ?

(26) Hant'é John Earl nyízkah go ṇ́zịh ?
what John Earl 3sg.perf.shoot COMP 3sg.imprf.think
What does John think Earl shot ?

The raising of an embedded Wh object to a matrix initial position is prohibited, however, if the embedded subject is a Wh element (27).

(27) * Hant'é John hadín nyízkah go ṇ́zịh ?
what John who 3sg.perf.shoot COMP 3sg.imprf.think
* What does John think who shot ?

The ungrammaticality in (27) necessarily follows from the movement of the Wh object across the Wh subject, since multiple Wh questions in embedded contexts are possible if such movement does not occur (28).

(28) John hadín hant'é nyízkah go ṇ́zịh ?
John who what 3sg.perf.shoot COMP 3sg.imprf.think
Who does John think shot what ?

The judgments for the Western Apache examples discussed above parallel those given for the equivalent set of examples in a variety of other languages. In English for

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example, while multiple Wh questions are possible (29a), and Wh objects may typically raise to positions preceding the subject argument (29b), the grammaticality of such movement is markedly degraded if the subject argument is itself a Wh word (29c).[6]

(29a) Who bought what ?

(29b) What did Tom buy ?

(29c) ?* What did who buy ?

Chomsky (1973) discusses examples such as these and suggests they motivate a 'Superiority' condition on syntactic operations. This condition, defined in (30), essentially requires that if a syntactic rule ambiguously applies to two different elements it must apply to the element that is in a hierarchically superior position.

(30) Superiority Condition: No rule can involve X, Y in the structure
...X...$[_a$...Z...-WYV...]...
where the rule applies ambiguously to Z and Y and Z is superior to Y.

In the Western Apache and English Wh questions presented above, the relevant rule is the Wh Movement operation which raises a Wh phrase to a clause initial position. Since subject Wh phrases are in a projection which dominates the overt position of object Wh phrases, this movement operation, in accordance with the Superiority Condition, must apply to the subject when both subject and object are Wh elements. Examples (23), (24),

[6] The degree to which these sentences are degraded varies from speaker to speaker. Equivalent constructions in embedded contexts (iii) are completely ungrammatical.

(i) I wonder who bought what.
(ii) I wonder what Tom bought.
(iii) * I wonder what who bought.

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and (27), in which the Wh movement operation applies to the Wh object rather than the Wh subject, thus violate the Superiority Condition and are ungrammatical.

4.3.2 The Alleviation of Superiority Effects

As discussed in most works which address 'Superiority' phenomena, Superiority violations present in sentences with two Wh phrases can be alleviated by the addition of a third Wh phrase.[7] The examples in (31) are taken from Chomsky (1981). The raising of the Wh object to initial position in the embedded clause, past the embedded Wh subject, violates Superiority in (31a). The grammaticality of the example greatly improves, however, when an additional Wh phrase is present in the embedded clause (31b).

(31a) * John wonders what who bought at the store.

(31b) John wonders what who bought where.

The possible analyses of these examples, as well as the canonical Superiority violations presented above, will be discussed in Section 4.5. Note at this point, however, that Western Apache Superiority violations present with two Wh phrases are similarly alleviated by the addition of a third Wh phrase to the clause. Examples (23) and (24), repeated here as (32) and (33), violate the Superiority Condition in that a Wh object has raised past a Wh subject.

(32) * Hant'é hadín náágole' ? = (23)
what who 3sg.imprf.build
Who building is building what ?
[Meaning interpretable, but sentence not ok on any reading. 'What is someone building?' probably not ok either.]

[7] Chiba (1977), Chomsky (1981), and Kayne (1983) provide the first examples of this phenomena.

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(33) Hant'é hadín yiztał ? = (24)
what who 3sg.perf.kick
i) What (animal) kicked who ?
ii) * Who kicked what ?

These examples become grammatical, however, when an additional Wh phrase is present in the clause. (34) adds the Wh adjunct *hayú* 'where' to (32) while (35) adds the Wh adjunct *dadą́'* 'when (past)' to (33).[8]

(34) Hant'é hadín hayú náágole' ?
what who where 3sg.imprf.build
Who is building what where ?
[Speaker comment: the additional word *hayú* somehow makes **hant'é hadín náágole'* ok. Could be answered, for example, by three different people, with three different things built at three different places.]

(35) Hant'é hadín dadą́' yiztał ?
what who when.past 3sg.perf.kick
Who kicked what where ?
[Speaker comment: The additional word *dadą́'* makes this sentence ok as compared with *hant'é hadín yiztał*.]

4.4 Wh Argument / Wh Adjunct Interaction

The preceding section discusses ordering constraints present in Western Apache sentences with multiple Wh arguments. This section explores ordering effects specifically

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[8] These sentences are equally grammatical with more canonical, SOV, word ordering.

(i) Hadín hayú hant'é náágole' ?
who where what 3sg.imprf.build
Who is building what where ?
[3 different people, 3 different things, 3 different locations interpretation ok.]

(ii) Hadín hant'é dadą́' yiztał ?
who what when.past 3sg.perf.kick
Who kicked what when ?

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between Wh arguments and Wh adjuncts in multiple Wh questions. As discussed below, Western Apache Wh arguments/adjuncts exhibit an ordering effect similar in nature to ordering constraints found in Wh questions in Japanese (Saito 1982, 1992) and Mandarin Chinese (Hornstein 1995). A. Watanabe (1992) labels this effect 'Anti-Superiority' due to its apparent similarities and differences with the Superiority Condition discussed at length in the literature on English. Section 4.5 explores the proposed analyses of Anti-Superiority in Japanese and Chinese, focusing in particular on proposals by Watanabe (1992) and Hornstein (1995) which treat Superiority and Anti-Superiority effects as related phenomena.

4.4.1 Anti-Superiority Effects

Wh questions with one *ha-* argument and one *ha-* adjunct are possible in Western Apache, but the ordering of the two *ha-* elements is critical to the interpretation of the question. Descriptively, if the *ha-* argument precedes/c-commands the *ha-* adjunct in such questions, both *ha-* elements are interpreted as interrogative Wh elements. If the *ha-* adjunct precedes/c-commands the *ha-* argument, however, only the *ha-* adjunct is interpreted as an interrogative Wh element and the *ha-* argument receives a non-interrogative indefinite interpretation.

The examples in (36) and (37) demonstrate the argument/adjunct ordering effect in a Wh question with *ha-* subject *hadín* 'who' and *ha-* adjunct *hant'éwạ* 'why'. The *ha-* argument precedes the *ha-* adjunct in (36a) and (36b) and both *ha-* words are interpreted as interrogative Wh elements in these examples.

(36a) Hadín ma' hant'éwạ yizkah ?
who coyote why 3sg.perf.shoot
Who shot the coyote and why did he/she do it ?

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(36b) Hadín hant'éwạ ma' yizkah ?
who why coyote 3sg.perf.shoot
Who shot the coyote and why did he/she do it ?

If the *ha-* adjunct precedes the ha- argument, as in (37), the *ha-* argument is interpreted as a non-interrogative indefinite. In this example, the bare *ha-* subject *hadín* 'who' is interpreted as 'someone'.[9]

(37) Hant'éwạ hadín ma' yizkah ?
why who coyote 3sg.perf.shoot
Why did someone shoot the coyote ?

Parallel interpretations are present in Wh questions with *ha-* subject *hadín* 'who' and *ha-* adjunct *dadą́'* 'when (past)'. The examples in (38) demonstrate that both *ha-* words are interpreted as interrogatives if the *ha-* argument precedes the *ha-* adjunct.

(38a) Hadín ma' dadą́' yiztał ?
who coyote when.past 3sg.perf.kick
Who kicked the coyote and when did he/she do it ?

(38b) Hadín dadą́' ma' yiztał ?
who when.past coyote 3sg.perf.kick
Who kicked the coyote and when did he/she do it ?

Example (39) again demonstrates the obligatory interpretation of the *ha-* subject as an indefinite expression when following the *ha-* adjunct.

(39) Dadą́' hadín ma' yiztał ?
when.past who coyote 3sg.perf.kick
When did someone kick the coyote ?

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[9] In Wh questions with two *ha-* arguments, the second *ha-* word can be interpreted as an indefinite although the first is obligatorily interpreted as an interrogative Wh element. The interpretation of both arguments as Wh elements is, however, more typical. See example (7).

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The ordering effect discussed above with *ha-* subjects holds as well in Wh questions with a *ha-* object and one *ha-* adjunct. The examples in (40) demonstrate that the *ha-* object is interpreted as a non-interrogative indefinite in a position following the *ha-* adjunct, although the adjunct itself is interpreted as a Wh element.

(40a) Ishkiin hant'éwą hant'é yiztał ?
boy why what 3sg.perf.kick
Why did the boy kick something ?

(40b) Hant'éwą ishkiin hant'é yiztał ?
why boy what 3sg.perf.kick
Why did the boy kick something ?

The examples in (41) demonstrate that the *ha-* object is interpreted as a Wh interrogative element when it precedes the *ha-* adjunct. The *ha-* object in (41a) is at least superficially in situ, while the *ha-* object in (41b) has raised to a clause initial position preceding the subject.

(41a) Ishkiin hant'é hant'éwą yiztał ?
boy what why 3sg.perf.kick
What did the boy kick and why did he do it ?

(41b) Hant'é ishkiin hant'éwą yiztał ?
what boy why 3sg.perf.kick
What did the boy kick and why ?

Similarly, the interpretation of examples (42) and (43) with *ha-* object *hant'é* 'what' and *ha-* adjunct *hayú* 'where' parallel those of (40) and (41). When the *ha-* adjunct precedes the *ha-* object (42), the object receives a non-interrogative, indefinite interpretation.

(42a) Isdzan hayú hant'é yiztał ?
woman where what 3sg.perf.kick
Where did the woman kick something ?

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(42b) Hayú isdzan hant'é yiztał ?
where woman what 3sg.perf.kick
Where did the woman kick something ?

Again, the *ha-* object is interpreted as a Wh interrogative in any position preceding the *ha-* adjunct (43).

(43a) Isdzan hant'é hayú yiztał ?
woman what where 3sg.perf.kick
What did the woman kick and where/to where ?

(43b) Hant'é isdzan hayú yiztał ?
what woman where 3sg.perf.kick
What did the woman kick and where/to where ?

The examples above thus demonstrate a very consistent and robustly attested pattern in Western Apache Wh questions. In questions with one *ha-* argument and one *ha-* adjunct, the argument is interpreted as an interrogative Wh element if it precedes the adjunct, and as a non-interrogative indefinite if it follows the adjunct.

A distinct but clearly related ordering effect is present in Japanese questions with one Wh adjunct and one Wh argument. As originally noted in a series of works by M. Saito (see for example: Saito 1982, 1992), in a Japanese Wh question with the Wh adjunct *naze* 'why' and one Wh argument, the argument must precede the adjunct. As (44) illustrates, positioning the adjunct before the argument results in ungrammaticality.

(44a) John-ga nani -o naze katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom what-Acc why bought Q
'John bought what why ?'

(44b) * John-ga naze nani -o katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom why what-Acc bought Q
'John bought why what ?'

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Hornstein (1995) notes that the same ordering constraint is present in Mandarin Chinese questions with *weishenme* 'why' and one Wh argument. The examples in (45) demonstrate that the Wh argument must obligatorily precede the Wh adjunct.[10]

(45a) Shei weishenme da ta [Mandarin, Hornstein 1995:146]
who why hit him

(45b) *Weishenme shei da ta [Mandarin, Hornstein 1995:146]

The Japanese and Mandarin Chinese paradigms parallel the Western Apache facts discussed above in that an ordering restriction holds specifically between a Wh argument and a Wh adjunct in a clause with one of each. The Western Apache paradigm is unique, however, in that positioning the Wh/*ha*- adjunct before the Wh/*ha*- argument yields an indefinite interpretation for the argument in Western Apache,[11] but is completely ungrammatical in Japanese and Mandarin.[12]

The ordering effects between Wh adjuncts and Wh arguments discussed above are referred to as 'Anti-Superiority' effects in the syntactic literature (cf. Watanabe 1992). The term 'Anti-Superiority' is appropriate from the perspective of the initial theoretical analysis of the Japanese facts (cf. Saito 1982, 1989). Consider first the English examples in (46).

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[10] Hornstein cites A. Li (personal communication) for the data.

[11] As the indefinite reading is available for bare *ha*- words as either subject or object arguments, the Western Apache paradigm challenges a Cheng (1991) based approach in which indefinite readings are derived through a VP restricted rule of Existential Closure (Section 3.3.6).

[12] The paradigms might also vary with respect to which adjuncts exhibit the ordering effects. All *ha*- adjuncts in Western Apache can induce an indefinite reading on a following *ha*- argument, but the literature on Japanese and Mandarin Chinese only discusses the Wh adjunct 'why'.

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(46a) Why did you buy what ?

(46b) *What did you buy why ?

Huang (1982) argues for an ECP (Empty Category Principle : Chomsky 1981) based analysis of the examples in (46). The ECP requires that all traces be properly governed, where proper government is defined as either lexical government by an X^0 head or antecedent government through local binding between antecedent and trace (cf. Chomsky 1986a, Haegeman 1994).[13] Huang argues that all Wh phrases move to CP by LF, but assumes that only the first Wh phrase moved into CP can antecedent govern its trace (cf. Aoun, Hornstein, and Sportiche 1981). The underlying position of 'what' is lexically governed by the verb in (46a) and (46b), and the trace of 'what' satisfies the ECP in both examples. 'Why' in (46), however, is not in a lexically governed position and the trace of 'why' must be antecedent governed to satisfy the ECP. Antecedent government is possible for 'why' in (46a) because it moves into CP prior to 'what', but not possible in (46b) because 'what' is the first Wh phrase to move into CP.

With one additional stipulation, an ECP based analysis can account for the Wh argument/Wh adjunct ordering paradigm in Japanese. The Japanese examples in (44) are repeated here in (47). As discussed by A. Watanabe (1992), an ECP approach to these examples assumes that all Wh phrases must raise, by LF, into CP and that the trace of *naze* 'why' must be antecedent governed.[14] Such antecedent government must hold in (47a), which is grammatical, but not in (47b), which is ungrammatical.

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[13] The definition of proper government in Huang (1982) is: A properly governs B iff A governs B and (a) A is a lexical category, or (b) A is coindexed with B (p. 471).

[14] Watanabe specifically argues that a null Wh operator associated with one Wh phrase obligatorily raises prior to LF.

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(47a) John-ga nani -o naze katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom what-Acc why bought Q = (44a)
'John bought what why ?'

(47b) * John-ga naze nani -o katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom why what-Acc bought Q = (44b)
'John bought why what ?'

If only the first Wh phrase moved into CP can antecedent govern its trace, *naze* 'why' must raise into CP prior to *nani* 'what' in (47a). Similarly, since *naze* does not antecedent govern its trace in (47b), *nani* must be the first Wh phrase to raise into CP in that example. Note, however, that the required derivations of (47a) and (47b) are thus exactly opposite the derivations predicted by the Superiority Condition discussed in Section 4.3. The Superiority Condition requires that if an operation such as Wh movement ambiguously applies to two elements, it must apply to the hierarchically superior element. *Naze* 'why' in (47a) is hierarchically below *nani* 'what' but necessarily raises into CP prior to *nani* within the outlined ECP approach. Moreover, the raising of *naze* prior to the raising of the hierarchically subordinate *nani* in (47b) must be blocked to explain the unacceptability of the sentence. As Watanabe points out, these examples thus suggest that the hierarchically lower of two Wh phrases takes precedence in the Wh movement operation. Japanese Wh movement is subject to an Anti-Superiority condition which, from the perspective of an ECP based analysis, is at least superficially the exact opposite of the Superiority condition on Wh movement in English.

Section 4.5 includes a more comprehensive discussion of the various approaches to Superiority and Anti-Superiority effects proposed in the literature. A. Watanabe (1992) and Hornstein (1995) provide particularly interesting analyses which treat Superiority and Anti-Superiority effects as distinct surface expressions of one underlying phenomenon. The Western Apache Wh paradigm, which exhibits both Superiority and

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Anti-Superiority effects, is therefore of obvious significance in the critical discussion of these approaches.

4.4.2 The Alleviation of Anti-Superiority Effects

Saito (1982, 1989, 1992) also notes that Anti-Superiority violations present in Japanese Wh questions with one Wh argument and one Wh adjunct are alleviated if an additional Wh phrase is included in the sentence. This phenomenon obviously parallels the alleviation of Superiority effects discussed in Section 4.3.2. The examples in (48) demonstrate the alleviation of Anti-Superiority effects through the addition of a third Wh phrase below two Wh phrases which otherwise induce an Anti-Superiority violation.

(48a) *naze dare -ga soko-ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom there-to went Q
'Why who went there?'

(48b) ?naze dare-ga doko -ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom where-to went Q
'Why who went where?'

Similarly, the examples in (49) demonstrate the alleviation of Anti-Superiority effects through the addition of a third Wh phrase above two Wh phrases which otherwise induce an Anti-Superiority violation.

(49a) *?John-wa naze nani-o tabeta no?[Japanese - Saito 1992, S. Watanabe 1994:406]
John -Top why what-Acc ate Q
'John ate why what?'

(49b) dare -ga naze nani -o tabeta no? [Japanese - Saito 1992, S. Watanabe 1994:406]
who-Nom why what-Acc ate Q
'Who ate why what?'

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Anti-Superiority effects in Western Apache Wh questions are also alleviated by the addition of a third *ha-* word above or below two *ha-* words which otherwise induce an Anti-Superiority violation. Example (50) demonstrates that the subject *ha-* word *hadín* 'who' receives a non-interrogative, indefinite interpretation 'someone' when preceded by the *ha-* adjunct *hayú* 'where'.

(50) Hayú hadín ma' yizkah ?
where who coyote 3sg.perf.shoot
Where did somebody shoot the coyote ?

As (51) and (52) demonstrate, the Anti-Superiority effect in (50) disappears, and the subject receives an interrogative interpretation, if an additional *ha-* adjunct or *ha-* argument is included below the *ha-* words present in the original example.

(51) Hayú hadín hant'éwą ma' yizkah ?
where who why coyote 3sg.perf.shoot
Where did who shoot the coyote and for what purpose did he/she do it ?
[Three questions in one.]

(52) Hayú hadín hant'é yizkah ?
where who what 3sg.perf.shoot
Where did who shoot what ?
[Three questions in one.]

Finally, examples (53) and (54) demonstrate that the addition of a *ha-* word above two *ha-* words that otherwise induce an Anti-Superiority violation also alleviates that violation. While the *ha-* object *hant'é* in (53) is interpreted as non-interrogative 'something' in a position following the *ha-* adjunct *hayú* 'where', it receives an interrogative interpretation in this same environment when the subject of the sentence is also a *ha-* word (54).

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(53) Isdzan hayú hant'é yiztał ?
woman where what 3sg.perf.kick
Where did the woman kick something ?

(54) Hadín hayú hant'é yiztał ?
who where what 3sg.perf.kick
Who kicked what where ?

4.5 The Analysis of Superiority and Anti-Superiority

Since Chomsky's (1973) definition of the phenomenon, numerous analyses have been proposed for Superiority effects. The discussion below includes brief summaries of the initial ECP based approaches (Jaeggli 1980, Chomsky 1981) as well as approaches which integrate an ECP analysis with either the Path Containment Condition (Pesetsky 1982, 1987, Kayne 1983, May 1985) or a condition which forces the preservation of structural command relationships across derivational levels (A. Watanabe 1992). Far fewer works have discussed analyses of the Anti-Superiority effects noted in Saito (1982, 1989, 1992). The discussion below concentrates in particular, however, on A. Watanabe (1992) and Hornstein (1995) which treat Superiority and Anti-Superiority as related phenomena and provide analyses which simultaneously address both kinds of effects.[15]

4.5.1 The Empty Category Principle

The initial approach to simple subject/Object Superiority effects in English questions (55) followed directly from the ECP.

[15] Several additional analyses of Superiority and/or Anti-Superiority not discussed herein include an 'operator-disjointness' approach (Lasnik & Saito 1992), a Relativized Minimality approach (Cheng & Demirdash 1990), and an approach which makes use of Strict Cyclicity (Maki 1990, Nishikawa & Maki 1990). A. Watanabe (1992) argues that none of these approaches can account for the alleviation of Superiority and Anti-Superiority violations, present with two Wh phrases, through the addition of a third Wh phrase (see sections 4.3.2 and 4.4.2).

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(55a) Who bought what ?

(55b) ?* What$_i$ did who buy t$_i$?

Proposals in Jaeggli (1980) and Chomsky (1981) held that the in situ Wh in examples such as these raised to Comp at LF, but that a Wh phrase raised into a Comp that already contained a Wh phrase could not antecedent govern its trace. Superiority violations, as ECP violations, were the result of raising a Wh phrase from a non-lexically governed position into a filled Comp. Section 4.4.2 summarized a similar ECP based analysis of the basic Anti-Superiority examples in Japanese. That analysis assumed that a Comp indexing mechanism (Aoun, Hornstein & Sportiche 1981) explained the impossibility of antecedent government by a Wh phrase adjoined to another Wh phrase in Comp. (56a) and (56b) provide the LF representations of (55a) and (55b) within this approach. Comp in these examples maintains the index of the first Wh phrase raised into the Comp position and antecedent governs the trace of that Wh phrase.

(56a) [what$_j$ who$_i$]$_i$ Subj-trace$_i$ bought Obj-trace$_j$ 'Who bought what ?'

(56b) * [who$_j$ what$_i$]$_i$ did Subj-trace$_j$ buy Obj-trace$_i$ '?*What did who buy ?'

The LF Wh subject trace in (56a) is antecedent governed via Comp while the LF Wh object trace is lexically governed by the verb and satisfies the ECP without antecedent government. The LF Wh subject trace in (56b) is neither lexically governed nor antecedent governed, and thus violates the ECP.

There are numerous instances of Superiority effects, however, that an ECP analysis alone cannot handle. Hendrick & Rochemont (1982), for example, note that sentences such as (57a) and (57b) descriptively fall within the domain of the Superiority Condition as only the hierarchically superior Wh word can overtly raise into CP.

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Nevertheless, it is not clear that the ECP alone can explain the ungrammaticality of (57b) as the in situ Wh object 'who' in this example is plausibly in a lexically governed position.

(57a) Who$_i$ did you persuade t_i to buy what ?

(57b) * What$_i$ did you persuade who to buy t_i ?

A parallel problem surfaces with apparent Superiority effects in dative and double object constructions. As noted by Larson (1988), only the hierarchically superior Wh phrase in (58) and (59) can overtly raise into CP. Again, it is plausible that the in situ Wh phrase in each of these examples is lexically governed and should in theory be able to raise into CP at LF without inducing an ECP violation.

(58a) Who$_i$ did you give t_i what ?

(58b) *What$_i$ did you give who t_i ?

(59a) What$_i$ did you send t_i to who ?

(59b) *Who(m)$_i$ did you send what to t_i ?

Even if the ECP can be formulated in such a way to permit only the grammatical examples in (55) - (59), an ECP analysis of Superiority will not be able to explain the alleviation of Superiority effects in sentences with three Wh words (Section 4.3.2). The examples in (60) demonstrate the alleviation of a Superiority violation, present with two Wh phrases, by the addition of a third Wh phrase.

(60a) *What$_i$ did who buy t_i ? =(55b)

(60b) What$_i$ did who buy t_i when ?

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As indicated, the grammaticality of (60a) greatly improves when an additional Wh phrase is present, as in (60b). The proposed ECP violation induced by the LF movement of 'who' in (60a), however, is also present in (60b). If the ECP alone is responsible for Superiority effects, the grammaticality judgments for these two examples should be the same.

4.5.2 The Path Containment Condition (Hierarchical)

May (1985) provides an analysis of English Superiority effects utilizing Pesetsky's (1982) Path Containment Condition. May's definition of the Path Containment Condition (PCC) is given in (61).

(61) Path Containment Condition: Intersecting A'-categorial paths must embed, not overlap.

The PCC requires that when there are two distinct antecedent-trace relationships in a clause, the path between one trace and its antecedent must be wholly contained in the path between the other trace and its corresponding antecedent. (62) provides the LF representation for the grammatical multiple Wh question in example (55a). Note that May maintains that the in situ Wh phrase undergoes LF movement to the left of the overtly raised Wh phrase in Comp.

(62) [what$_2$ who$_1$]$_1$ [t$_1$ bought t$_2$] 'Who bought what ?'

As is clear in the diagram in (62), the paths for the two antecedent-trace relationships do not cross. The path between 'who' and its trace is wholly contained within the path between 'what' and its trace, and the example satisfies the PCC. The diagram in (63)

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provides the LF representation for example (55b) which violates the Superiority Condition.

(63) [who$_2$ what$_1$]$_1$ [did t$_2$ buy t$_1$] *'What did who buy ?'

x

As illustrated in (63), the Superiority violation in (55b) yields an LF representation in which the paths for the two antecedent-trace relationships cross. This representation violates the PCC and the sentence is correctly ruled out.

May notes that this PCC approach can also explain the alleviation of Superiority violations, present with two Wh phrases, through the addition of a third Wh phrase. May assumes, following ideas in Kayne (1983) and Pesetsky (1982), that the PCC is evaluated with respect to the union of all non-head paths to a given Comp. (64) provides the LF representation for example (60b). The analysis requires that the trace of the Wh adjunct 'when' be in a position hierarchically below the trace of the object.

(64) [[when$_3$ who$_2$]$_2$ what$_1$]$_1$ [did t$_2$ buy t$_1$ t$_3$] 'What did who buy when ?'

Although the paths for the head Wh-trace relationship, what$_1$-t$_1$, and the relationship between 'who' and its trace cross in (64), the path for the head Wh-trace relationship is wholly contained within the union of the paths for the non-head Wh-trace relationships. The example satisfies the PCC and does not constitute a Superiority violation.

A similar PCC analysis can possibly be adopted for the Western Apache Superiority effects discussed in Section 4.3. As noted, however, in the absence of

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evidence to the contrary, the preferred analysis of the Western Apache Superiority effects should also apply to the Anti-Superiority effects present in the language. The application of the PCC to Anti-Superiority phenomena must be considered.

A. Watanabe (1992) discusses a PCC approach, similar in nature to that proposed above, to the Anti-Superiority effects in Japanese.[16] Examples (44a) and (44b) are repeated here in (65).

(65a) John-ga nani -o naze katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom what-Acc why bought Q = (44a)
'John bought what why ?'

(65b) * John-ga naze nani -o katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom why what-Acc bought Q = (44b)
'John bought why what ?'

To correctly predict the grammaticality judgments for these examples, the analysis requires that one Wh phrase in a sentence raises to Spec CP while all other Wh phrases raise to adjoined positions with IP. Watanabe suggests that *naze* 'why' in (65) must raise to Spec CP to antecedent govern its trace and avoid an ECP violation.[17] Assuming, for the sake of argument, that these stipulations on Wh movement can be independently motivated, the diagrams in (66) provide the proposed LF representations for (65a) and (65b).

(66a) $[_{CP}[_{IP}\ \underbrace{\text{nani-o}_2\ [_{IP}\ \text{john-ga}\ t_2}\ \underbrace{t_1\ \text{katta no}]]\ \text{naze}_1}]$ LF for (65a)

[16] Watanabe cites D. Pesestky (personal communication) for the proposal.
[17] If *naze* does not have to raise to Spec CP in all examples, there is no way to exclude a derivation of (65b) in which *naze* raises to an IP adjoined position and the path between *naze* and its trace is wholly contained within that between *nani*, in Spec CP, and its trace.

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(66b) *[$_{CP}$[$_{IP}$ nani-o$_2$ [$_{IP}$ john-ga t_1 t_2 katta no]] naze$_1$] LF for (65b)

x

Note that Watanabe assumes, partly on the basis of the clause final position of Japanese question markers such as *no* in (65), that the specifier position and head of CP are to the right of the IP complement of C. While this is inconsistent with the framework adopted in this dissertation which entails that all projections are head initial and all specifiers are on the left (Kayne 1994), a left-branching approach to (66) could be readily formulated. Although the linear diagram in (66a) is misleading, the path between naze, in Spec CP, and its trace, hierarchically below the trace of nani, wholly contains the path between the IP adjoined nani and its trace. The representation in (66a) thus satisfies the PCC and example (65a) does not constitute and Anti-Superiority violation. The representation in (66b), however, does violate the PCC as the paths for the two antecedent-trace relationships do cross. Subsequently, example (65b) is constitutes an Anti-Superiority violation.

In the discussion of this PCC approach to Anti-Superiority, Watanabe only addresses Japanese examples with two Wh phrases. Watanabe in fact rejects this PCC approach by demonstrating that the analysis required for Anti-Superiority violations with two Wh phrases cannot be extended to other Wh phenomena in Japanese which Watanabe's own account of Anti-Superiority can handle.[18] Regardless of the additional Wh phenomena Watanabe explores, however, this PCC analysis cannot be extended to

[18] Watanabe discusses ordering restrictions between Wh phrases and subordinate clauses, characteristic of islands, containing Wh phrases. Such phenomena are outside of the immediate scope of this dissertation and the reader is referred to A. Watanabe (1992) for discussion.

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examples in which a third Wh phrase alleviates an Anti-Superiority violation. Two such examples, (48b) and (49b), are repeated below as (67) and (68).

(67) ?naze dare-ga doko -ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom where-to went Q = (48b)
'Why who went where?'

(68) dare -ga naze nani -o tabeta no? [Japanese - Saito 1992, S. Watanabe 1994:406]
who-Nom why what-Acc ate Q = (49b)
'Who ate why what?'

The PCC relevant LF representations for these examples are provided in (69) and (70). Again it is assumed that *naze* 'why' must raise to Spec CP to antecedent govern its trace.

(69) $[_{CP}[_{IP}$ dare-ga$_2$ $[_{IP}$ doko-ni$_3$ [t_1 t_2 t_3 itta no]] naze$_1$] LF for (67)

(70) $[_{CP}[_{IP}$ dare-ga$_2$ $[_{IP}$ nani-o$_3$ [t_2 t_1 t_3 tabeta no]] naze$_1$] LF for (68)

Even taking into consideration the union of the non-head Wh paths in (69) and (70), neither of these representations satisfies the PCC. In (69), the paths for both Wh_2 and Wh_3 cross the path for *naze*. In (70), the path for Wh_3 alone, or the union of the paths for Wh_2 and Wh_3 cross the path for *naze*. Within the proposed PCC approach, both (67) and (68) are incorrectly predicted to be ungrammatical.

4.5.3 The Path Containment Condition (Linear)

Saito (1989) also pursues a PCC analysis of the Japanese Anti-Superiority effects. Saito argues that the PCC should not be computed in terms of hierarchical paths, but rather in terms of linear paths on the linear string of words in a sentence. Saito also

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assumes that only the first Wh phrase into Comp at LF can antecedent govern its trace. Basic Anti-Superiority violations in which naze 'why' precedes a Wh argument such as nani 'what' (71), are ruled out either via the ECP or the PCC.

(71) * John-ga naze nani -o katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom why what-Acc bought Q = (44b)
'John bought why what ?'

The diagram in (72a) illustrates one set of path relationships for the LF representation of (71). While the paths in this representation do not cross and thus satisfy the PCC, *naze* 'why' is not the first Wh phrase associated with Comp and cannot antecedent govern its trace. The representation thus violates the ECP.

(72a) *... $naze_1$ ... $nani\text{-}o_2$ ... $Q_{2(1)}$

The diagram in (72b) illustrates the alternative path relationships in the LF representation for (71). In this case, *naze* is the first Wh phrase associated with Comp and can antecedent govern its trace. The paths in (72b) cross, however, and thus violate the PCC. In summary, there is no LF representation for (71) which does not violate either the ECP or the PCC and the example is correctly ruled out.

(72b) *... $naze_1$ ... $nani\text{-}o_2$ ... $Q_{1(2)}$

x

LF representations which satisfy both the ECP and PCC are possible for grammatical examples such as (73) in which *nani* 'what' precedes *naze* 'why'.

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(73) John-ga nani -o naze katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom what-Acc why bought Q = (44a)
'John bought what why ?'

As the diagram in (74) illustrates, *naze* in these examples can be the first Wh phrase associated with Comp without forcing a representation in which the paths for the two Wh-trace relationships in the sentence cross.

(74) ... nani-o_2 ... $naze_1$ ... Q_1(2)

A. Watanabe summarizes Saito's PCC analysis and notes that it can handle the additional Wh phenomena which are problematic for the hierarchical PCC analysis presented above. Watanabe rejects this approach as well, however, by demonstrating that hierarchical relationships are relevant to the analysis of Anti-Superiority. Watanabe provides example (75) and notes that although *naze* 'why' precedes *dare* 'who', *naze* does not c-command *dare*.

(75) ? [John-ga naze kubininatta to] dare-ga itta no? [Japanese, A. Watanabe 1992:86]
John-Nom why was-fired Comp who-Nom said Q
'Who said [that John was fired why]?'

Saito's linear PCC analysis predicts that (75) should be completely ungrammatical as *naze* cannot be the first Wh phrase associated with Comp without creating an LF representation in which the paths for *naze* and *dare* cross. Watanabe notes, however, that (75) is almost as equally acceptable as (76) in which *dare* precedes *naze* but again *naze* does not c-command *dare*.

(76) dare-ga [John-ga naze kubininatta to] itta no ? [Japanese, A. Watanabe 1992:86]
who-Nom John-Nom why was-fired Comp said Q
'Who said [that John was fired why]?'

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There are additional reasons, independent of examples such as (75) and (76), to reject the linear PCC approach. First, it is unclear that non-local linear relationships are relevant to any other syntactic phenomena or even compatible with a Minimalist approach to syntax which seeks to characterize all structural relationships within the minimal X' format.[19] More directly, however, the linear PCC approach cannot account for examples in which an additional Wh phrase inserted below an Anti-Superiority violation salvages that violation. Examples (48a) and (48b) are repeated below in (77).

(77a) *naze dare -ga soko-ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom there-to went Q = (48a)
'Why who went there?'

(77b) ?naze dare-ga doko -ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom where-to went Q = (48b)
'Why who went where?'

The Anti-Superiority violation in (77a) follows within the linear PCC approach from the crossing of paths necessary if naze is the first Wh phrase associated with Comp.

(78) ... $naze_1$ ... $dare_2$ ... $Q_{1(2)}$ LF for (77a)

As (79) illustrates, however, this representation is not salvaged by the additional Wh phrase present in (77b).

[19] Although the given analysis is incompatible with Kayne (1994) in that CP is head final, all that is crucial to the approach is that the surface position of the Wh phrases is to the left of the overt/covert question marker. CP can be analyzed as head initial if it is assumed that the complement of the Q marker raises to the left of Q.

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(79) ... naze$_1$ ... dare$_2$ ... doko$_3$ ... Q$_{1(2,3)}$

Neither the additional path created by *doko* 'where' nor the union of the non-head paths of *dare* and *doko* wholly contain the path for *naze*. Similarly, the path for *naze* does not wholly contain either of the other paths. (79) violates the PCC and the relative acceptability of (77b), in comparison with (78a), is not predicted by the linear PCC approach.

4.5.4 Relation Preservation

A. Watanabe (1992) develops an analysis of Anti-Superiority phenomena in Japanese which achieves greater empirical coverage than the PCC approaches reviewed above.[20] More importantly, however, Watanabe's approach collapses the analyses of Superiority and Anti-Superiority phenomena into one general account. As the first such analysis, Watanabe (1992) represents an important work in the Superiority/Anti-Superiority literature. As the discussion below demonstrates, however, the particular theoretical device Watanabe uses to distinguish Superiority and Anti-Superiority effects suggests that a given language should exhibit one type of effect or the other. This requirement is clearly inconsistent with the Western Apache paradigm, which exhibits

[20] As noted, there are a number of inter-clausal ordering effects between Wh phrases in Japanese sentences that are not directly relevant to the Western Apache paradigm. Watanabe also notes several problematic examples for a PCC analysis of Superiority effects in English. (i), for example, is grammatical although the LF movement of the in situ Wh phrase should induce a PCC violation. Watanabe suggests the key factor in (i) is that the in situ Wh phrase does not c-command the trace of the raised Wh.

(i) Who$_1$ did pictures of who please t$_1$?

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both Superiority and Anti-Superiority effects, and casts doubt on the details of Watanabe's analysis.

The key component in Watanabe's analysis of Superiority and Anti-Superiority phenomena is his proposed principle of Relation Preservation (80).

(80) Relation Preservation: A relation established at a certain point in the derivation must be maintained throughout. [A. Watanabe 1992:94]

Applied to multiple Wh questions, Watanabe argues that Relation Preservation requires that the command relationship between the underlying positions of one Wh phrase and another be maintained at LF by the Wh phrases adjoined to each other in the specifier of CP. The requirement applies specifically to the first Wh phrase raised into CP and one other Wh phrase in the sentence. Consider the examples in (81).

(81a) What$_1$ did you give t_1 to who$_2$?

(81b) ?* Who$_1$ did you give what$_2$ to t_1 ?

Example (81a) is a well formed question, while example (81b) constitutes a typical Superiority violation.

Watanabe uses Segment-Command, defined in (82) and (83), for the structural relationship that must be maintained in the derivation.

(82) A seg(ment) commands B iff A does not dominate B and every segment that dominates A dominates B where A and B are categories. [A. Watanabe 1992:92]

(83) A is dominated by B only if it is dominated by every segment of B.

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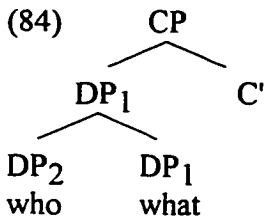
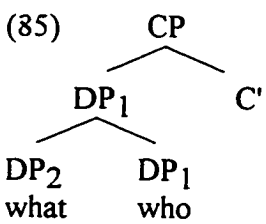
In both examples in (81), the underlying position of 'what' seg-commands the underlying position of 'who'. At LF, Watanabe assumes that all in situ Wh phrases raise to adjoined positions in Spec CP. The LF Spec CP structure for (81a) is given in (84).

(84) LF CP for 'What did you give to who ?' (81a)



As illustrated in (84), in the LF CP for the grammatical example (81a), 'what' seg-commands 'who' preserving the command relationship present between the Wh phrases in their underlying positions. Note that CP, the first segment that dominates 'what' in (84a), dominates 'who', and DP_1, the first segment that dominates 'who', does not dominate 'what'. The LF CP for the ungrammatical example (81b), on the other hand, reverses the command relationship present between the Wh phrases in their underlying positions. The LF CP for (81b) is given in (85).

(85) LF CP for ?*'Who did you give what to ?' (81b)



At LF, 'who' and 'what' are in reverse structural relationships in (85) and (84). 'who' in (85) thus asymmetrically seg-commands 'what', the principle of Relation Preservation is violated, and the example is appropriately excluded.

Watanabe argues that Superiority violations can be alleviated by additional Wh phrases because only one Wh Relation is checked per Comp. In (86), for example, the

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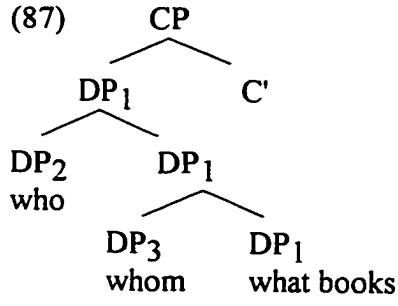
underlying position of the raised Wh phrase 'what books' seg-commands the underlying position of 'whom'.

(86) ?What $books_1$ did you persuade who_2 to give t_1 to $whom_3$?

This particular relationship is maintained in the LF Spec CP (87). Preservation of this one Wh Relationship thus satisfies Relation Preservation and the sentence is grammatical despite the lack of Relation Preservation between 'what books' and 'who'.

(87) 'what books' seg-commands 'whom'



Watanabe argues that the same analysis adopted above for Superiority effects in English can account for Anti-Superiority effects in Japanese. That is, Watanabe utilizes the same definition of Relation Preservation (80) and Segment Command (81) - (82), and proposes that Anti-Superiority violations in Japanese are the result of a lack of Relation preservation between Wh phrases in their underlying positions and Wh phrases adjoined in CP at LF. Differences between Superiority effects in English and Anti-Superiority effects in Japanese follow from differences between the two languages with respect to overt Wh movement.

To begin, Watanabe notes that the Japanese Wh roots are also used in indefinite and universal expressions. As discussed in Section 3.3, for example, *dare* 'who' surfaces

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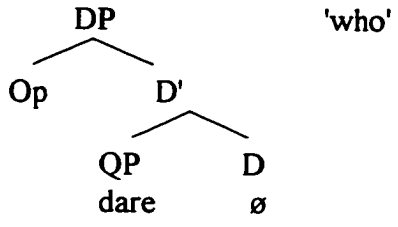
in *dare-ka* 'someone' and *dare-mo* 'everyone'. Watanabe proposed that the Japanese Wh words, as interrogatives, have the structure in (88).

(88)



Op in (88) stands for a covert +Wh operator which Watanabe argues at length undergoes overt movement although the Japanese Wh words themselves do not overtly raise.[21] The determiner head D in (88) is null for interrogative Wh elements, but is occupied by the affixes *ka* and *mo* in indefinite and universal expressions respectively. Watanabe suggests that the covert +Wh operator raises to Spec CP overtly for one Wh, and that the overt Wh root corresponding to that operator must be the first Wh element to raise into Spec CP at LF. This latter requirement, according to Watanabe, follows from (89).

(89) Condition on a Well-Formed Wh-Phrase at LF: A pure wh-operator and the associate indeterminate phrase alone must form a category in order to function as a wh-phrase. [A. Watanabe 1992:96]

This two stage movement, a covert +Wh operator followed by its overt Wh root, into Spec CP has the effect of providing the reverse the seg-command relationships found in English LF Spec CP for multiple Wh questions in Japanese LF Spec CP. Consider the grammatical Japanese multiple Wh question in (90).

[21] Japanese Wh words do not overtly raise to Spec CP. Watanabe discusses a variety of island effects that hold in Japanese, as well as numerous effects that do not hold, and argues that the data can be explained if one null +Wh operator undergoes overt movement. Minimally, for example, this provides a means for maintaing Subjacency as an S-Structure phenomenon. The reader is referred to A. Watanabe (1992) for details.

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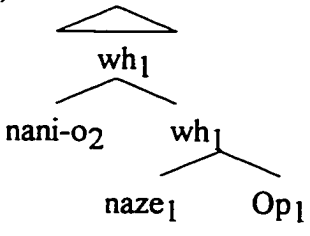
(90) John-ga nani -o naze katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom what-Acc why bought Q = (44a)
'John bought what why ?'

The underlying position of the overt Wh root *nani* 'what' in (90) seg-commands the underlying position of the overt Wh root *naze* 'why'. Watanabe maintains the ECP analysis of 'why' discussed for the ECP and PCC approaches above, and argues that the covert +Wh operator for *naze* must be the element that overtly raises into Spec CP if the trace of *naze* is to be antecedent governed. At LF, the overt root naze raises into Spec CP and forms a new category with its operator. Subsequently, the Wh element *nani* raises into Spec CP and adjoins the category created by *naze* and its null operator. (91) illustrates the proposed LF structure for the Spec of CP in (90).

(91) LF Spec CP for (90)



In (91), *nani* seg-commands *naze*. Since the underlying position of *nani* also seg-commands the underlying position of *naze* in (90), Relation Preservation is satisfied and the example is grammatical. Underlying and LF command relationships are not preserved, however, in (92), a typical Anti-Superiority violation.

(92) * John-ga naze nani -o katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom why what-Acc bought Q = (44b)
'John bought why what ?'

The underlying position of *naze* in (92) seg-commands the underlying position of *nani*. In the LF Spec CP (93), however, *nani* seg-command *naze* and Relation Preservation is

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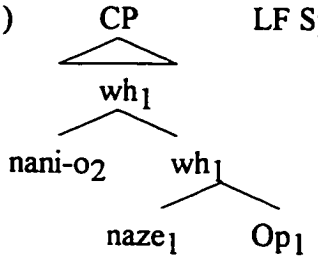
violated. Again, *naze* must be the first Wh element to raise to Spec CP in order to antecedent govern its trace.

(93) LF Spec CP for (92)



Watanabe further suggests that this Relation Preservation approach can account for the alleviation of Anti-Superiority effects through the addition of a third Wh phrase. In fact, Watanabe's analysis can explain examples such as (94) and (95). Example (94) constitutes a typical Anti-Superiority violation, *naze*, to antecedent govern its trace, must be the first Wh element to raise to Spec CP. As the first Wh element in Spec CP, however, *naze* is seg-commanded by *nani* when it adjoins to Spec CP at LF. This violates Relation Preservation as the underlying position of *naze* seg-commands the underlying position of *nani*.

(94) *?John-wa naze nani-o tabeta no?[Japanese - Saito 1992, S. Watanabe 1994:406]
John -Top why what-Acc ate Q = (49a)
'John ate why what?'

The additional Wh phrase in (95) salvages the Anti-Superiority violation because only one Wh Relation per Comp need satisfy Relation Preservation. The underlying position of *naze* in (95) is seg-commanded by the underlying position of *dare*. At LF, *naze* must be the first Wh phrase in Spec CP to antecedent govern its trace, and as such, it is seg-commanded by the other Wh phrases which adjoin to Spec CP, including *dare*. Relation

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Preservation is thus satisfied with respect to *dare* and *naze*, and the example is correctly predicted to be grammatical.

(95) dare -ga naze nani -o tabeta no? [Japanese - Saito 1992, S. Watanabe 1994:406]
who-Nom why what-Acc ate Q = (49b)
'Who ate why what?'

Watanabe's analysis, however, cannot explain cases where an Anti-Superiority violation is alleviated through the addition of a Wh phrase below the two Wh phrases that otherwise induce the violation. Consider examples (96) and (97). Example (96) is again a typical Anti-Superiority violation. The underlying position of *naze* seg-commands the underlying position of *dare*, but as the first Wh element in Spec CP, *naze* is seg-commanded by *dare* at LF.

(96) *naze dare -ga soko-ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom there-to went Q = (48a)
'Why who went there?'

The grammaticality of (96) greatly improves if an additional Wh phrase is inserted below the *naze* and *dare* (97).

(97) ?naze dare-ga doko -ni itta no ? [Japanese - Saito 1992, S. Watanabe 1994:402]
why who-Nom where-to went Q = (48b)
'Why who went where?'

This example is problematic for Watanabe's approach, however, because the underlying position of naze seg-commands the underlying positions of both dare and doko, but must still be the first Wh element in Spec CP and is thus seg-commanded by both dare and

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doko at LF. Relation Preservation is not satisfied in either (97) or (96), and Watanabe's analysis does not predict a distinction between the two examples.[22]

The Western Apache Wh ordering effects create a much more significant problem for Watanabe's approach. Within Watanabe's analysis, the distinction between English, which displays Superiority effects, and Japanese, which displays Anti-Superiority effects, follows from an underlying distinction in the nature of Wh movement. English Wh phrases overtly raise to Spec CP and seg-command any LF adjoined Wh phrase. A covert +Wh operator raises overtly to Spec CP, followed at LF by its overt Wh root. The operator and the root combine to create a new category and reverse the seg-command relations in Spec CP. Specifically, the first Wh element in Spec CP in Japanese is seg-commanded by any LF adjoined Wh phrase. Given this approach, however, the distinction between Superiority and Anti-Superiority effects follows essentially from a parametric distinction with respect to Wh movement. If a language exhibits Japanese style Wh movement, it should exhibit Anti-Superiority effects. Conversely, if a language exhibits English style Wh movement, it should exhibit Superiority effects. It is not obvious how a given language could exhibit both types of effect within this approach. While the nature of Wh movement in Western Apache remains at issue in this dissertation, however, it is clear that Western Apache Wh questions exhibit both Superiority (98) and Anti-Superiority effects (99). While Watanabe's analysis is significant in proposing that Superiority and Anti-Superiority phenomena are inherently related, his specific proposals must be rejected in favor of an approach which includes the possibility of one language exhibiting both types of effects.

[22] Watanabe does not discuss cases such as (97) where a lower Wh phrase alleviates an Anti-Superiority effect. In Watanabe's defense, it is interesting to note that Saito and S. Watanabe mark (97) with a '?' indicating that although the example is probably grammatical it is not perfect.

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(98a) Hant'é hastiin náágole' ? = (21)
what old.man 3sg.imprf.build
·What is the old man building ?

(98b) * Hant'é hadín náágole' ? = (23)
what who 3sg.imprf.build
* Who is building what ?
[Meaning interpretable, but sentence not ok on any reading. 'What is someone building?' probably not ok either.]

(99a) Isdzan hant'é hayú yiztał ? = (43a)
woman what where 3sg.perf.kick
What did the woman kick and where/to where ?

(99b) Isdzan hayú hant'é yiztał ? = (42a)
woman where what 3sg.perf.kick
Where did the woman kick something ?

4.5.5 A Note on the ECP in the Minimalist Framework

Beyond the lack of empirical adequacy, which might be addressed in future work, there is strong theory internal motivation to reject each of the analyses of Superiority/Anti-Superiority discussed above. While each of the proposed analyses makes crucial use of the ECP, it is not clear that the ECP is a valid device within the Minimalist Framework.[23] The Minimalist Program seeks to reduce all structural relationships to simple X' relationships between specifiers and heads, or between heads and complements. The notions of head government and antecedent government, however, critical to the ECP, cannot be defined within these terms. Head government, for example, is utilized within pre-Minimalist works to define the Case assignment relationships in (100) - (102).

(100) John [$_{VP}$ ate [$_{DP}$ the pizza]]

[23] This discussion summarizes Hornstein's (1995) Minimalist arguments against the ECP.

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(101) John believes [$_{IP}$ him to be insane]

(102) [$_{IP}$ He [$_{I'}$ +finite [like books]]]

The structural relationships between the Case assigners and the DP receiving Case in these examples, however, cannot be stated in simple, unified X' theoretic terms. In (100) the verb 'ate' assigns Case to its complement, in (101) the verb 'believes' assigns Case to the specifier of its complement, and in (102) the +finite inflectional head of IP assigns Case to its own specifier. The Minimalist Program (Chomsky 1993) eliminates this ill-defined use of head government and interprets Case assignment as an aspect of specifier-head relationships only. This approach requires LF movement of the Case assignee in examples such as (100) and (101), but permits a unified structural definition of Case assignment.

Antecedent government, such as formulated in Chomsky's (1986b) *Barriers* theory, is similarly problematic within a Minimalist approach which seeks to reduce all structural relationships to simple X' theoretic terms. The *Barriers* notions of 'blocking category', 'barrier', L-marking', 'direct theta marking', 'indirect theta marking', and 'minimality', are not clearly reducible to simple X' primitives, and the phenomena which originally motivated these devices must be reanalyzed. In rejecting both head government, beyond simple head-complement relationships, and antecedent government, however, the Minimalist Program rejects the two main components of the ECP and thus questions the existence of the ECP as an aspect of grammar. Moreover, recent works such as Takano (1994) provide analyses of ECP based phenomena within the Minimalist Framework. With both its theoretical and empirical foundations challenged, the ECP plausibly falls outside of the domain of minimal conceptual necessities, and analyses which make use of the ECP within a Minimalist Framework are therefore suspect.

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In summary, the analyses of Superiority and Anti-Superiority presented above are empirically inadequate and theoretically incompatible with the Minimalist tenets adopted in this dissertation. The proposed analyses must obviously be rejected in favor of alternative, Minimalist compatible theories with broader empirical coverage. As summarized below, Hornstein (1995) provides one such approach, unifying the analyses of Superiority and Anti-Superiority within one Minimalist compatible account.[24]

4.5.6 Superiority and Anti-Superiority as Weak Cross Over

Hornstein (1995) argues that a unified analysis of Pair-List interpretations (PL) and Weak Cross Over effects (WCO) proposed in Chierchia (1991) can be extended to an account of both Superiority and Anti-Superiority phenomena in English and Japanese. Hornstein provides the informal definition for the Weak Cross Over Principle given in (103).

(103) Weak Cross Over Principle: A pronoun cannot be linked to a variable on its right
*Q ... pronoun ... vbl ... [Hornstein 1995: 100]

[24] Cheng (1991) utilizes Chomsky's (1991) Economy of Derivation in a Minimalist compatible analysis of Superiority effects. Economy of Derivation essentially requires that with two competing derivations, the derivation with the shortest and/or fewest steps be taken. When two elements are eligible to raise to a particular syntactic position, the hierarchically superior element will raise as raising the lower element would necessarily yield a derivation with a longer step. As English Wh subjects are hierarchically superior to Wh objects, for example, Wh subjects, rather than Wh objects, raise to Spec CP in multiple Wh questions. While such an approach to Superiority can explain all instances in which the hierarchically superior Wh element must raise, it cannot account for Japanese Anti-Superiority effects in which a lower Wh element takes precedence in raising. Moreover, such an approach cannot account for the alleviation of Superiority effects through the addition of a third Wh phrase. Raising the Wh object 'what' past the Wh subject 'who', for example, is as equally uneconomical in (i) as it is in (ii).

(i) *What$_1$ did who buy t$_1$? (ii) What$_1$ did who buy t$_1$ when ?

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While this informal definition is sufficient for the discussion herein, Hornstein ultimately provides a more formal definition using a structural command relationship which distinguishes specifiers and adjuncts from complements. The use of linking (Higginbotham 1983, 1985), as opposed to straightforward coindexation, is discussed below.

(103) correctly predicts the ungrammaticality of typical WCO violations such as those in (104) and (105).

(104) ?? His$_1$ mother loves everyone$_1$.
< for each person x, x's mother loves x >

(105) ?? Who$_1$ does his$_1$ boss like ?
< which person(s) x, x's boss likes x ? >

Under the intended interpretations of each of these examples, a pronoun is linked to a variable on its right, in violation of the WCO Principle. In (104), the variable is the trace left by the LF movement of 'everyone'.[25] In (105), the variable is the trace of the overt movement of the Wh phrase 'who'. The diagrams in (106) and (107) provide the LF representations for these sentences.

(106) [$_{IP}$ everyone$_1$ [$_{IP}$ his$_1$ mother loves t$_1$]]
└── *wco ──┘

(107) [$_{CP}$ who$_1$ [$_{IP}$ his$_1$ boss like t$_1$]]
└── *wco ──┘

[25] Hornstein argues against LF Quantifier Raising and notes that the WCO dependency will have to be stated in terms of a quantified phrase itself, rather than a trace of LF movement.

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Examples (104) and (105) contrast with their grammatical counterparts, (108) and (109), in which the phrase including the pronoun 'his' is realized as object rather than subject.

(108) Everyone$_1$ loves his$_1$ mother.
< for each person x, x loves x's mother >

(109) Who$_1$ likes his$_1$ boss ?
< which person(s) x, x likes x's boss ? >

The LF representations for these examples are given in (110) and (111). Note that in each case the pronoun 'his' is not linked to a variable on its right and thus satisfies the WCO Principle as stated in (103).

(110) [$_{IP}$ everyone$_1$[$_{IP}$ t$_1$ loves his$_1$ mother]]
└─ ok ─┘

(111) [$_{CP}$ who$_1$ [$_{IP}$ t$_1$ likes his$_1$ boss]]
└─ ok ─┘

Chierchia (1991) argues that the availability of Pair-List readings in sentences with both Wh phrases and quantifiers can be explained as an aspect of the more general WCO phenomena discussed above. Consider the asymmetry in (112) and (113) with respect to the availability of PL readings.

(112) What did every student read ? PL ok
< for every student x, what did x read ? >

(113) Who read every book ? PL *
< *for every book x, who read x ? >

Note that a PL reading is available for (112) but not for (113). The question posed in (112), for example, could be answered by providing a list of students and indicating for

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each of those students what particular book they read, i.e., 'Murat read *The Minimalist Program*, Dan read *Optimality Theory*, etc.'. The question in (113), on the other hand, can only be interpreted as asking which one individual read all of the books, and can only be answered by identifying that one individual, i.e., 'Filippo read every book'.

Chierchia proposes that the traces of Wh phrases involved in PL interpretations have a complex internal structure.[26] Specifically, Chierchia argues that Wh traces in PL interpretations consist of both an empty category with a functional index and an empty element with an argument index. The former element, represented as t_i in (114), serves as the actual trace bound by the raised Wh word, while the latter element, represented as pro_j, acts like a bound pronoun.

(114) Wh trace (pair-list reading) = [pro_j t_i]

The LF representation for the grammatical PL reading in (112) is provided in (115). The null pronominal element in the complex trace of 'what' is bound by the quantified expression 'every student', but is not linked to a variable on its right. The association of 'every student' and pro thus provides the PL interpretation of the sentence without inducing a violation of the WCO Principle.

(115) $[_{CP}$ what$_1$ [did $[_{IP}$ every student$_2$ $[_{IP}$ t_2 read [pro$_2$ t_1]]]]]
└ ok ┘

The LF representation for (113), which lacks a PL interpretation, is given in (116). In this case, the null pronominal element associated with the Wh trace is linked to a variable

[26] This complex structure is also present for traces under a functional interpretation. A functional interpretation of 'what' in (112) would be answered, for example, by 'his/her assigned book'. See Chierchia 1991, Hornstein 1995, and Beghelli 1996 for discussion.

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on its right. The PL reading for this question is thus excluded as a violation of the WCO Principle.

(116) $[_{CP}$ who$_1$ $[_{IP}$ every book$_2$ $[_{IP}$ $[$pro$_2$, t$_1$$]$ read t$_2$ $]]]$
└ *WCO ┘

Hornstein (1995) argues that the same formal devices employed in the analysis of WCO effects and PL readings above can be used in an analysis of Superiority effects in multiple Wh questions. First, Hornstein claims that all multiple Wh questions obligatorily receive PL readings. The appropriate response to (117), for example, involves listing the complete set of pairs between readers and books read.

(117) Who read what ?

This interpretation parallels the PL interpretation for (112) 'What did everyone read?' in which the quantifier 'everyone' generates a set of readers and the interrogative 'what' inquires what each of those readers read.

Hornstein suggests that one Wh phrase, the Wh phrase overtly raised to Spec CP in English, is interpreted as a generator, on par with quantified expressions in examples such as (112), while all other Wh phrases, the in situ Wh phrases in English, are interpreted with the complex structure in (114). Hornstein refers to this latter

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interpretation of a Wh phrase as its 'functional interpretation'.[27] (118) illustrates the LF representation for (117) within Hornstein's analysis.[28]

(118) $[_{CP}\ \text{who}_1\ [_{IP}\ \underbrace{t_1\ \text{read}\ \{\text{what} = \text{pro}_1\ t_2\}}_{\text{ok}}\ ]]$

Within this approach, the ungrammaticality of Superiority violations, such as in (119), follow from the necessary linking of the null pronominal element in the in situ Wh phrase with the variable on its right. As with the cases discussed above, this linking violates the WCO Principle. (120) provides the LF representation for (119).

(119) * What did who buy ?

(120) $[_{CP}\ \text{what}_1\ [\text{did}\ [_{IP}\ \{\text{who} = \underbrace{\text{pro}_1\ t_2}_{*\text{wco}}\}\ \text{buy}\ t_1\ ]]]$

In summary, Chierchia's analysis assimilates WCO and PL phenomena. PL readings in Wh/Quantifier sentences are excluded in precisely the environments which yield WCO violations between quantifiers and bound pronouns. Hornstein extends this analysis to Superiority effects, arguing that Superiority violations arise precisely in the environments which induce WCO violations. Since the WCO Principle applies to traces of raised Wh phrases and Quantifier phrases, and to in situ Wh phrases and bound pronouns, WCO effects are necessarily determined on the basis of the underlying positions of the given Wh phrases, Quantifier phrases, and bound pronouns. Hornstein's

[27] Hornstein and Chierchia argue for distinct formal mechanisms for distinguishing PL Wh interpretations from functional Wh interpretations. In both approaches, however, Wh traces under either interpretation receive the complex structural analysis in (114).

[28] The given analysis assumes LF Wh movement and assignment of the complex structure to the LF Wh trace. Hornstein actually argues against LF Wh movement and interprets the in situ Wh phrase itself with complex structure. Hornstein's representation for 'what' in (118) would be $[\text{pro}_1\ N]$.

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approach thus predicts that any two arguments which induce a WCO violation will also induce a Superiority violation and exclude a PL reading. Similarly, any two arguments which do not induce a WCO violation are predicted to permit a PL interpretation and not induce a Superiority violation. As the examples below demonstrate with the direct and indirect object arguments of the verb 'show', these predictions are largely borne out.

To begin, (121a) demonstrates that a WCO violation occurs if the direct object of 'show' in a double object construction is a Quantifier phrase and the indirect object contains a bound pronominal element. Such a violation is not present when the grammatical roles are reversed and the Quantifier phrase surfaces as indirect object (121b).

(121a) * I showed his_1 owner every dog_1. *WCO

(121b) I showed every $owner_1$ his_1 dog. OK

Example (121a) violates the WCO Principle because the pronoun 'his' is linked to a variable, the trace of LF raised 'every dog', on its right. As Hornstein predicts, the structure in (121a) precludes a PL reading when the argument including the bound pronoun is replaced by a Wh phrase (122a), but the parallel case with (121b) is permitted (122b).

(122a) Who_2 did you show [pro_1 t_2] every dog_1 ? *PL reading

(122b) $What_2$ did you show $everyone_1$ [pro_1 t_2] ? OK PL reading

As illustrated, a PL reading in (122a) requires that the null pronominal element in the trace of 'who' be linked to a variable, the trace of LF raised 'every dog', on its right.

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Finally, the multiple Wh parallels of (121) pattern in acceptability with (121). In (121a), the indirect object contains the bound pronoun. In a multiple Wh question, the in situ Wh phrase is interpreted functionally and thus contains a null pronominal element. As (123a) illustrates, when the indirect object surfaces as an in situ Wh, a Superiority violation arises. When the direct object surfaces as an in situ Wh, however, the sentence is acceptable (123b).

(123a) *What$_1$ did you show {who = pro$_1$ t$_2$} t$_1$? *Superiority

(123b) Who$_1$ did you show t$_1$ {what = pro$_1$ t$_2$} ? OK

As indicated in (123a), the linking of the null pronominal element in the in situ Wh to a variable on its right, the trace of overtly raised 'what', violates the WCO Principle. The examples in (121) - (123) thus demonstrate that Hornstein's prediction, that WCO violations, Superiority effects, and the availability of PL readings pattern together, is largely correct.[29]

---

[29] Beghelli (1996), however, notes two empirical facts Hornstein's approach fails to capture. One, the choice of quantifier, 'each' versus 'every', influences the availability of PL readings but not WCO effects. As the examples in (i) - (iv) indicate, 'every' and 'each' induce similar WCO violations but the corresponding PL construction is prohibited only with 'every'.

(i)	?? His$_1$ mother accompanied every boy$_1$.	(iii)	Who read every book ?	*PL
(ii)	?? His$_1$ mother accompanied each boy$_1$.	(iv)	Who read each book ?	PL ok

Two, WCO effects and PL readings are not parallel in dative constructions. Examples (v) - (viii) demonstrate Beghelli's point using the dative correlates of the double object constructions in (426) - (428). While WCO orders the direct object above the indirect object, PL readings are more readily available when the universal is an indirect object.

(v)	* I showed his$_1$ dog to every owner$_1$.	(vii)	What did you show to every owner ? PL ok
(vi)	I showed every dog$_1$ to his$_1$ owner.	(viii)	Who did you show every dog to ? *PL

While all native English speakers consulted with respect to (vii) and (viii) agreed with the given judgments, note that Hornstein provides the parallel examples, (ix) and (x), with reverse judgements.

- *Continued on Next Page* -

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Hornstein (1995) further demonstrates that the analysis of Superiority as WCO provides an explanation for the alleviation of Superiority effects present with two Wh phrases by the addition of a third Wh phrase.[30] Consider the English examples in (124).

(124a) *What did who buy there ?

(124b) What did who buy where ?

(ix)	What did you assign to every student ?	Hornstein (1995:127): *PL
(x)	Who did you assign every problem to ?	Hornstein (1995:127): PL ok

For the speakers consulted herein, the PL judgements for (ix) and (x) parallel those in (vii) and (viii). Note, however, that regardless of the parallels between PL readings and WCO effects, these examples do maintain the parallel between WCO and Superiority violations. Examples (xi) and (xii) are the multiple Wh counterparts of (v) and (vi).

(xi)	*Who did you show what to ?	Superiority Violation
(xii)	What did you show to who ?	OK

[30] WCO violations are also alleviated by the presence of an additional bound pronominal below the arguments involved in the violation (i)-(ii).

(i)	*His$_1$ mother introduced every boy$_1$ to Mary.	[Hornstein 1995:103]
(ii)	His$_1$ mother introduced every boy$_1$ to his$_1$ teacher.	[Hornstein 1995:103]

Hornstein (1995) notes that any anaphoric element can salvage a violation. In (iv), the PRO infinitival subject salvages the structure.

(iii)	*His$_1$ mother persuaded every boy$_1$ that Mary should participate.	[Hornstein 1995:104]
(iv)	His$_1$ mother persuaded every boy$_1$ PRO to participate.	[Hornstein 1995:104]

Hornstein further notes that any anaphoric element can similarly salvage a PL interpretation or a Superiority violation. The additional pronoun in (vi) makes available a PL reading, while the pronoun in (viii) improves the grammaticality of a Superiority violation.

(v)	Who escorted every boy to Sheila's bus ?	*PL	[Hornstein 1995:117]
(vi)	Who escorted every boy$_1$ to his$_1$ bus ?	PL OK	[Hornstein 1995:117]

(vii)	*What did who reveal about Paul ?	[Hornstein 1995:144]
(viii)	What did who reveal about his mother ?	[Hornstein 1995:144]

Hornstein provides LF representations for these examples and others which salvage WCO violations, Superiority violations, or PL readings in a manner parallel to that discussed for (104) herein.

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Example (124a) is a typical Superiority violation. (125) provides the LF representation for (124a), given Hornstein's analysis of Superiority as WCO. The null pronominal element in the in situ Wh phrase 'who' is linked to a variable on its right, in violation of the WCO Principle.

(125) $[_{CP}$ what$_1$ [did $[_{IP}$ {who = pro$_1$ t$_2$} buy t$_1$ there]]]
└ *wco ┘

The additional in situ Wh phrase 'where' in (124b) greatly improves this example as it provides a linking for the empty pronominal element in 'who' that does not violate the WCO Principle. The LF representation for (124b) is given in (126). Note that the required analysis requires the use of linking (Higginbotham 1983, 1985) rather than coindexation as the primary means of association. While the two pro elements are coindexed with the variable trace of the raised Wh, only the pro associated with 'where' is linked to that variable.

(126) $[_{CP}$ what$_1$ [did $[_{IP}$ {who = pro$_1$ t$_2$} buy t$_1$ {where = pro$_1$ t$_3$}]]]

Finally, Hornstein, following a proposal by S. Watanabe (1994), demonstrates that the analysis of Superiority as WCO can be extended to an analysis of Anti-Superiority effects as well. The basic Anti-Superiority cases in Japanese, discussed in Section 4.4, are repeated here as (127) and (128).

(127) John-ga nani -o naze katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom what-Acc why bought Q = (44a)
'John bought what why ?'

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(128) * John-ga naze nani -o katta no ? [Japanese - Saito 1992, S. Watanabe 1994:394]
John-Nom why what-Acc bought Q = (44b)
'John bought why what ?'

These examples demonstrate that a multiple Wh question involving *nani* 'what' and *naze* 'why' is possible in Japanese, but only if *nani* precedes *naze*. S. Watanabe argues that these examples fall within Hornstein's WCO analysis of Superiority given the additional assumption that *naze* 'why' cannot function as a generator. When *naze* surfaces in a multiple Wh question, *naze* necessarily receives a functional interpretation and is assigned a complex structure which includes a null pronominal element. To explain the inability of *naze* to serve as a generator, Watanabe proposes that generators must range over individuals but that *naze* 'why' ranges over non-individuals. Partial LF representations of (127) and (128) provided by Hornstein's analysis are given in (129) and (130).[31] As illustrated, the link between the null pronominal element and the Wh variable element to its right in (130) violates the WCO Principle.

(129) john-ga nani -o ... naze katta no ?
Wh_1 ... $\{pro_1\ N\}$

(130) *john-ga naze ... nani -o katta no ?
$\{pro_1\ N\}$ ... Wh_1
*wco

[31] Hornstein assumes, following A. Watanabe (1992), that one covert +Wh operator raises to Spec CP overtly in Japanese (See Section 4.5.4). Hornstein further assumes that it is the +Wh operator of the Wh phrase interpreted as generator that raises, and that the Wh indexed with this operator in Spec CP counts as the variable position with respect to WCO effects. Since there is no Superiority condition per se, nothing necessarily prohibits the operator of a lower Wh phrase raising to Spec CP past the operator of a higher Wh phrase.

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Hornstein's analysis also provides an account of the alleviation of Anti-Superiority effects through the addition of a third Wh phrase.[32] The examples below demonstrate the alleviation of Anti-Superiority effects present with two Wh phrases through the addition of a third Wh phrase preceding (131) or following (132) the original Wh phrases.

(131) Dare-ga / ?*John-wa naze nani-o tabeta no? = (49a,b)
Who-Nom / ?*John-Top why what-Acc ate Q
i) *'John ate why what?'
ii) 'Who ate why what?'

(132) naze dare -ga ?doko/*soko-ni itta no ? = (48a,b)
why who-Nom ?where / *there-to went Q
i) *'Why who went there?'
ii) ?'Why who went where?'

As with the alleviation of Superiority effects, the additional Wh phrase makes possible an LF representation in which no pronominal element is linked to a variable on its right, in violation of the WCO Principle. Partial LF representations for the grammatical cases in (131) and (132) are provided in (133) and (134).

(133) dare-ga ... naze ... nani-o tabeta no?
Wh_1 ... $\{pro_1\ N\}$ ... $\{pro_1\ N\}$

[32] As with the Superiority, WCO, and PL examples discussed in Hornstein (1995), any anaphoric element can alleviate an Anti-Superiority violation. S. Watanabe (1994) provides the following examples in which a bound pronoun alleviates an Anti-Superiority violation.

(i) *Naze dare-ga Mary-o [Tom-no uchi]-ni tsureteitta no ? [Japanese, S. Watanabe 1994:403]
why who-Nom -Acc -Gen home-to took Q
*'Why who took Mary to Tom's place?'

(ii) Naze $dare_1$-ga Mary-o [$soitsu_1$-no uchi]-ni tsureteitta no ? [Japanese, S. Watanabe 1994:403]
why who-Nom -Acc self -Gen home -to took Q
'Why who_1 took Mary to [his_1 own place]?'

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(134) ?naze ... dare -ga ... doko-ni itta no ?

{pro$_1$ N} ... Wh$_1$ ... {pro$_1$ N}

4.6 Superiority and Anti-Superiority in Western Apache

Hornstein's (1995) WCO analysis of Superiority and Anti-Superiority can be directly applied to the Western Apache Superiority and Anti-Superiority phenomena presented in sections 4.3 and 4.4. Examples (135) - (136) repeat the primary Western Apache Superiority paradigm discussed in Section 4.3.

(135a) Hadíń hant'é náágole' ? = (19)
who what 3sg.imprf.build
Who is building what ?

(135b) Hant'é hastiin náágole' ? = (21)
what old.man 3sg.imprf.build
What is the old man building ?

(135c) * Hant'é hadíń náágole' ? = (23)
what who 3sg.imprf.build
Who is building what ?
[Meaning interpretable, but sentence not ok on any reading. 'What is someone building?' probably not ok either.]

While both arguments in a transitive clause may be realized as Wh words (135a), and Wh objects may typically raise to clause initial positions (135b), movement of a Wh object is blocked by a Wh subject (135c). (136) and (137) provide partial LF representations for (135a) and (135c), respectively. The analysis functions with or without LF Wh movement, but requires that a WCO violation result from the linking of the null

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pronominal element in a functionally interpreted Wh phrase with a Wh Generator, or its trace, on the right.[33]

(136) hadín hant'é náágole' LF for (135a)
Wh-Gen$_1$/t$_1$ {pro$_1$ ha$_2$}

(137) *[$_{WhP}$ hant'é$_1$ [$_{IP}$ hadín t$_1$ náágole' LF for (135c)
Wh-Gen$_1$ {pro$_1$ ha$_2$} t$_1$
*wco

In (136), pro$_1$ of functionally interpreted *hant'é* 'what' is linked either to *hadín* 'who' as an in situ generator, or, to t$_1$, the trace of overtly or covertly raised *hadín*. In either case, pro$_1$ is not linked to a variable on its right and thus satisfies the WCO Principle. In (137), *hant'é* 'what' has overtly raised to Spec WhP and has necessarily left a trace in the canonical object position. Linking pro$_1$ of functionally interpreted *hadín* to this variable, however, violates the WCO Principle and the example is correctly predicted to be ungrammatical.[34]

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[33] Wh Generators are marked as *Wh-Gen* coindexed with their traces of overt movement *t*. In examples where overt movement of the Wh Generator has not obviously occurred, the Generator is marked as *Wh-Gen/t* which is neutral with respect to the application of LF Wh movement. Functionally interpreted Wh phrases are marked as *{pro ha}*, with *pro* serving as the pronominal element bound to the Wh Generator and *ha* neutral in reference to either the in situ Wh phrase itself, or the trace of the LF raised Wh phrase.

[34] Direct linking of pro$_1$ to the Wh phrase in Spec CP, to its left, must be prohibited. Hornstein notes such a restriction is required (Hornstein 1995, p. 220 footnote #4) to exclude even simple instances of WCO. (i), for example, violates the WCO Principle only if 'his' is linked to the trace of LF raised 'everyone' rather than directly to the IP adjoined quantifier itself.

(i) [$_{IP}$ everyone$_1$ [$_{IP}$ his$_1$ mother kissed t$_1$] *'His$_1$ mother kissed everyone$_1$.'

This particular example is not problematic in Hornstein's ultimate analysis which eliminates quantifier raising at LF, but the prohibition against pro linking to A' positions is independently required for cases of overtly raised Wh phrases. See Section 8.3.1 for an argument against the binding of pro from A' positions.

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If the possibility that Wh Generators may be computed in situ is to be seriously considered, an alternative LF representation for the Superiority violation in (135c) must be ruled out. Compare the representation in (137) with that given in (138). In (138), the in situ Wh phrase *hadín* is analyzed as the Wh-Generator and either *hant'é* itself, or its trace, is analyzed with complex functional structure.

(138) *[$_{WhP}$ hant'é$_2$ [$_{IP}$ hadín$_1$ t$_2$ náágole' LF' for (135c)
{pro$_1$ ha$_2$} Wh-Gen$_1$/t$_1$ {pro$_1$ ha$_2$}

This representation raises a problem, however, in that nothing discussed so far prohibits the linking of Wh-Gen$_1$ with either of the hypothesized pro elements. Wh-Gen$_1$/t$_1$ can in theory be linked to the pro$_1$ in argument position without violating the WCO Principle, and the alternative of linking Wh-Gen$_1$ to the pro$_1$ in Spec WhP has not yet been considered. Nevertheless, as in situ Wh generators will be independently motivated in the discussion of Western Apache Anti-Superiority effects, the representation in (138) must be excluded.

To this end, note that the discussion of indefinite/polarity interpretations for *ha-* words in Section 3.4 clearly indicates that it is the overt position of a *ha-* word that is relevant to its interpretation and status as a bound element. Specifically, *ha-* words must be overtly c-commanded by their binders.[35] As a Wh Generator provides the interpretation of a functionally interpreted Wh phrase through a binding relationship, it is reasonable to assume that Wh Generators serve as binders to functionally interpreted Wh phrases. As such, a Western Apache Wh phrase, as Wh-Generator, must overtly c-

[35] In the case of *ha-shi* indefinites, the *ha-* words raise to the specifier position of the binder.

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command a functionally interpreted Wh phrase. Although nothing a priori prohibits the interpretation of *hadín* in (138) as Wh Generator, the failure of *hadín* to overtly c-command the functionally interpreted Wh phrase *hant'é* violates the structural requirement on *ha-* binding and results in ungrammaticality.

The alleviation of Superiority violations present with two Wh phrases through the addition of a third Wh phrase also falls within Hornstein's WCO approach to Superiority. Example (139) demonstrates the alleviation of the Superiority violation in (135c) through the addition of the Wh adjunct *hayú* 'where'.

(139) Hant'é hadín hayú náágole' ? = (34)
what who where 3sg.imprf.build
Who is building what where ?
[Speaker comment: the additional word *hayú* somehow makes **hant'é hadín náágole'* ok. Could be answered, for example, by three different people, with three different things built at three different places.]

(140) provides the relevant LF representation for (139).[36]

(140) [WhP hant'é$_1$ [IP hadín t$_1$ hayú náágole' LF for (139)

Wh-Gen$_1$ {pro$_1$ *ha*$_2$}t$_1$ {pro$_1$ *ha*$_3$}

[36] Although Western Apache objects and Wh adjuncts are freely ordered with respect to each other (Section 2.3), the WCO analysis requires that Wh objects may raise to Spec CP from a position above a VP adverbial Wh adjunct. The alternative would yield the representation in (i), which requires one pro be linked, to the right and in violation of the WCO Principle, to the variable left by overt Wh movement .

(i) what$_1$ who where t$_1$
Wh-Gen$_1$ {pro$_1$ ha$_2$} {pro$_1$ ha$_3$} t$_1$

Section 5.5 discusses the position of Wh objects and VP Wh adjuncts and argues that the relative ordering of these elements follows from scrambling. Wh objects and Wh adjuncts do not interfere with each other in movement to Spec CP.

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The presence of *hayú* in (140) provides a possible linking representation in which neither pro is linked to a variable on its right.

For Anti-Superiority effects present in Western Apache questions with both *ha-* arguments and *ha-* adjuncts, two distinct scenarios must be considered. By hypothesis, *ha-* adjuncts are freely ordered with respect to *ha-* objects, but must raise to Spec WhP to precede a *ha-* subject.[37] Given this hypothesis, only in the latter case do the *ha-* adjuncts leave an overt trace that is subject to the WCO Principle. The two scenarios are discussed in turn below.

Examples (141) and (142) demonstrate the basic Anti-Superiority paradigm (Section 4.4) with a *ha-* object and a *ha-* adjunct. When the *ha-* object precedes the *ha-* adjunct (141), both elements are interpreted as interrogative Wh phrases. When the *ha-* adjunct precedes the *ha-* object (142), however, only the adjunct is interpreted interrogatively. The *ha-* object in these cases receives an indefinite interpretation.

(141) Isdzan hant'é hayú yiztaɬ ? = (43a)
woman what where 3sg.perf.kick
What did the woman kick and where/to where ?

(142) Isdzan hayú hant'é yiztaɬ ? = (42a)
woman where what 3sg.perf.kick
Where did the woman kick something ?

As noted in Section 4.4, the paradigm in (141) and (142) holds for all Western Apache *ha-* adjuncts. S. Watanabe (1994) proposes that a similar paradigm with the Wh adjunct *naze* 'why' in Japanese (Section 4.5.6) results from the inability of Japanese 'why' to serve as a Wh Generator within a Hornstein style WCO analysis. The WCO analysis can be

[37] See Section 2.3, Section 5.5, and the preceding footnote for discussion.

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maintained for Western Apache if it is assumed that none of the Western Apache *ha*-adjuncts can serve as Wh generators.[38] For an interpretation as multiple Wh questions, examples (141) and (142) thus require that *hant'é* 'what' be interpreted as Wh Generator. The relevant LF representations for multiple Wh readings of (141) and (142) are given in (143) and (144), respectively.

(143) isdzan hant'é hayú yiztał LF for (141)
Wh-Gen$_1$/t$_1$ {pro$_1$ ha$_2$}

(144) isdzan hayú hant'é yiztał LF for (142)
{pro$_1$ ha$_2$} Wh-Gen$_1$/t$_1$
*wco

In (143), the null pronominal element of functionally interpreted *hayú* 'where' is linked either directly to the preceding in situ Wh Generator or to the trace of the LF raised Wh Generator. In either case, the linking satisfies the WCO Principle and the example is appropriately interpreted as a multiple Wh question. In (144), *hayú*, by definition, cannot serve as Wh Generator and must receive a functional interpretation. The null pronominal element in the representation of *hayú*, however, will necessarily be linked, in violation of the WCO Principle, to either the in situ Wh Generator to its right, or the trace of the Wh Generator raised to Spec WhP at LF.[39] Example (144) does not receive a valid representation as a multiple Wh question and the sentence is realized as a single

[38] S. Watanabe specifically proposes that Japanese naze 'why' cannot serve as a generator because it cannot range over individuals. A. Szabolcsi (personal communication) notes that this is one aspect in which languages may vary. Japanese, Korean, and Hungarian, for example, can easily individuate things that 'when' ranges over, while such interpretations are awkward in English. Note that status of Wh adjuncts other than 'why' with respect to Anti-Superiority is not discussed in the relevant literature for Japanese and Chinese.

[39] (144) is also ruled out by the requirement that the Wh-Generator overtly c-command a functionally interpreted Wh phrase.

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Wh question with *hayú* interpreted as interrogative 'where' and *hant'é* interpreted as non-interrogative 'something'.[40]

An additional *ha-* argument, such as *hadín* in (145), salvages the Anti-Superiority violation in (142) by providing a possible linking representation that does not violate the WCO Principle.

(145) Hadín hayú hant'é yiztaɬ ? = (54)
who where what 3sg.perf.kick
Who kicked what where ?

(146) provides the relevant LF representation of (145). Neither pro in (145) is linked to a variable on its right.

(146) hadín hayú hant'é yiztaɬ
Wh-Gen$_1$/t$_1$ {pro$_1$ ha$_2$} {pro$_1$ ha$_3$}

Consider next instances where the *ha-* adjunct has overtly raised to Spec WhP, leaving an IP internal trace. Examples (147) and (148) illustrate the basic Anti-Superiority paradigm with *hayú* 'where' and *hadín* 'who' as subject.

(147) Hadín hayú ma' yizkah ?
who where coyote 3sg.perf.shoot
Who shot the coyote and where did he/she do it ?

[40] What remains to be explained is why the *ha-* subject in Superiority violations with two *ha-* arguments (135c) cannot be interpreted as an indefinite. Possibly the ungrammaticality in the case of two arguments follows from the added ambiguity the reordering of arguments places on the sentence. The ordering of *ha-* adjunct and *ha-* object in Anti-Superiority violations does not alter the canonical SOV structure of a clause and does not introduce ambiguity with respect to grammatical roles.

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(148) Hayú hadín ma' yizkah ? = (50)
where who coyote 3sg.perf.shoot
Where did somebody shoot the coyote ?

When the *ha-* argument precedes the *ha-* adjunct (147), both *ha-* words receive interrogative Wh interpretations. When the *ha-* adjunct precedes the *ha-* argument (148), however, only the adjunct receives an interrogative interpretation. The *ha-* argument, in such cases, is interpreted as an indefinite. (149) and (150) provide the relevant LF representations for (147) and (148) respectively. As discussed above, the *ha-* adjuncts cannot serve as Wh Generators.

(149) hadín hayú ma' yizkah
Wh-Gen$_1$/t$_1$ {pro$_1$ ha$_2$}

(150) [$_{WhP}$ hayú$_2$ [$_{IP}$ hadín t$_2$ ma' yizkah
{pro$_1$ ha$_2$} Wh-Gen$_1$/t$_1$ {pro$_1$ t$_2$}

The analysis in (149) is straightforward, the null pronominal element for functionally interpreted *hayú* 'where' is linked, to its left, to the in situ Wh Generator or the trace of the LF raised Wh Generator. Either linking satisfies the WCO Principle and the example is appropriately interpreted as a multiple Wh question. The analysis of (150) is less obvious and requires the constraint adopted for (138) which requires that a Wh Generator overtly c-command a functionally interpreted Wh phrase. This constraint is violated in (150), but nothing otherwise prohibits linking pro in the trace of raised *hayú* to the Wh Generator/trace on its left. Since (150) violates the overt c-command constraint on the binding of functionally interpreted Wh phrases, however, the

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representation is ruled out and a multiple Wh question interpretation for (148) is excluded.[41]

The addition of a third Wh phrase, either adjunct (151) or argument (152), alleviates the Anti-Superiority violation in (148).

(151) Hayú hadín hant'éwạ ma' yizkah ? = (51)
where who why coyote 3sg.perf.shoot
Where did who shoot the coyote and for what purpose did he/she do it ?
[Three questions in one.]

(152) Hayú hadín hant'é yizkah ? = (52)
where who what 3sg.perf.shoot
Where did who shoot what ?
[Three questions in one.]

The relevant LF representation common to both (151) and (152) is given in (153). Again, the additional Wh phrase makes possible a linking representation that satisfies the WCO Principle.[42]

(153) [$_{WhP}$ hayú$_2$ [$_{IP}$ hadín t_2 hant'é | hant'éwạ yizkah

Wh-Gen$_1$/t$_1$ {pro$_1$ t$_2$} {pro$_1$ ha$_3$}

[41] This analysis assumes the proposal in Section 5.5 that *ha-* adjuncts precede the subject only through overt raising to Spec CP. (147) and (148) can be analyzed in parallel to (141) and (142) if *ha-* adjuncts can surface in clause initial position without leaving an IP internal trace.

[42] Although the pro in the trace of *hayú* is included in the linking in (153), the theoretical status of *hayú* in the representation is not clear. What is crucial, however, is that an appropriate Wh Generator overtly c-commands a functionally interpreted Wh phrase without a linking relationship which violates the WCO Principle.

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In summary, Hornstein's analysis of Superiority and Anti-Superiority effects as WCO can be applied to the Superiority and Anti-Superiority phenomena of Western Apache. The Western Apache paradigm, however, additionally requires a constraint that Wh Generators overtly c-command a functionally interpreted Wh phrase in valid multiple Wh questions. The key components of the approach are given in (154).

(154a) Wh Generators must overtly c-command a functionally interpreted Wh phrase.

(154b) Wh adjuncts cannot serve as Wh Generators.

(154c) WCO Principle (informal) : pro cannot be linked to a variable on its right.

The proposed analysis is the only approach to Superiority/Anti-Superiority in the current literature that can adequately account for the Western Apache data. The analysis does not utilize the ECP, is compatible with basic Minimalist assumptions, and accounts for the superficially distinct phenomena of Superiority and Anti-Superiority within a single, unified approach.

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CHAPTER 5

THE *-go* AND *-híí* PARTICLES WITH NOMINAL ARGUMENTS

In Section 1.6.7, I discussed several inflectional particles present in Western Apache grammar. In this chapter, I introduce two additional particles, *-go* and *-híí*, and explore their use and distribution as NP modifiers.[1] Sections 5.1 through 5.3 provide a few preliminary comments on the syntactic analysis of these particles in declarative sentences. The significance of *-go* and *-híí* to this dissertation, however, resides primarily in their interaction with *ha-* words used as interrogative Wh phrases. I investigate this interaction in detail in Section 5.4 and provide a structural analysis for cooccurrence restrictions present between Wh phrases and NP arguments marked by the particle *-go*. I discuss the implications of this structural analysis for Western Apache clause structure, using the analysis as a diagnostic tool in an investigation of Wh adjunct positioning and optional OSV word order. The discussion provides an additional perspective on the analysis of Superiority phenomena as Weak Cross Over effects (Hornstein 1995) or as aspects of the Path Containment Condition (Pesetsky 1982, May 1985), and offers some support for an expanded VP shell approach (Sportiche 1997) to clausal architecture.

Sections 5.1 and 5.2 introduce the *-go* and *-híí* particles in their use as nominal modifiers. In this use, the particles surface immediately following a nominal argument and influence the referential properties of that argument. Although the exact categorial label assigned to the *-go* and *-híí* particles is of little significance in the arguments discussed in this chapter, I will leave open the possibility that these particles are

[1] Chapter 6 discusses the use of *-go* and *-híí* as complementizers.

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determiners and will refer to the nominal arguments modified by *-go* and *-hií* as NP rather than DP.

5.1 *-go* as a Marker of Contrastive Focus

Bare NP, names, and *ha-* words are interpreted as contrastively focused when immediately preceding the particle *-go*.

5.1.1 *-go* on NP

Example (1) demonstrates a simple transitive construction. As the example includes no overt demonstratives, determiners,[2] or quantifiers, the definiteness/specificity of the overt arguments is determined solely on the basis of discourse context.

(1) Hastiin kịh náágole'.
old.man house 3sg.imprf.build
The/an old man is building the/a house.

In simple declaratives such as (1), the particle *-go* may surface immediately following any nominal argument. As illustrated in (2) and (3), an argument followed by *-go* is interpreted as contrastively focused, but is still unspecified with respect to definiteness/specificity.[3]

[2] Western Apache has no overt determiners corresponding to English 'the' or 'a' (Section 1.6.4).

[3] Contrastive focus will be indicated by capitalization in the English translation. The particle *-go*, as an NP modifier, will be glossed as FOCus.

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(2) Hastiin go ḳih náágole'.
old.man FOC house 3sg.imprf.build
THE/AN OLD MAN is building the house.
[Not the boy. THE context: of all old men here, old, young, etc., I choose the old man. Assumption that only 1 elderly man present. AN context: Two groups of people, only one set qualify as *hastiin*, one of them (*hastiin*) is building but you don't know who. Note: hastiin implies status. A 23 year old doctor qualifies, a 23 year old unemployed, unmotivated individual may not. Involves position in community and respect. Age counts but not critical.]

(3) Hastiin ḳih go náágole'.
old.man house FOC 3sg.imprf.build
The old man is building A/THE HOUSE.
[As opposed to a boat.]

The contrastive focus readings in (2) and (3) are clear given the provided contexts. In each example, the NP-*go* argument is used to identify a particular entity out of a set of possible alternatives. The use of *hastiin go* 'THE/AN OLD MAN' in (2), for example, is salient in contexts where the single old man in a set of possible builders will construct the house, as well as in contexts where the identity of the builder is unknown other than that the builder will be a male with a certain number of years,[4] as opposed to a female or a younger male.

5.1.2 -*go* on Names

The particle -*go* can also surface as a contrastive focus marker following names. In (4) and (5), -*go* indicates that the particular person named is the relevant individual out of a presupposed set of possibly relevant individuals.

[4] *Hastiin* typically refers to an older individual but may also reference a younger man with a high degree of respect in the community.

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(4) John go Earl yo'ii'.
John FOC Earl 3sg.imprf.see
JOHN sees Earl.
[Out of Bob, Fred & John, John sees Earl.]

(5) John Earl go yo'ii'.
John Earl FOC 3sg.imprf.see
John sees EARL.

No presupposed set of potentially relevant individuals is necessary in the absence of *-go*.

(6) John Earl yo'ii'.
John Earl 3sg.imprf.see
John sees Earl.

5.1.3 *-go* on Wh Phrases

Following a *ha-* word used as an interrogative Wh phrase, the particle *-go* indicates that the answer to the Wh question will not include individuals or entities in a presupposed set of individuals or entities in the discourse. The interpretation is similar to the Discourse-Linked reading of 'which' phrases in English which also necessarily refer to a presupposed set of individuals or entities of relevance to the Wh question (Pesetsky 1987), but is distinct in indicating that the answer to the question is not included in this set. The referent of the *ha-* word is contrastively focused with respect to the presupposed set of individuals or entities as a whole. This contrastive D-Linked reading is not present in corresponding Wh questions which lack the *-go* particle. (7a) and (7b) demonstrate the reading induced by *-go* following a Wh subject. A set of potentially relevant builders is presupposed only in (7a).

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(7a) Hadín go kịh náágole' ?
who FOC house 3sg.imprf.build
Who is building the house ?
[Possible context: Five people should be building the house but aren't .. who is instead of them?]

(7b) Hadín kịh náágole' ?
who house 3sg.imprf.build
Who is building the house ?
[No difference in meaning between *hadín* in this sentence and in *hadín kịh go náágole'* , use *-shạ'* or *-go* for emphasis.]

Examples (8a) and (8b) demonstrate the similar effect of *-go* following a Wh object. A set of items which the old man might (should) be building is presupposed only in (8a).

(8a) Hastiin hant'é go náágole' ?
old.man what FOC 3sg.imprf.build
What is the old man building ?
[Possible context: Boss gave him these things to do, but he turned him down ... so what's he doing instead?]

(8b) Hastiin hant'é náágole' ?
old.man what 3sg.imprf.build
What is the old man building ?

Finally, a Wh word marked by the *-go* focus particle (9a) exhibits the same reordering phenomena, characterized as optional Wh movement in Section 2.2, available to its unmarked counterpart (9b).

(9a) Hant'é go hastiin náágole' ?
what FOC old.man 3sg.imprf.build
What is the old man building ?
[Same as *hastiin hant'é go náágole'* - instead of these things, what's he building?]

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(9b) Hant'é hastiin náágole' ?
what old.man 3sg.imprf.build
What is the old man building ?

Note that there is no apparent distinction in interpretation between sentences with raised Wh-*go* arguments (9a) and corresponding sentences in which the Wh-*go* argument remains in situ (8a).

5.1.4 -*go* as a Sentential Connector

One additional use of the particle -*go* following an NP argument is to connect two sentences together in a discourse. Example (10) illustrates the use of -*go* to connect the otherwise unrelated propositions 'Earl herds cattle' and 'John builds houses'.

(10) Earl magashi naiyood John go ḳih náágole' at'éé.
Earl cattle 3sg.imprf.herd John FOC house 3sg.imprf.build 3sg.imprf.be
Earl herds cattle but JOHN builds houses.
[...'but its John who builds houses.']

It is likely that *at'éé* 'he is' in (10) takes *John go* 'JOHN' as subject and *ḳih náágole'* 'he builds houses' as complement in the equivalent of an English cleft construction.[5] -*go* thus serves to contrastively focus 'JOHN', the subject of the cleft, with respect to the presupposed set of 'Earl' and 'John'. This focus interpretation is naturally translated as English 'but' or 'rather' in a series of related sentences.

[5] While I will not provide syntactic evidence in favor of such an analysis, the proposal is supported by the provided translation of *jaan go ḳih náágole' at'éé* as 'it is John who builds houses'.

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5.1.5 The Origin of *-go* as a Focus Marker

The examples above clearly indicate that *-go* in Western Apache serves as a marker of contrastive focus on preceding nominal arguments. This use of *-go*, however, is not noted in the Western Apache Dictionary (Perry et. al. 1972) or the grammatical sketch of the language provided by Edgerton (1963).[6] These references list *-go* only as a subordinating or conditional enclitic for clauses and adverbial expressions, and suggest the particle be glossed using English '-ing', '-ly', 'when', 'while', 'as', or, 'since'.[7] In fact, Edgerton specifically lists *-ga* as the Western Apache emphatic marker.

Young & Morgan (1987) provide *ga'* as the Navajo emphatic particle, and this element is characterized as a focus marker in Barss et. al. (1989). Young & Morgan also describe the clausal/adverbial uses of Navajo *-go*, but note further that *-go* may be used following nouns where it is ' roughly equivalent to "being" ' (Young & Morgan 1987:21). This latter use of *-go* in Navajo is demonstrated in example (11) with *shi-má-go* 'my-mother-being'. Possibly these examples may be analyzed as *-go* marking covert 'be'.

(11) Shimágo náshineesxaal. [Navajo, Young & Morgan 1987:21]
She, being my mother, beat me up.

There are two possible accounts of the origin of *-go* as a focus marker in modern Western Apache. First, *-go* may be derived directly from the *-ga* emphatic particle noted in Edgerton (1963) and presumably cognate with Navajo *ga'*. This approach would

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[6] Willem de Reuse (personal communication), confirms the use of *-go* as a focus marker with other Western Apache speakers not consulted for this dissertation.

[7] The adverbial use of *-go* is briefly discussed in Section 2.1.4. Examples of *-go* on subordinate and conditional clauses can be found in sections 2.2.2 and 3.3.3, respectively. See also Chapter 6.

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explain the absence of emphatic *-ga* in the modern dialect spoken by those speakers consulted for this dissertation, but there is no systematic diachronic change of [a] to [o] to support the analysis. Alternatively, *-go* as a focus marker could represent an extension in Western Apache of the clausal/adverbial use of *-go.* Chapter 6 will discuss the use of *-go* and *-hií* as complementizers and explore possible correlations with their use as NP modifiers (see Sections 6.1.3 and 6.3.1).

5.2 -hií as a +Specific/+Referential Marker

Bare NP, names, and *ha-* words used as Wh phrases are interpreted as specific and refer to particular individuals or entities present in the discourse context when immediately preceding the particle *-hií*.

5.2.1 *-hií* on NP

The particle *-hií* can surface immediately following any nominal argument in a clause. While bare NP are ambiguous with respect to definiteness and specificity, NP followed by *-hií* necessarily refer to particular, contextually identified, individuals or entities. Examples (12) and (13) illustrate the use of *-hií* following subject and object arguments in a transitive clause.[8]

(12) Hastiin hií ḳih náágole'.
old.man REF house 3sg.imprf.build
That particular old man is building a house.

[8] NP-*hií* arguments will be translated as 'that/this particular NP', following speaker suggestions, and the *-hií* particle will be glossed as REFerential.

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(13) Hastiin ḳih híí náágole'.
old.man house REF 3sg.imprf.build
The old man is building that particular house.

The felicitous use of an NP-*híí* argument entails that both speaker and listener can identify the specific individual or entity referenced. The identity of the referenced individual or entity can be known because the given NP is the topic of preceding conversation, clearly obvious in the physical environment in which the conversation occurs, or indicated deictically.

5.2.2 -*híí* on Names

The particle -*híí* can also surface following names. While names typically refer to a particular individual with or without -*híí*, the presence of the particle implies that the referenced individual is the topic of preceding conversation.

(14) John híí Earl yo'ii'.
John REF Earl 3sg.imprf.see
John sees Earl.
[We're talking about John prior to this.]

(15) John Earl híí yo'ii'.
John Earl REF 3sg.imprf.see
John sees Earl.
[We're already talking about Earl.]

5.2.3 -*híí* on Wh Phrases

The particle -*híí* provides a Discourse-Linked reading (Pesetsky 1987) to *ha*-words used as Wh phrases. In contrast to the corresponding Wh questions with -*go* (Section 5.1.3), the particle -*híí* does indicate that the answer to the question is expected to be a particular individual or entity included in the presupposed set of individuals or

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entities inherent to the D-Linked reading. Example (16), with *-hií* following the *ha-* subject *hadín* 'who', is felicitous in a context where the speaker has a particular set of individuals in mind who may be building a house and believes at least one individual in that set is in fact building the house.

(16) Hadín hií ḳih náágole' ?
who REF house 3sg.imprf.build
Who is building the/a house ?
['Which one is building the house?' The particular person. Possible context: You have three people in mind, which one of them? Without *-hií* you don't have any idea ahead of time. Without *-hií*, somebody could answer 'nobody'.]

Wh-*hií* forms, like their bare Wh and Wh-*go* counterparts in (7) - (9), can surface in situ (17) or raise to a clause initial position (18). In contrast to their bare Wh and Wh-*go* counterparts, however, the interpretation of a Wh-*hií* argument varies with position. The raised Wh-*hií* object in (18) does not refer to a presupposed set of entities, but does seem to necessarily refer to a particular entity present in the discourse.[9]

(17) John hant'é hií náágole' ?
John what REF 3sg.imprf.build
What is John building ?
['Which one is John building?' Which one out of the set of possibilities, e.g., hospital, house, hotel, etc.]

(18) Hant'é hií John náágole' ?
what REF John 3sg.imprf.build
What is John building ?
[Not the same as *John hant'é hií náágole'*. Person asking question doesn't know what the object is. They may or may not be able to see it, but they can't tell what it is. It is already known that John is building something, but it's not known ahead of time if John is building something if *-hií* is not present.]

[9] A parallel effect was noted for Wh objects marked by the question/focus particle *-lá* in Section 3.4.2.

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5.2.4 *-híí* as a Sentential Connector

Finally, *-híí* can be used to connect two otherwise independent propositions in a discourse. (19), parallel to example (10) with *-go*, demonstrates this use of *-híí*.

(19) Earl magashi naiyood John híí ḳih náágole' at'éé.
Earl cattle 3sg.imprf.herd John REF house 3sg.imprf.build 3sg.imprf.be
Earl herds cattle and John builds houses.

As discussed in the analysis for (10), I assume that *John híí* in (19) is the subject of *at'éé* 'he is' with the string *John híí ḳih náágole' at'éé* appropriately characterized as a cleft construction. *-híí* indicates that 'John' is the topic of preceding conversation, and, in the absence of the focus particle *-go*, the example is naturally translated using English 'and' instead of contrastive 'but' or 'rather'.

5.2.5 The Origin of *-híí* as a +Specific/+Referential Marker

The use of *-híí* as a +referential nominal modifier is clearly related to its use as a factive complementizer (Section 6.1.1). In sections 6.1.3 and 6.3.1, I argue that both uses of *-híí* are extensions of its role in the verbal nominalizer *-ihíí* (Navajo *-íghíí*, Young & Morgan 1987:20-21) present with internally headed relative clauses.

5.3 The Distribution of *-go* and *-híí*

In this section, I briefly discuss the distributional properties of Focus NP-*go* and Referential/Topic NP-*híí* arguments. The intent is not to provide a complete syntactic analysis of the *-go* and *-híí* particles, but merely to highlight several facts of relevance to the analysis of Wh/particle interaction in sections 5.4 - 5.7. The discussion below argues that the *-go* and *-híí* particles are associated, by LF, with unique structural positions in

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the complementizer system, appropriately analyzed as determiner-like elements generated with the NP they modify, and possibly distinguished from each other with respect to their participation in operator-variable binding relationships.

5.3.1 Multiple -go / -hií

Multiple *-go* and multiple *-hií* particles are not permitted in a single clause. Example (20a), with *-go* particles following both subject and object, is ungrammatical in normal conversation. Example (20b), with two *-hií* particles, is similarly unacceptable.

(20a) * Hastiin go ḳih go náágole'.
old.man FOC house FOC 3sg.imprf.build
THE OLD MAN is building THE HOUSE.
[Ok only with pauses between old man and house.]

(20b) * Hastiin hií ḳih hií náágole'.
old.man REF house REF 3sg.imprf.build
That particular old man is building that particular house.
[Emphasis on both old man and house. May be used in public speech if real strong feelings. Could only use one hií in casual conversation.]

In a few highly marked contexts, and with specific sentence prosody, however, speakers do accept sentences with multiple instances of one particle. (20a) and (20b), for example, are appropriate if uttered by an emotional speaker trying to persuade an audience. In all such exceptional contexts, pauses are required between multiple *-go* or *-hií* arguments.[10] Note also that the ungrammaticality of (20a) and (20b) is not due to adjacency of the multiple *-go* and *-hií* NP. Section 3.5 demonstrated that although

[10] Barss et. al. (1989) report a similar finding for Navajo focus constructions with *ga'*. While (i) is typically deemed ungrammatical, some Navajo speakers accept the example with 'appropriate pausing'.

(i) * Ashkii ga' ṭií' ga' nabiiłgo'. [Barss et. al. 1989:325]
(boy FOC horse FOC threw)

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multiple and adjacent *ha...shi* indefinites are dispreferred in Western Apache, speakers do accept sentences with multiple *ha...shi* indefinites separated by an intervening constituent. Examples (21a) and (21b), however, with multiple *-go* and *-hií* arguments separated by an intervening DP, are ungrammatical in normal conversation.

(21a) * Hastiin go ishkiin chách'il go yaayiné'.
old.man FOC boy acorn FOC 3sg.perf.give
THE OLD MAN gave the boy AN ACORN.

(21b) * Hastiin hií ishkiin chách'il hií yaayiné'.
old.man REF boy acorn REF 3sg.perf.give
That particular old man gave the boy that particular acorn.

It is not a priori obvious if the typical ungrammaticality of sentences with multiple *-go* or *-hií* particles follows from pragmatic or syntactic considerations. Multiple particles could be unacceptable, for example, because it is in most contexts pragmatically odd to focus or referentially emphasize two arguments at once. Alternatively, multiple particles might be excluded on syntactic grounds if NP-*go* and NP-*hií* arguments must be associated with unique structural positions, and the nature of this association is such that only one *-go* and one *-hií* particle is licensed per clause.

Under an analysis in which (20a) and (20b) are excluded on pragmatic grounds, the pauses required between arguments in the exceptional, emphatic reading might follow from the emphatic context itself, rather than from a specific prosodic requirement on multiple particle constructions. It should be possible to construct pragmatic contexts which permit these examples without the observed pauses. Regardless of context, however, clauses with multiple *-go* or *-hií* arguments are ungrammatical in normal conversation. In (22a), for example, the context sentence negates the proposition that the girl kicked the boy, and the continuation, in which the true participants in the kicking

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action are contrastively focused, is pragmatically acceptable. Nevertheless, the continuation is deemed ungrammatical. Similar judgments hold for the multiple *-hií* construction in (22b).

(22a) Nailín ishkiin doo yiztał da. ... * Hastiin go góséé go yiztał.
girl boy NEG 3sg.perf.kick NEG ... old.man FOC dog FOC 3sg.perf.kick
The girl did not kick the boy ... THE OLD MAN kicked THE DOG.

(22b) Nailín ishkiin doo yiztał da. ... * Hastiin hií ishkiin hií yiztał.
girl boy NEG 3sg.perf.kick NEG ... old.man REF boy REF 3sg.perf.kick
The girl did not kick the boy. That particular old man kicked that particular boy.

Under the alternative analysis in which (20a) and (20b) are ungrammatical due to a syntactic constraint against multiple *-go* or *-hií* particles, the required pauses between arguments in the exceptional, emphatic readings may indicate that the subject and object in these cases are not structurally realized within one sentence. *Hastiin go* 'THE OLD MAN' in (20a), for example, might be coindexed with a hypothetical null pronominal subject of *ḳih go naágole'* 'he will build THE HOUSE', but be analyzed as the subject of a covert 'be'. (23) illustrates the proposed structure.

(23) [[hastiin go]$_i$ [$_V$ ø]] ... [pro$_i$ [ḳih go] naágole']
[[old.man FOC]$_i$ [$_V$ ø 'be']] ... [pro$_i$ [house FOC] 3sg.imprf.build]
It is THE OLD MAN$_i$ ... He$_i$ will build THE HOUSE.

Various alternative analyses to that presented in (23) are possible.[11] Regardless of the analysis of the marked, emphatic readings of (20a) and (20b), however, I will tentatively adopt the proposal that a syntactic constraint prohibits the presence of multiple particles in a single clause in normal conversation. Furthermore, I will maintain

[11] *Hastiin go*, for example, may simply be uttered in isolation.

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that this constraint follows from a requirement that NP-*go* and NP-*hií* arguments be uniquely associated with particular structural positions in the complementizer system. The discussion below further explores the nature of these positions and their relationship to the -*go* and -*hií* particles.

5.3.2 The Cooccurrence of -go / -hií

Although multiple instances of -*go* or -*hií* particles are prohibited in a clause, a single -*go* particle may cooccur with a single -*hií* particle. In such cases, there is no restriction on the ordering of the particles with respect to each other.[12] To illustrate, a -*go* particle may occur on an argument preceding (24a) or following (24b) an argument marked by -*hií*.

(24a) Nailín ishkiin doo yiztał da. ... Hastiin go ishkiin hií yiztał.
girl boy NEG 3sg.perf.kick NEG ... old.man FOC boy REF 3sg.perf.kick
The girl did not kick the boy. Rather THE OLD MAN kicked that particular boy.

(24b) Nailín ishkiin doo yiztał da. ... Hastiin hií ishkiin go yiztał.
girl boy NEG 3sg.perf.kick NEG ... old.man REF boy FOC 3sg.perf.kick
The girl did not kick the boy. That particular old man kicked THE BOY.
[-*go* ties it to previous sentence ~ 'rather, that particular old man kicked the boy.']

These examples provide two important pieces of information as to the nature of the -*go* and -*hií* particles. First, given the proposal that multiple instances of -*go* or -*hií* are excluded from a clause because each particle must be uniquely associated with a specific structural position, the possible cooccurrence of particles in (24a) and (24b) indicates that the structural position associated with -*go* and the structural position associated with -*hií* are distinct. Second, the freedom in the relative ordering of -*go* and

[12] The ordering of the arguments marked by -*go* and -*hií*, however, must satisfy the word order constraints of the language (see Section 5.3.4).

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-hií particles demonstrated in (24a) and (24b) eliminates one possible analysis of the association of the particles with their 'licensing' positions. Specifically, it cannot be the case that both *-go* and *-hií* are obligatorily situated in their licensing positions. If *-hií* in each of these sentences is overtly situated in its licensing position, for example, than *-go* must be able to surface in a position preceding/c-commanding the *-hií* projection in (24a) and following/c-commanded by the *-hií* projection in (24b). In other words, if the position of *-hií* is obligatorily and overtly fixed to a specific structural projection, the position of *-go* cannot be. The parallel argument holds with respect to the position of *-hií*, if the position of *-go* in (24a) and (24b) is assumed to be overtly fixed.

In the remainder of this chapter, I will refer to the structural positions associated with the *-go* and *-hií* particles as the Focus Projection (FocusP) and the Referential Projection (RefP), respectively. By definition, FocusP is appropriate for *-go* as a marker of contrastive focus. Similarly, RefP, a relatively dominant projection that is either inherently referential or allows its specifier to scope out of a matrix predicate (Beghelli & Stowell 1995, 1996), is definitionally appropriate for *-hií* as a +specific, +referential marker. I additionally adopt Szabolcsi's (1996: Hungarian) proposal that equates RefP with the Topic Projection (TopicP), the position to which non-focused, presupposed elements in the discourse context may raise. This proposal is justified for the *-hií* particle which can serve to mark a nominal argument, particularly in the case of names (Section 5.2.2), as the topic of preceding conversation.[13]

[13] While my ultimate position is that Western Apache topicalized constituents, if overtly or covertly dislocated, surface in RefP, the analysis leaves open the possibility that there are Topic Projections distinct from RefP. These projections would be necessary in an analysis of Western Apache Wh movement as obligatorily overt. As noted in Section 2.2.5, such an analysis requires massive topicalization of non-Wh DP arguments. The constraint against multiple *-hií* particles in a given clause, however, suggests that only one argument can be associated with RefP.

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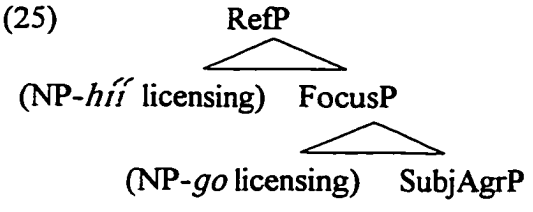
Following the dominant trend in works which hypothesize specific Focus and Topic projections (see for example: Szabolcsi 1996: Hungarian, Rizzi 1995: Romance, Choe 1995: Korean), I will tentatively assume that the Topic Projection, RefP, dominates the Focus Projection.[14] (25) illustrates the proposed structure for the Western Apache complementizer system. Additional projections may precede or follow RefP and FocusP. Language internal motivation for the dominance of RefP over FocusP will be considered in Chapter 6.

(25)



The examples below additionally indicate that RefP and FocusP are necessarily matrix projections. If RefP and FocusP were present in subordinate clauses, multiple Referential and Focus projections would be possible in a sentence with subordinate clauses, and multiple -*go* and -*hií* particles could be licensed. Multiple -*go* (26) and -*hií* (27), however, are not permitted in a sentence even if the particles are in separate clauses.[15]

---

[14] Rizzi 1995 argues for two Topic projections in Romance. One Topic Projection dominates the Focus Projection.

[15] This constraint against multiple -*go* and -*hií* particles also holds in sentences with subordinate clauses marked by overt complementizers (see also Section 6.1.3).

(i) * Isdzan hií [hastiin isaa hií áyiílaa go] ṇzı́h.
woman REF [old.man drum REF 3sg.perf.make COMP] 3sg.imprf.think
That particular woman thinks the old man made that particular drum.

(ii) * Isdzan go [hastiin isaa go áyiílaa hií] ṇzı́h.
woman FOC [old.man drum FOC 3sg.perf.make COMP] 3sg.imprf.think
THE WOMAN thinks the man made THE DRUM.

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(26) * Isdzan híí [hastiin isaa híí áyíílaa] ńzịh.
woman REF [old.man drum REF 3sg.perf.make] 3sg.imprf.think
That particular woman thinks the old man made that particular drum.

(27) * Isdzan go [hastiin isaa go áyíílaa] ńzịh.
woman FOC [old.man drum FOC 3sg.perf.make] 3sg.imprf.think
THE WOMAN thinks the man made THE DRUM.

The examples below demonstrate that there is no general prohibition against *-go* (28) and *-híí* (29) particles in either matrix or subordinate positions in sentences with subordinate clauses. This indicates that the ungrammaticality of (26) and (27) does follow specifically from the presence of multiple *-go* or *-híí* particles in one sentence.

(28a) Isdzan go [hastiin isaa áyíílaa] ńzịh.
woman FOC [old.man drum 3sg.perf.make] 3sg.imprf.think
THE WOMAN thinks the old man made a drum.

(28b) Isdzan [hastiin isaa go áyíílaa] ńzịh.
woman [old.man drum FOC 3sg.perf.make] 3sg.imprf.think
The woman thinks the old man made A DRUM.

(29a) Isdzan híí [hastiin isaa áyíílaa] ńzịh.
woman REF [old.man drum 3sg.perf.make] 3sg.imprf.think
That particular woman thinks the old man made a drum.

(29a) Isdzan [hastiin isaa híí áyíílaa] ńzịh.
woman [old.man drum REF 3sg.perf.build] 3sg.imprf.think
The woman thinks the old man made that particular drum.

A complete analysis of the *-go* and *-híí* particles must still address several crucial questions. First, are the particles generated as heads of FocusP and RefP, or as determiner-like elements with the NP they modify? Second, if the particles are generated as determiners, are they associated with FocusP/RefP through movement or through a binding relationship? Finally, if *-go* or *-híí* arguments do undergo movement, does this

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movement occur overtly or at LF? The discussion in sections 5.3.3 and 5.3.4 briefly explores each of these questions.

5.3.3 Conjunction

There is an asymmetry between NP-*hií* and NP-*go* arguments in their distribution in coordinate structures. Two nominal arguments in Western Apache are conjoined by the word *k'eh* 'and' intervening between the arguments. Examples (30) and (31) illustrate that -*hií* can modify the individual conjuncts within such a coordinate NP.

(30) Hastiin hií k'eh nailín ishkiin dayiztał.
old.man REF and girl boy 3dl.perf.kick
That particular old man and the girl kicked the boy.

(31) Hastiin k'eh nailín hií ishkiin dayiztał.
old.man and girl REF boy 3dl.perf.kick
The old man and that particular girl kicked the boy.

NP marked by the particle -*go*, however, are unacceptable as conjuncts in a coordinate structure. (32) demonstrates the ungrammaticality of -*go* internal to a coordinate NP.

(32) * Hastiin go k'eh nailín ishkiin dayiztał.
old.man FOC and girl boy 3dl.perf.kick
THE OLD MAN and the girl kicked the boy.

While -*go* may follow the final conjunct of a coordinate NP (33), the interpretation of such examples indicates that the particle marks the entire coordinate NP, and not just the final conjunct, as contrastively focused.

(33) Hastiin k'eh nailín go ishkiin dayiztał.
old.man and girl FOC boy 3dl.perf.kick
THE OLD MAN AND THE GIRL kicked the boy.

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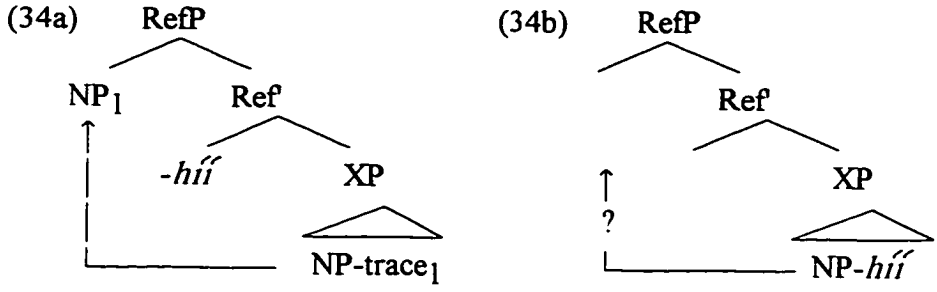
Of the two potential analyses of *-hií*, as determiner or as complementizer, (30) and (31) strongly favor the determiner approach. A complementizer analysis holds that *-hií*, as the head of RefP, overtly occupies a fixed structural position in the Western Apache complementizer system. Since *-hií* follows an NP it modifies, that NP must overtly raise from its clause internal Case/Agreement position into the specifier of RefP. A determiner analysis of *-hií*, on the other hand, generates the particle with the NP it modifies and leaves open the possibility of overt or covert movement to Spec RefP. (34a) and (34b) illustrate the basic complementizer and determiner analyses, respectively.



Within a standard approach to NP coordination, however, there is no way that examples (30) and (31), with *-hií* internal to a coordinate NP, can be structurally integrated with (34a). (35) provides the required structural analysis for example (30) with *-hií* as the head of RefP. Only *hastiin* 'old man' precedes *-hií*, and thus only this NP can be overtly situated in the Spec of RefP. This leaves no obvious position for *k'eh* 'and' or *nailín* 'girl', and certainly no position for *k'eh* which preserves the constituency of the coordinate NP as a whole.

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(35) * RefP

[hastiin Ref'

-hii ??

k'eh nailín] ishkiin dayiztał

The determiner analysis of *-hii*, illustrated in (36) for example (30), is not structurally incompatible with coordination. *-hii* is generated with the NP it modifies, and the NP-*hii* argument itself serves as conjunct in the coordinate structure. Issues of whether or not *-hii* must raise to RefP, the level of derivation at which such movement might occur, and what material raises with the particle, remain undetermined.

(36) RefP

Ref'

XP

[hastiin hii k'eh nailín] ishkiin dayiztał

If *k'eh* is analyzed not as conjoining two NP, but rather as conjoining two clauses, however, the analysis of *-hii* as the head of RefP can be maintained. (37) provides the relevant structure for (30). *k'eh* conjoins two clauses with *-hii* as the head of RefP in the initial clause and all material below that RefP deleted at PF.

(37) [RefP k'eh RefP]

hastiin Ref' XP

-hii XP nailín ishkiin dayiztał

(phonologically null)

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The reanalysis of NP coordination as clausal coordination is a theoretical topic beyond the scope of this dissertation and will not be pursued in earnest herein. Nevertheless, there are several reasons to doubt that such an approach is appropriate for the given Western Apache examples. First, there is at present no independent motivation to adopt the analysis of *k'eh* as a marker of clausal coordination. In the absence of such evidence, the simpler, more canonical approach to NP coordination must be preferred. Second, the overt verb stem *dayiztał* 'they kicked him' in (30) includes the dual/plural subject marker *da*. Under the clausal coordination analysis in (37), however, the subject of the clause containing *dayiztał* is singular *nailín* 'the girl', and additional stipulations are required to explain the presence of *da* in this clause. Finally, additional facts concerning word order in sentences containing *-hií*, to be discussed in Section 5.3.4, are extremely problematic if the position of *-hií* is overtly fixed to a particular structural position in the clause. If *-hií* is not analyzed as the head of RefP, however, the sole motivation for the clausal coordination analysis in (37) is eliminated. Excluding the clausal coordination analysis of *k'eh*, the presence of *-hií* internal to coordinate NP strongly favors the analysis of this particle as a determiner generated with the NP it modifies (36).[16]

If the analysis of *-hií* as a complementizer is incompatible with its ability to modify the individual conjuncts of a coordinate NP, the inability of *-go* to modify these conjuncts, (32) and (33), may indicate that *-go* is appropriately analyzed as a complementizer. (38) provides the required structural analysis of example (32) if *-go* is analyzed as the head of FocusP. Since the contrastively focused NP *hastiin* 'THE OLD

[16] This applies only to the use of *-hií* as a nominal modifier. Chapter 6 demonstrates that *-go* and *-hií* may modify clauses as well as NP. Similar to the *-shi* particle discussed in Section 3.5, *-go* and *-hií* act as determiners when modifying an NP and as heads of functional projections when modifying a clause.

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MAN' precedes *-go*, it is necessarily situated in the specifier of FocusP.[17] This positioning, however, precludes a structural configuration that maintains the constituency of the coordinate NP *hastiin go k'eh nailín*, and the sentence is appropriately excluded.

(38) * FocusP

[hastiin Focus'

-go ??

k'eh nailín] ishkiin dayiztał

(32) * Hastiin go k'eh nailín ishkiin dayiztał.
old.man FOC and girl boy 3dl.perf.kick
THE OLD MAN and the girl kicked the boy.

While the analysis illustrated in (38) correctly predicts the ungrammaticality of examples with *-go* internal to a coordinate NP, there are reasons to reject the proposal. First, as in the case of *-hii*, additional considerations of word order discussed in Section 5.3.4 strongly argue against any analysis in which *-go* overtly occupies a fixed structural position in the Western Apache clause.[18] If *-go* cannot be analyzed as a fixed position complementizer, (38) is not a possible structural configuration of the language irrespective of coordination. Second, the analysis in (38) does not extend to a potentially related set of examples involving Wh phrases. As example (39) demonstrates, Wh phrases are also excluded from coordinate NP (see Section 2.2.4).

(39) * Hadín k'eh nailín tsina'eeł ádayizlaa ?
who and girl boat 3dl.perf.make
* Who and the girl made a boat ?

[17] Or *hastiin* is situated in a position above FocusP. Either way, the configuration is incompatible with conjunction.

[18] This applies only to *-go* in its use as an NP modifier. See Chapter 6.

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There is no complementizer in (39), such as *-go* in (38), to suggest that the first conjunct in the coordinate NP subject has overtly raised. Moreover, Section 2.2.5 argued that Wh phrases in Western Apache do not obligatorily raise overtly (see also Chapter 7). There is thus no reason to suspect that overt Wh movement is required in (39). If the Wh phrase *hadín* in (39) is not overtly situated in a specifier position of the complementizer system, however, an analysis parallel to that in (38) is not applicable to this sentence.

While the exclusion of focused NP-*go* arguments and Wh phrases from coordinate NP may in principle follow from distinct and independent analyses, a single analysis which simultaneously accounts for both paradigms is to be preferred. Section 2.2.4 argued that examples such as (39) are excluded by the Coordinate Structure Constraint (CSC: Ross 1967). The CSC prohibits movement of an individual conjunct out of a coordinate NP. (39) is ruled out on the assumption that *hadín* must raise, by LF, to the Wh licensing projection, WhP, but cannot do so from its position within the coordinate NP. Within a determiner based analysis of *-go*, this CSC approach to (39) can be extended to an account of the ungrammaticality of NP-*go* arguments as conjunct NP. Under the assumption that NP-*go* arguments, like Wh phrases, must raise by LF to their licensing projection, the CSC rules out conjunct NP-*go* examples such as (32) and (33) by prohibiting extraction from the coordinate NP. If NP-*go* conjuncts cannot extract from coordinate NP, they cannot raise to Spec FocusP and will fail to be licensed.

Indirect support for the hypothesis that NP-*go* arguments raise follows from the prohibition, noted in Section 5.3.1, against multiple NP-*go* arguments in a given clause. Within a movement analysis, the prohibition against multiple NP-*go* arguments follows from the requirement that these arguments be licensed by movement to Spec FocusP and the stipulation that Spec FocusP can host at most one element. From this perspective,

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however, the distribution of NP-*hií* arguments is problematic. On one hand, multiple NP-*hií* arguments are prohibited from a single clause. This suggests that these arguments also must raise to their licensing projection by LF. On the other hand, NP-*hií* arguments, as illustrated in (30) and (31), are acceptable as conjuncts in coordinate NP. This suggests that NP-*hií arguments*, given the CSC, do not have to raise to their licensing projection. Since the licensing requirement that NP-*hií* arguments raise contradicts the CSC prediction that these arguments do not raise, an alternative means of distinguishing NP-*go* from NP-*hií* arguments is necessary.

I propose that NP-*go* and NP-*hií* constructions are distinguished with respect to their participation in operator-variable binding relationships. Specifically, I propose that NP-*go* arguments must be part of an operator-variable relationship to be interpreted, but that no such requirement holds of NP-*hií* arguments. In the discussion below, I demonstrate how this distinction accounts for the asymmetry between -*go* and -*hií* with respect to coordination. Independent of this argument, however, there are reasons to believe the proposed distinction between focused -*go* and topicalized -*hií* constructions is correct. First, there is some support for this distinction from the perspective of Universal Grammar. Rizzi (1995), for example, notes that topicalization in Romance is non-quantificational while focus is quantificational. The difference for Rizzi reduces to whether or not a dislocated constituent requires a phonologically null variable. Romance topic NP can be coindexed with pronominal clitics while focus NP obligatorily require a trace/variable (see Section 8.3.1). Second, as will be demonstrated in Section 5.4, NP-*go* arguments, but not NP-*hií* arguments, block the binding relationship between an interrogative Wh operator and an associated *ha*- variable. Chapter 3 discussed the Wh operator-variable relationship and demonstrated that operator elements, such as negative

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doo and uncertainty *shi*, block Wh binding, while non-quantificational elements, such as bare NP, do not.

The proposed operator-variable distinction between Wh phrases and NP-*go* arguments versus NP-*hii* arguments derives the asymmetrical distribution of these elements in coordinate NP given one additional constraint. Specifically, operator-variable binding relationships which span a coordinate structure boundary must be prohibited. While I will not provide independent support for this constraint herein, it is equivalent to the Coordinate Structure Constraint on extraction to the extent that the relationship between a raised constituent and its trace constitutes an instance of operator-variable binding.[19]

Following the proposals in Section 3.4, Western Apache *ha-* words, as Wh phrases, are actually variables which receive their interrogative force from a covert +Wh operator in WhP. Given this analysis, the modified CSC prohibits the presence of an 'interrogative' *ha-* word internal to a coordinate NP (39) because the required binding between that *ha-* word, as variable, and the covert +Wh operator necessarily crosses the coordinate structure (40a).

(40a) * Wh (OP) ... $[_{CS}$ *ha -word* (VAR) : OP-VAR binding blocked by coordinate structure.

[19] The two constraints differ with respect to the exclusion of operator-variable binding across a coordinate NP in the absence of movement. The issue is of relevance to Western Apache because the relationship between the covert Wh operator in WhP and a *ha-* variable in argument position could in principle hold without movement of the *ha-* word to WhP. If such movement is not required, however, the traditional CSC incorrectly predicts example (39), with a *ha-* variable internal to a coordinate NP, to be grammatical. The modified CSC proposed herein leaves open the possibility of LF *ha-* movement and provides an explanation for the inability of pied-piping a coordinate NP to Spec WhP to salvage a Wh operater-variable relationship with the *ha-* variable internal to the coordinate NP.

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NP-*hií* arguments, by hypothesis, do not participate in operator-variable binding relationships. The constraint prohibiting such relationships across a coordinate structure is therefore irrelevant to NP-*hií* constructions (40b), and NP-*hií* arguments are acceptable as conjuncts within coordinate NP, (30) and (31).

(40b) ... [$_{CS}$ NP-*hií* ... : OP-VAR binding not relevant.

This analysis additionally explains the acceptability of *ha...shi* indefinites as conjuncts in coordinate NP. Example (41) is repeated from Section 3.5.

(41) Hadínshi k'eh nailín tsina'eeł ádayizlaa.
who.UNCERT and girl boat 3dl.perf.make
Someone and the girl made a boat.

As illustrated in (42), example (41) does not violate the constraint prohibiting operator-variable binding relationships across a coordinate structure because the operator-variable relationship in this case, with *shi* as operator and *hadín* as variable, is wholly contained within the coordinate NP.

(42) ... [$_{CS}$ *hadín* (VAR) - *shi* (OP) ... : OP-VAR binding does not cross coordinate structure.

With respect to the exclusion of NP-*go* arguments from coordinate NP, it must first be determined what elements in an NP-*go* construction serve as operator and variable. (43) illustrates the presupposed structure for example (32). Since (32) is ungrammatical and this ungrammaticality follows, by hypothesis, from the modified CSC, the operator-variable binding relationship in (32) must cross the coordinate structure. Furthermore, since *hastiin go* is wholly contained within the coordinate NP, -*go* cannot

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be analyzed as operator with *hastiin* as variable, parallel to the case with *hadín-shi* in (42).

(43) * ... [$_{CS}$ *hastiin go* ...

There are two possible analyses. First, a covert +focus operator located external to the coordinate NP, possibly in FocusP, can be postulated. As illustrated in (44), a binding relationship between that operator and *hastiin go*, as variable, violates the constraint against such relationships crossing a coordinate structure.

(44) * Focus (OP) ... [$_{CS}$ *hastiin go* (VAR) ... : OP-VAR binding blocked by coordinate structure.

Alternatively, the NP-*go* argument itself can be analyzed as operator. Section 5.4 provides some support in favor of this analysis through discussion of the blocking effect, characteristic of other operator elements, of NP-*go* arguments on the Wh operator-variable binding relationship. I propose that the variable bound by an NP-*go* operator is the trace of that NP-*go* argument. NP-*go* arguments must therefore necessarily raise, although such raising may in principle be delayed until LF.[20] Within this approach, NP-*go* arguments are excluded from coordinate NP either because the coordinate structure prohibits extraction of the NP-*go* conjunct and thus prevents the development of an operator-variable configuration, or, because the coordinate structure blocks the operator-variable relationship between the raised conjunct and its trace although extraction of the conjunct is not directly prohibited.

[20] Section 5.7.2 suggests an alternative analysis in which NP-*go* arguments obligatorily and overtly raise to local positions immediately dominating the Case/Agreement position of the NP.

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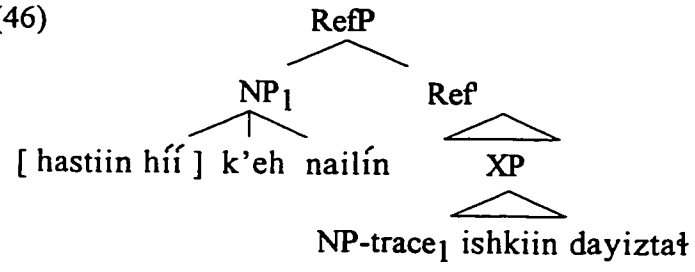
(45) *hastiin go*$_1$ (OP) ... [cs trace$_1$ (VAR) ...

The analysis discussed above correctly derives the distribution of Wh phrases, *ha..shi* indefinites, NP-*go* arguments, and NP-*hii* arguments in coordinate NP. Still unexplained, however, are the constraints against multiple -*go* and multiple -*hii* arguments in a clause. I will maintain the proposal that this constraint follows from the obligatory LF movement of -*go* and -*hii* arguments to FocusP and RefP, respectively, and the inability of those positions to license more than one element. As illustrated in (46), NP-*hii* conjuncts in examples such as (30) reach RefP not by raising out of their coordinate NP, but by pied-piping the entire coordinate NP to Spec RefP. By hypothesis, the +referential feature of the NP-*hii* conjunct percolates to the dominant NP node, and the coordinate NP as a whole is marked +referential.

(46)



Note that the possibility of LF pied-piping cannot salvage the ungrammaticality of NP-*go* arguments internal to coordinate NP. Within the proposed analysis, an NP-*go* conjunct in a coordinate NP necessarily participates in an operator-variable binding relationship that spans the coordinate structure. Whether the coordinate NP has raised or remains in situ, this binding relationship is excluded by the CSC as stated herein.

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5.3.4 Further Notes on the Analysis of *-go* and *-híí*

In this section, I provide two additional arguments in support of the determiner analysis of *-go* and *-híí* as nominal modifiers. I also demonstrate that NP-*go* and NP-*híí* arguments, although licensed through association with FocusP and RefP, do not overtly raise to those projections.

The examples in (47), with *-go* marking contrastive focus on the object (47a) or subject (47b), are unambiguously interpreted as SOV constructions.

(47a) Hastiin ma' go yiztaɬ.
old.man coyote FOC 3sg.perf.kick
The old man kicked THE COYOTE.
[e.g., not the mule.]

(47b) Ma' go hastiin yiztaɬ.
coyote FOC old.man 3sg.perf.kick
THE COYOTE kicked the old man.
[e.g., not the cat, cow, etc.]

Similarly, the parallel sentences with *-híí* in (48) are necessarily interpreted as SOV.

(48a) Hastiin ma' híí yiztaɬ.
old.man coyote REF 3sg.perf.kick
The old man kicked that particular coyote.

(48b) Ma' híí hastiin yiztaɬ.
coyote REF old.man 3sg.perf.kick
That particular coyote kicked the old man.

As noted, canonical word order in Western Apache transitive constructions with *yi-* verbal morphology is SOV (Section 1.6.6). OSV word order with *yi-* transitives can only be derived through the optional movement of a *ha-* object to a position within the

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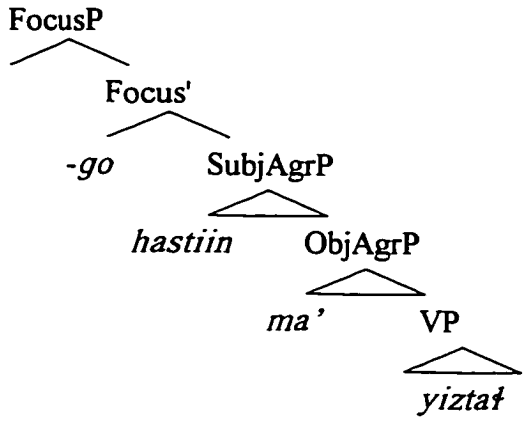
complementizer system (see Sections 2.2 and 3.5.3). If the *-go* and *-hií* particles are analyzed as the complementizer heads of FocusP and RefP, respectively, however, the unambiguous SOV interpretation of (47) - (48) is surprising. (49) illustrates a stage in the derivation of (47a) prior to A' movement.

(49)



By hypothesis, *-go* in (49) is generated as the head of FocusP. Since *-go* overtly follows an NP it modifies, that NP must necessarily raise, prior to Spell-Out, to the specifier position of FocusP. As *-go* may modify either a subject (47a) or object (47b) argument, both subject and object in (49) are eligible to raise to Spec FocusP. Given this analysis, however, nothing prohibits the movement of the object NP *ma'* in (49) to Spec FocusP, deriving the linear string *ma' go hastiin yiztał* with an OSV interpretation. (50) illustrates the proposed derivation, but the derived linear string, equivalent to (47b), is unambiguously interpreted with SOV word order.

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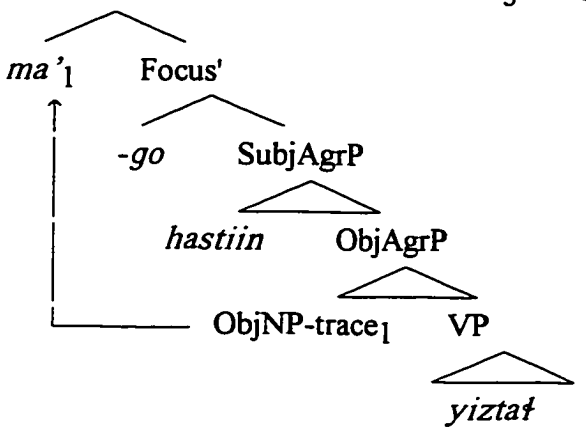
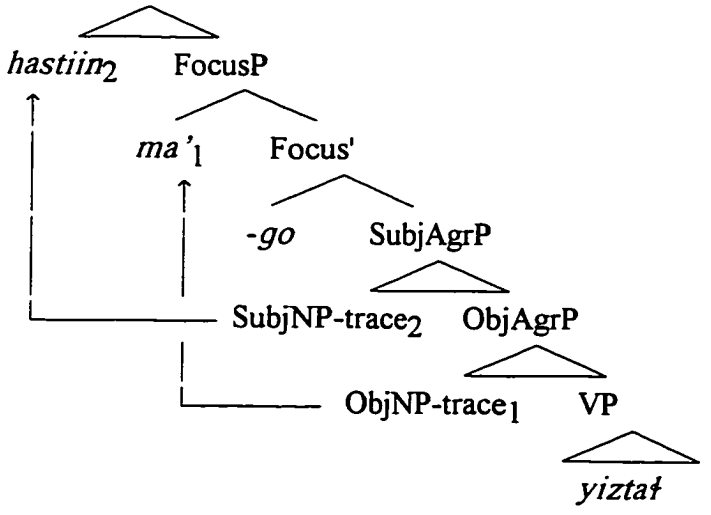
(50) FocusP = ma' go hastiin yiztał ~(47b)



To maintain the complementizer analysis of *-go* in (49), the absence of OSV word order in *yi-* transitives with focused objects requires that the subject NP in such cases obligatorily raise to a position above FocusP. (51) illustrates the required derivation of (47a).

(51) XP = hastiin ma' go yiztał ~(47a)



The movement of the subject NP to a position above the focused object in (51), however, is unmotivated other than to derive the attested SOV word order of *yi-* transitives with NP-*go* objects within a complementizer analysis of *-go*. Moreover, while the movement

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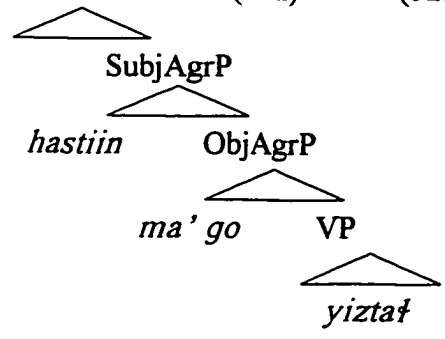
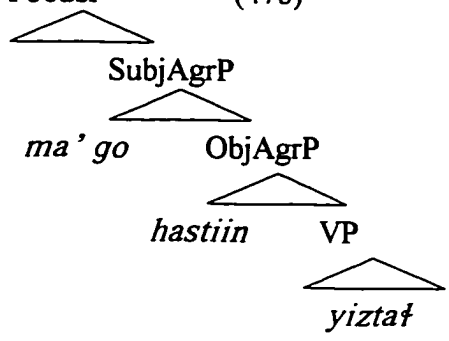
of the non-focused NP is obligatory in (47a), it must not apply in (47b). Movement of the non-focused object in (47b) to a position above the focused subject would derive unattested OSV word order.

Section 2.2.5 also discussed the possibility of NP raising, such as with the subject in (51), to maintain an analysis of Western Apache Wh movement as obligatorily overt. That analysis was ultimately rejected on the grounds that the proposed NP raising lacked empirical motivation, applied by stipulation,[21] and required significantly more complex derivations than necessary in an analysis of Wh movement as optional. While the analysis of *-go* as a complementizer also requires complex and otherwise unmotivated derivations, such as in (51), the strict SOV word order of examples (47a) and (47b) is not even an issue in a determiner analysis in which *-go* is generated with the NP it modifies and does not induce overt movement to FocusP. The tree diagrams in (52a) and (52b) demonstrate the determiner based analysis of examples (47a) and (47b), respectively. The strict SOV word order in these sentences follows straightforwardly from the principles of the grammar that derive SOV word order in sentences without particles.

(52a) FocusP = (47a)



(52b) FocusP = (47b)



[21] The proposed NP raising applied optionally to maintain canonical word order with respect to Wh and non-Wh arguments, obligatorily to maintain the canonical word order of non-Wh arguments with respect to each other, and was prohibited in instances that would raise a non-Wh argument generated below a Wh argument past that Wh argument. For detailed discussion, see Section 2.2.5 and Chapter 7.

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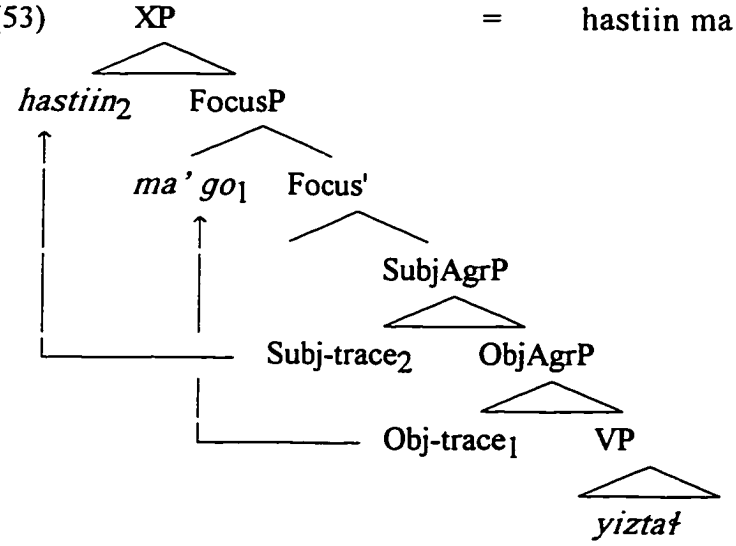
In summary, strict SOV word order in *yi-* transitives with focused NP-*go* arguments holds by default in an analysis of -*go* as a determiner without overt movement of focused constituents to FocusP, but requires complex and otherwise unmotivated derivations in an analysis of -*go* as a fixed position complementizer. Clearly, the determiner analysis of -*go* is to be preferred. A parallel argument can be made for the analysis of -*hií* as a nominal modifier. The -*hií* examples in (48) also exhibit strict SOV word order which holds by default in an analysis of the particle as a determiner and requires derivations equivalent to those with -*go* (51) in a complementizer analysis.

Finally, note that the complex derivations required in analyses of -*hií* and -*go* as complementizers are also required in analyses of these particles as determiners which induce overt movement to FocusP or RefP. The diagram in (53) briefly illustrates this point with respect to (47a).

(53) = hastiin ma' go yiztał ~ (47a)



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While *-go* is not generated as the head of FocusP in (53), overt movement of the NP-*go* object to Spec FocusP still requires movement of the subject to derive the attested SOV word order.

A related argument in favor of the analysis of *-go* and *-hií* as determiners which do not induce overt movement of their modified NP follows from the possible cooccurrence of the particles. As illustrated in examples (24a) and (24b), repeated here as (54) and (55), *yi-* transitives with one *-go* and one *-hií* particle are unambiguously interpreted as SOV regardless of the ordering of the particles with respect to each other.

(54) Nailín ishkiin doo yiztał da. ... Hastiin go ishkiin hií yiztał. = (24a)
girl boy NEG 3sg.perf.kick NEG ... old.man FOC boy REF 3sg.perf.kick
The girl did not kick the boy. Rather THE OLD MAN kicked that particular boy.

(55) Nailín ishkiin doo yiztał da. ... Hastiin hií ishkiin go yiztał. = (24b)
girl boy NEG 3sg.perf.kick NEG ... old.man REF boy FOC 3sg.perf.kick
The girl did not kick the boy. That particular old man kicked THE BOY.
[*-go* ties it to previous sentence ~ 'rather, that particular old man kicked the boy.']

The derivation of these examples is straightforward if *-go* and *-hií* are analyzed as determiners which do not induce overt movement of the NP they modify. The particles are generated with either the subject or object NP, and strict SOV word order follows from the same principles of the grammar independently required to derive SOV word order in sentences without particles. (56) illustrates the proposed structure of (54) at Spell-Out. LF movement to FocusP and/or RefP is not precluded by the analysis.

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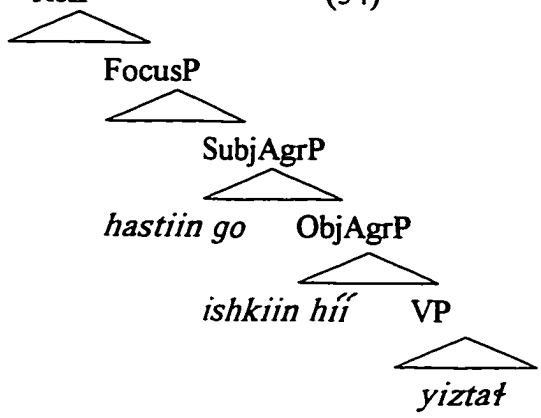
(56) RefP = (54)



If just one of the particles is analyzed as a fixed position complementizer, or as a determiner which induces overt movement of the NP it modifies, the analysis of strict SOV word order in (54) and (55) will require the same complex derivations illustrated in (51) and (53). If NP-*go* arguments must overtly surface in FocusP but NP-*hií* arguments need not overtly surface in RefP, for example, the NP-*hií* subject in (55) will still have to obligatorily raise past FocusP to maintain the attested SOV word order.

Similarly, if both -*go* and -*hií* are analyzed as determiners which induce overt movement to FocusP/RefP, the analysis of strict SOV word order in (54) and (55) will require an additional and otherwise unmotivated movement operation. Given the working hypothesis that RefP dominates FocusP, for example, SOV word order in (54) requires that the focused NP-*go* object raise from FocusP to a position above RefP (57).

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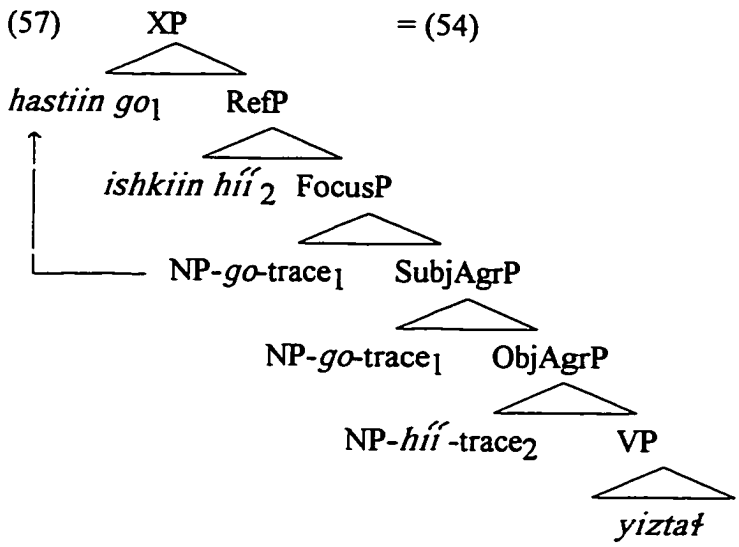
(57) = (54)



The derivation of example (54) is most complex if both *-go* and *-hií* are analyzed as fixed position complementizers. To derive SOV word order in (54) within such an approach, the constituent dominating *hastiin go* must raise to a position preceding the object NP *ishkiin* in Spec RefP. Since the minimal constituent dominating *hastiin go* is FocusP itself in this analysis, however, it is additionally required that the verb raise out of FocusP prior to the movement of FocusP. (58) illustrates the required derivation of (54) with both *-go* and *-hií* analyzed as complementizers. The object *ishkiin* and subject *hastiin* arguments first raise to Spec RefP and Spec FocP, respectively. Next, the verb *yiztał* raises out of FocusP to a position intermediate between FocusP and RefP. Finally, FocusP raises to a position above RefP. Without the raising of *yiztał* prior to this last movement, the verb would still be within FocusP when it raised past RefP, yielding unattested SVO word order.

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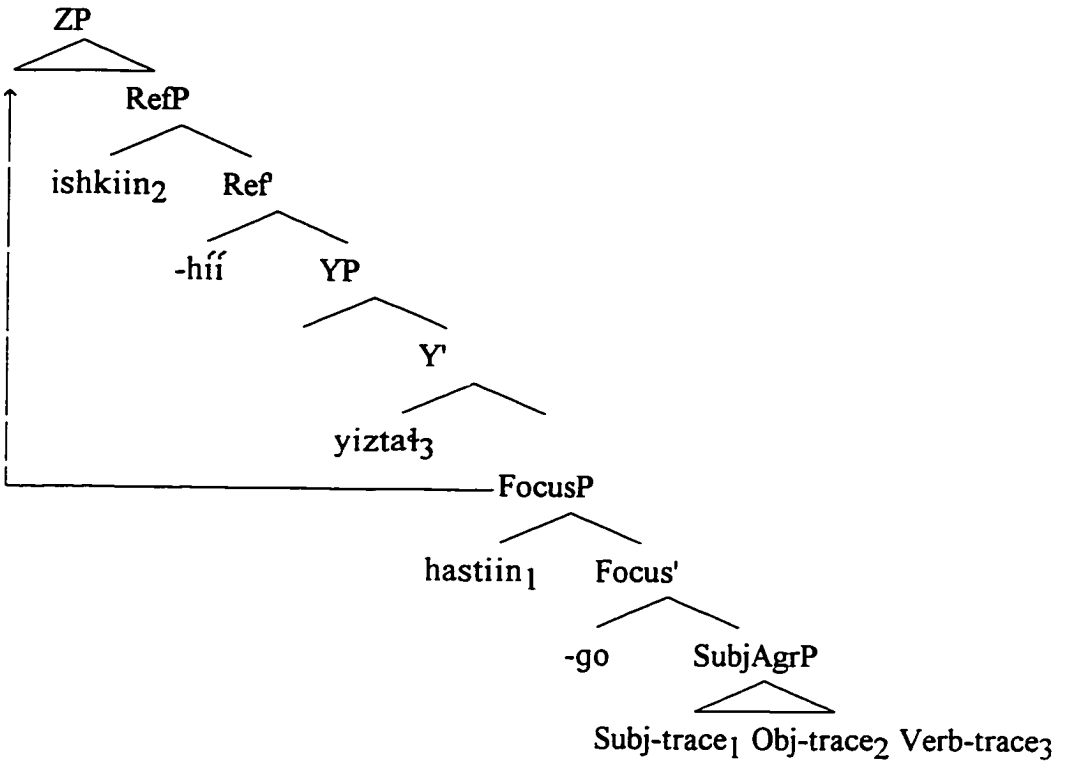
(58)



Obviously the analysis of *-go* and *-hií* as determiners which are generated with the NP they modify and do not induce overt movement to Spec FocusP/Spec RefP is preferable to the alternatives discussed above. Within this determiner approach, the strict SOV word order of *yi-* transitives with *-go* or *-hií* particles follows, without additional comment, from the same principles of the grammar independently required to fix SOV word order in sentences without particles. Each of the alternative approaches to *-go* and *-hií* requires one or more additional movement operations which apply obligatorily and only to maintain SOV word order and are otherwise unmotivated.

5.3.5 Summary: *-go* and *-hií* as Nominal Modifiers

In summary of the preceding discussion, I adopt the following analysis of the *-go* and *-hií* particles as nominal modifiers. The particles *-go* and *-hií* serve to mark NP

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arguments as contrastively focused or +referential/+specific, respectively. Both -*go* and -*híí* are generated as determiner-like elements with the NP they modify. Neither particle induces overt movement of the modified NP, although NP-*go* and NP-*híí* arguments are licensed at LF by movement to Spec FocusP and Spec RefP, respectively. Spec FocusP and Spec RefP can license at most one argument. Finally, -*go* and -*híí* are distinguished with respect to their participation in operator-variable binding relationships. NP-*go* arguments, as operators, must participate in an operator-variable relationships, but no such requirement holds for NP-*híí* arguments. The discussion in the remainder of this chapter explores the interaction of NP-*go* and NP-*híí* arguments with the Western Apache *ha*- words.

In the sections below, I explore the interaction of NP-*go* and NP-*híí* arguments with *ha*- arguments and adjuncts in Wh questions. While NP-*híí* arguments never interfere with Wh operator-variable binding relationships, focused NP-*go* arguments do block Wh binding in particular structural configurations (Section 5.4). I provide a descriptive characterization of the prohibited structural relationships between Wh phrases and NP-*go* arguments, and use this characterization as a diagnostic tool in an analysis of Wh adjunct positioning (Section 5.5) and optional OSV ordering in particular morphosyntactic contexts (Section 5.6). Finally, I provide an analysis of the Wh/Focus data and explore the implications of the analysis with respect to Western Apache clause structure (Section 5.7).

5.4 Wh Arguments and Focus

Referential NP-*híí* arguments and *ha*- words used as Wh phrases freely cooccur in Western Apache clauses. In particular structural configurations, however, focused

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NP-*go* arguments interfere with the binding relationship between the +Wh interrogative operator in WhP (Section 3.4) and a *ha-* word. Descriptively, focused NP-*go* arguments cannot c-command the canonical position of a Wh phrase. In the discussion below, 'canonical position' refers to the Case/Agreement position of a Wh argument and the thematic position of a Wh adjunct. More neutrally, 'canonical position' can be defined as the position of a constituent in a clause prior to the application of any reordering transformations such as Wh movement.

5.4.1 Transitive Constructions

As discussed in Section 2.2, Western Apache *ha-* words used as Wh phrases can occur in situ or in a raised, typically clause initial, position. The examples in (59) demonstrate the ordering possibilities in a transitive construction with Wh subject or object.

(59a) Hadín kịh náágole' ?
who house 3sg.imprf.build
Who is building the house ?
[No difference in meaning between *hadín* in this sentence and in *hadín kịh go náágole'*, use *-shạ'* or *-go* for emphasis.]

(59b) Hastiin hant'é náágole' ?
old.man what 3sg.imprf.build
What is the old man building ?

(59c) Hant'é hastiin náágole' ?
what old.man 3sg.imprf.build
What is the old man building ?

The examples in (59) remain grammatical if the non-Wh NP is marked by the Referential particle *-hií* (60).

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(60a) Hadín ḳih híí náágole' ?
who house REF 3sg.imprf.build
Who is building that particular house ?

(60b) Hastiin híí hant'é náágole' ?
old.man REF what 3sg.imprf.build
What is that particular old man building ?
['That particular old man, what is he building ?']

(60c) Hant'é hastiin híí náágole' ?
what old.man REF 3sg.imprf.build
What is that particular old man building ?
['What is it that that particular old man is building ?']

When the non-Wh NP in these examples is marked by the focus particle *-go*, however, only the SOV construction with Wh subject (61a) is grammatical. The examples with focused NP-*go* subject and in situ (61b) or raised (61c) Wh object are unacceptable.

(61a) Hadín ḳih go náágole' ?
who house FOC 3sg.imprf.build
Who is building THE/A HOUSE ?
[Context for A HOUSE: Deciding on three dwellings ... instead of building a wickiup, who will build a house?]

(61b) * Hastiin go hant'é náágole' ?
old.man FOC what 3sg.imprf.build
What is THE/AN OLD MAN building ?

(61c) * Hant'é hastiin go náágole' ?
what old.man FOC 3sg.imprf.build
What is THE/AN OLD MAN building ?

Note that the grammaticality judgments in (61) hold consistently in Western Apache transitive constructions and are not sensitive to the particular verbal stem present in a clause. Identical judgments hold, for example, in transitive clauses with the verb

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yizkah 'he/she/it shot him/her/it'. Morphologically, *yizkah* varies from *naágole'* 'he/she/it is building it' in several respects. Most notably, *yizkah* is perfective and includes the typical 3rd person verbal marker *yi-*, while *naágole'* is imperfective and lacks the *yi-* marker.[22] The examples in (62) demonstrate that the typical Wh transitive word order possibilities are available in clauses with *yizkah*.

(62a) Hadín gósée yizkah ?
who dog 3sg.perf.shoot
Who shot the dog ?

(62b) Hastiin hant'é yizkah ?
old.man what 3sg.perf.shoot
What did the old man shoot ?

(62c) Hant'é hastiin yizkah ?
what old.man 3sg.perf.shoot
What did the old man shoot ?

When the non-Wh NP in these examples are marked by the particle *-go* (63), only the SOV construction with Wh subject remains grammatical.[23] The Wh/Focus judgments for clauses with *yizkah* thus parallel those for clauses with *naágole'* (51).

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[22] Additionally, *naágole'* includes the position 1 thematic prefix *'á-*, obligatorily present with the root *-le'*, and the +human subject prefix *ń* (Section 2.1.1). Neither of these prefixes are present in *yizkah*.

[23] Note that the presence versus absence of the +human subject prefix ń is irrelevant to the Wh/Focus paradigm. Judgements for the examples below, which include this prefix, parallel those in (63).

(i) Hadín ma' go nyízkah ?
who coyote FOC 3sg.perf.shoot
Who shot THE COYOTE ?

(ii) * Hastiin go hant'é nyízkah ?
old.man FOC what 3sg.perf.shoot
What did THE OLD MAN shoot ?

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(63a) Hadín ma' go yizkah ?
who coyote FOC 3sg.perf.shoot
Who shot THE COYOTE ?

(63b) * Hastiin go hant'é yizkah ?
old.man FOC what 3sg.perf.shoot
What did THE OLD MAN shoot ?

(63c) * Hant'é hastiin go yizkah ?
what old.man FOC 3sg.perf.shoot
What did THE OLD MAN shoot ?

In the discussion below, I argue that the Western Apache Wh/Focus paradigm can be characterized as a constraint on the structural relationships possible between a Wh phrase and a focused NP. In sections 5.5 - 5.7, I use this structural constraint as a diagnostic tool in the analysis of Western Apache clause structure.[24] First, in Section

---

(iii) * Hant'é hastiin go nyízkah ?
what old.man FOC 3sg.perf.shoot
What did THE OLD MAN shoot ?

[24] Barss et. al. (1989) and Schauber (1979) indicate that Navajo does not permit the cooccurrence of Wh phrases and focused NP (i). The specific Wh/Focus structural diagnostic available in Western Apache is therefore not available in Navajo.

(i) *Haí-lá łíí' ga' nabíłgo'. [Barss et. al. 1989: 325, Schauber 1979:178]
who-PRT horse FOC threw

Related to Wh/Focus interaction, Navajo and Western Apache differ in two additional respects. First, Navajo Wh questions obligatorily require an overt Wh question particle such as *lá*. Second, multiple Wh questions are excluded for most Navajo speakers (ii).

(ii) *Haí-lá ha'át'íí'lá nayiisnii' ? [Barss et. al. 1989:324]
who-PRT what-PRT bought
'Who bought what?'

Barss et. al. note that example (ii) improves for some speakers if the particle following 'what' is omitted. This suggests that the problem with (ii) may actually be the presence of two particles, not the presence of two Wh phrases. It would be interesting to determine what Navajo speakers who accept (ii) with one particle think of example (i). Note, however, that the presence versus absence of the particle *lá* in Western Apache (Section 3.4.2) does not influence the Wh/Focus paradigm (iii).

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5.4.2, I demonstrate that D-Linking (Pesetsky 1987) is not a key factor in the Wh/Focus paradigm.

5.4.2 A Note on D-Linking

One potential analysis of the Wh/Focus paradigm that can be excluded involves Pesetsky's (1987) notion of Discourse-Linking. Pesetsky defines a D-Linked reading of a Wh phrase as a reading in which both speaker and hearer are aware of a discourse established set of individuals/entities to which the range of felicitous answers to the Wh question is limited. For example, Pesetsky suggests that *which*-phrases are the typical D-Linked Wh expressions and notes that the *which*-question 'Which book did you read?' is felicitous only if both speaker and hearer have a set of relevant books in mind. In context, other Wh phrases, such as 'who' or 'what', may also receive D-Linked interpretations. The Wh/Focus examples in (61) and (63) might be explained if only D-Linked Wh phrases can cooccur with focus NP in Western Apache, and *hadíń* 'who' more readily receives a D-Linked reading than does *hant'é* 'what'.[25]

As noted in Section 2.1.7, the Western Apache word for 'which', the canonical D-Linked Wh element, is *hadíí*. In transitive constructions, *hadíí* can surface with the subject (64a), or with an in situ (64b) or raised (64c) object.[26]

(iii) Hadíń lá ḳih go náágole' ?
who Q house FOC 3sg.imprf.build
Who among you is building A HOUSE ?
[Instead of something else, etc.]

[25] 'Who' is independently argued to be more readily D-Linked than 'what' in Szabolcsi & Zwarts (1993).

[26] Interestingly, *which*-NP are compatible with *-hii* but incompatible with *-go* even though *-go* can follow other Wh (Section 5.1.3).

- *Continued on Next Page* -

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(64a) Hadíí hastiin kịh náágolaa ?
which old.man house 3sg.perf.build
Which old man built the house ?

(64b) Hastiin hadíí kịh náágolaa ?
old.man which house 3sg.perf.build
Which house did the old man build ?

(64c) Hadíí kịh hastiin náágolaa ?
which house old.man 3sg.perf.build
Which house did the old man build ?

With respect to Wh/Focus interaction, however, *which*-phrases behave exactly as the other Wh phrases. The examples in (65) demonstrate that a subject *which*-phrase can cooccur with a focused object, while the combination of an object *which*-phrase and focused subject is ungrammatical.

(65a) Hadíí hastiin kịh go náágole' ?
which old.man house FOC 3sg.imprf.build
Which old man is building A HOUSE ?

(65b) * Hadíí kịh hastiin go náágole' ?
which house old.man FOC 3sg.imprf.build
Which house is THE OLD MAN building ?

(65c) * Hastiin go hadíí kịh náágole' ?
old.man FOC which house 3sg.imprf.build
Which house is THE OLD MAN building ?

(i) Hadíí kịh híí hastiin náágole' ?
which house REF old.man 3sg.imprf.build
Which house is the old man building ?

(ii) * Hadíí kịh go hastiin náágole' ?
which house FOC old.man 3sg.imprf.build
Which HOUSE is the old man building ?

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As the grammaticality judgments with D-Linked *which*-phrases in (65) parallel the judgments with 'who' and 'what' in (61) and (63), D-Linking cannot be the key component in an analysis of Western Apache Wh/Focus interaction.

5.4.3 A Descriptive Characterization of Wh/Focus Interaction

The cooccurrence effects between Wh phrases and focused NP-*go* arguments in (61), (63), and (65) can be descriptively characterized as a generalization on the structural relationship present between a focused NP and the canonical position of a Wh phrase. As noted at the beginning of Section 5.4, I use 'canonical position' as a cover term for the Case/Agreement position of an argument and the base generated thematic position of an adjunct. More generally, the canonical position of a Wh phrase is its position in a clause prior to the (optional) application of the Wh Movement operation.[27] The specific identity of a Wh phrase's canonical position, however, is far less important to the analysis of Wh/Focus interaction than is the relative structural relationship between that position and the overt position of a focused NP. In Chapter 8, I will reconsider the definition of 'canonical position' as I explore the implications of the Wh/Focus paradigm for a Pronominal Argument analysis of Western Apache clause structure.

The diagrams below provide the pre-LF representations for the Wh/Focus examples in (61). Following previous discussion, clause initial Wh phrases are situated in Spec WhP (Section 2.2), the focus particle -*go* is analyzed as a determiner generated with

[27] I will avoid referring to the canonical position of a Wh phrase as the position of its trace. While such reference is technically correct, it is misleading in that the trace itself is irrelevant to the ultimate analysis of Wh/Focus interaction, just as the trace of a raised *ha*- word is irrelevant to the interpretation of that *ha*- word (Section 3.4.3). Also, as I assume that arguments are generated VP internally and raise to their Case/Agreement positions prior to A' movement, it is not definitionally accurate to equate 'canonical' position with 'underlying' position.

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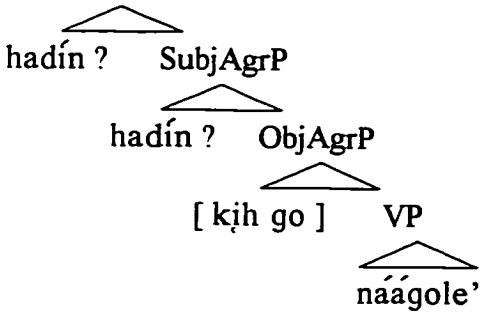
the NP it modifies (Section 5.3), and the canonical positions of the subject and object are identified as their Case/Agreement positions, SubjAgrP and ObjAgrP. (66) provides the pre-LF representation for (61a). Since overt movement of the Wh subject *hadín* would apply string vacuously in this example, it is not obvious if *hadín* is in situ or has raised to Spec WhP.

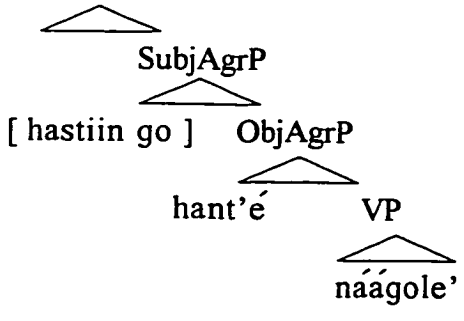
(66) = (61a)



Hadín kịh go náágole' ?
who house FOC 3sg.imprf.build
Who is building A HOUSE ?

The diagrams in (67) and (68) provide the pre-LF representations for (61b) and (61c), respectively.

(67) = (61b)



* Hastiin go hant'é náágole' ?
old.man FOC what 3sg.imprf.build
What is THE/AN OLD MAN building ?

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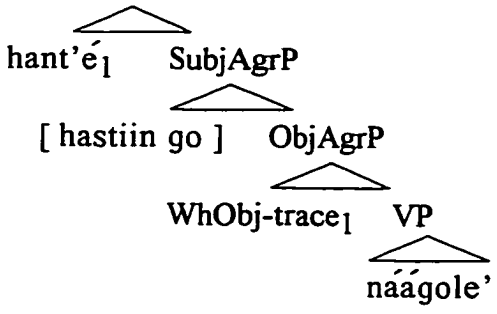
(68) WhP = (61c)



* Hant'é hastiin go náágole' ?
what old.man FOC 3sg.imprf.build
What is THE/AN OLD MAN building ?

In (66), the Wh argument overtly c-commands the focused argument. As (66) is grammatical, it is unlikely that there is a restriction in Western Apache against a Wh phrase overtly c-commanding a focused NP. The focused NP in (67), on the other hand, c-commands the Wh argument and is deemed ungrammatical. This suggests that there may be a restriction against a focused NP c-commanding a Wh phrase. In (68), however, the focused NP does not c-command the Wh argument, which has raised to Spec WhP, and the sentence is nevertheless ungrammatical. What (67) and (68) have in common is that in each example the focused argument c-commands the canonical position of the Wh argument. Specifically, in each case the focused subject NP, overtly situated in Spec SubjAgrP, c-commands the pre-A' movement position of the Wh object, Spec ObjAgrP. In contrast, the focused object NP in (66), a grammatical example, does not c-command the canonical position, Spec SubjAgrP, of the Wh subject. On the basis of this discussion, I tentatively propose (69) as a descriptive characterization of the Western Apache Wh/Focus paradigm.

(69) Western Apache Wh/Focus Cooccurrence Restriction: A focused NP-*go* argument may not c-command the canonical position of a Wh phrase.

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In the remainder of this chapter, I verify the empirical adequacy of (69), discuss its implications for analyses of Western Apache clause structure, and explore the possible theoretical motivation for the generalization itself.

5.4.4 Ditransitive Constructions

This section demonstrates that the descriptive generalization in (69) accurately characterizes Wh/Focus interaction with subject, object, and indirect object arguments in Western Apache ditransitive clauses.

Canonical word order in Western Apache ditransitive clauses is S-IO-OV.[28] Example (70) illustrates S-IO-OV ordering in a ditransitive clause with the verb 'give'.

(70) Isdzan ishkiin chách'il yaayiné'.
woman boy acorn 3sg.perf.give
The woman gave the boy an acorn.

Strict S-IO-OV word order follows, by hypothesis, from the hierarchical organization of the clause with respect to Case/Agreement projections. As (71) illustrates, SubjAgrP dominates IObjAgrP, and IObjAgrP dominates ObjAgrP in a ditransitive construction.

[28] Beghelli (1996) argues on the basis of quantifier interpretation and quantifier/Wh interaction that the hierarchical organization of ditransitive clauses is universally Subject > Indirect Object > Direct Object.

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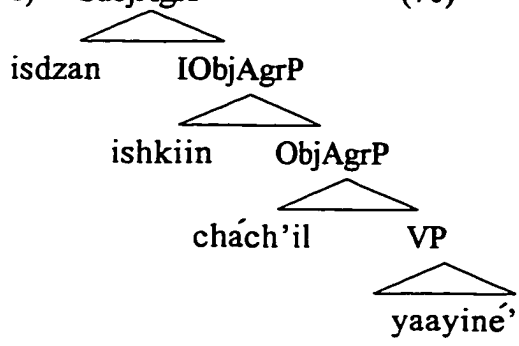
(71) SubjAgrP = (70)



The examples in (72) - (74) demonstrate that each of the overt arguments in a ditransitive clause can be marked as contrastively focused by the particle *-go*.

(72) Isdzan ishkiin chách'il go yaayiné'.
woman boy acorn FOC 3sg.perf.give
The woman gave the boy AN ACORN.

(73) Isdzan ishkiin go chách'il yaayiné'.
woman boy FOC acorn 3sg.perf.give
The woman gave THE BOY an acorn.

(74) Isdzan go ishkiin chách'il yaayiné'.
woman FOC boy acorn 3sg.perf.give
THE WOMAN gave the boy an acorn.
[Not the man.]

As demonstrated in (75) - (77), each of the arguments in a ditransitive clause can also be realized as an in situ Wh phrase.

(75) Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
What did the woman give to the boy ?

(76) Isdzan hadín chách'il yaayiné' ?
woman who acorn 3sg.perf.give
Who did the woman give an acorn to ?

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(77) Hadín ishkiin chách'il yaayiné' ?
who boy acorn 3sg.perf.give
i) Who gave the boy an acorn ?
ii) Who did the boy give an acorn to ?
[Reading (ii) clear in context where boy is relevant as 'giver'.]

Finally, each of the arguments, when realized as a Wh phrase, may optionally raise. Movement of the Wh subject in (77) applies string vacuously, and movement of the Wh indirect object in (76) yields the structure in (77) on its interpretation with *ishkiin* 'boy' as subject. Examples (78) and (79), as discussed in Section 2.2.3, demonstrate that the Wh object in (75) can raise to either a clause initial position or a position intermediate between the canonical positions of subject and indirect object.

(78) Hant'é isdzan ishkiin yaayiné' ?
what woman boy 3sg.perf.give
What did the woman give to the boy ?

(79) Isdzan hant'é ishkiin yaayiné' ?
woman what boy 3sg.perf.give
What did the woman give to the boy ?

In summary, each of the arguments in a Western Apache ditransitive clause may be realized as a focused NP-*go* argument or as a Wh argument which may undergo optional Wh movement.

The cooccurrence of Wh arguments and focused NP-*go* arguments in Western Apache ditransitive clauses is restricted, however, in a manner predicted by the Wh/Focus generalization in (69). Specifically, a Wh argument may cooccur with a focused NP-*go* argument unless the focused NP c-commands the canonical position of the Wh argument. (80), for example, with Wh indirect object and focused direct object, is grammatical.

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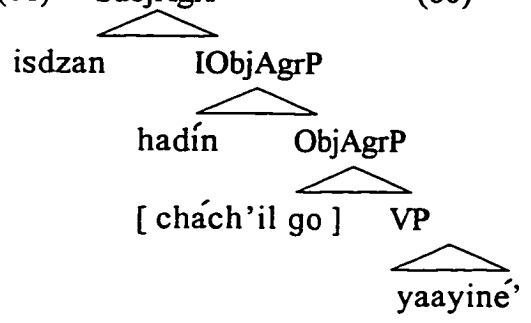
(80) Isdzan hadín chách'il go yaayiné' ?
woman who acorn FOC 3sg.perf.give
Who did the woman give THE ACORN to ?
[Possible context: She gave out an apple, a basket and an acorn .. you want your acorn back.]

The grammaticality of (80) is predicted given the structural representation in (81). The focused NP-*go* object in (80)/(81) does not c-command the canonical position of the Wh indirect object and the example satisfies the Wh/Focus cooccurrence generalization.

(81) SubjAgrP = (80)



Example (82) contrasts with (80). In (82), the indirect object is focused and the direct object is realized as an in situ Wh phrase.

(82) ?* Isdzan ishkiin go hant'é yaayiné' ?
woman boy FOC what 3sg.perf.give
What did the woman give to THE BOY ?

As illustrated in the structural representation in (83), the focused NP-*go* indirect object in (82) c-commands the canonical position of the Wh object, in violation of the Wh/Focus cooccurrence generalization, and the example is appropriately excluded.

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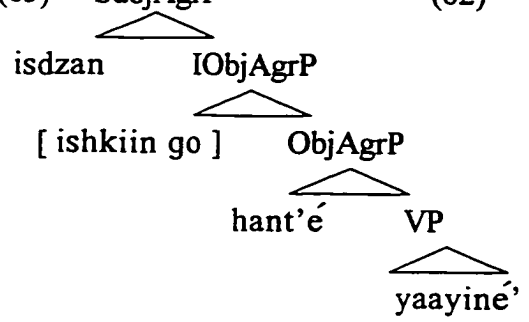
(83) SubjAgrP = *(82)



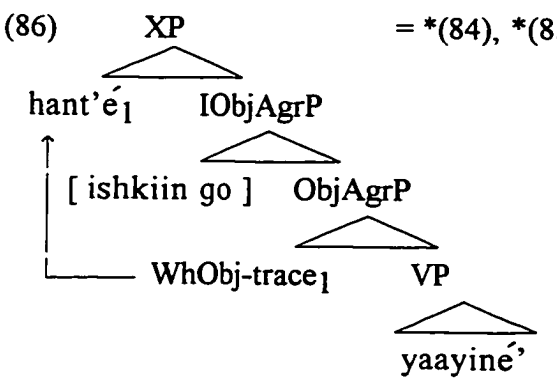
Examples (84) and (85), with the Wh direct object in (82) overtly raised to positions not c-commanded by the focused NP-*go* indirect object, are also ungrammatical.

(84) * Hant'é isdzan ishkiin go yaayiné' ?
what woman boy FOC 3sg.perf.give
What did the woman give to THE BOY ?

(85) ?* Isdzan hant'é ishkiin go yaayiné' ?
woman what boy FOC 3sg.perf.give
?* What did the woman give to THE BOY ?

In these examples, as illustrated in (86), movement of the Wh direct object does not alter the fact that the focused NP-*go* indirect object c-commands the canonical position of the Wh direct object, in violation of the Wh/Focus cooccurrence generalization.

(86) XP = *(84), *(85)



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The Wh/Focus cooccurrence generalization also correctly predicts the grammaticality of Wh/Focus examples with subject and indirect object arguments. In (87), the focused NP-*go* subject in Spec SubjAgrP c-commands the canonical position of the Wh indirect object, Spec IObjAgrP. This c-command relationship violates the Wh/Focus generalization and the example is appropriately excluded.

(87) * Isdzan go hadíń chách'il yaayiné' ?
woman FOC who acorn 3sg.perf.give
Who did THE WOMAN give the acorn to ?

Example (88), with Wh subject and focused NP-*go* indirect object is grammatical. In this case, the focused NP does not c-command the canonical position of the Wh argument and the sentence satisfies the Wh/Focus generalization.

(88) Hadíń ishkiin go chách'il yaayiné' ?
who boy FOC acorn 3sg.perf.give
i) Who gave THE BOY an acorn ?
ii) ?* Who did THE BOY give an acorn to ?
[Reading (i) is perfect. If you used this for reading (ii), the person you are talking to would say 'Do you mean ...?' and rephrase what you said.]

Note that (88) cannot be interpreted with *hadíń* 'who' as a raised Wh indirect object although this reading is possible in the absence of -*go* (77). This interpretation would entail the excluded configuration, equivalent to that for (87), in which the canonical position of the Wh argument is c-commanded by a focused NP.

5.4.5 Postpositional Objects

As one final argument in support of the empirical adequacy of the Wh/Focus cooccurrence generalization (69), this section briefly explores Wh/Focus interaction in clauses with postpositional objects.

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Western Apache postpositional phrases consist of a nominal argument followed by a postposition which exhibits agreement with the nominal argument. The postpositional phrase *tséé biká'* 'on the rock', for example, consists of the nominal *tséé* 'rock' and the postposition *ká'* 'on' with the 3rd person agreement marker *bi-*. Examples (89) and (90) demonstrate the positioning of a postpositional object between a verb and its direct object argument. These examples also illustrate that both the direct object and the object of the postposition are eligible for focus marking by the particle *-go*.

(89) Ishkiin isaa go tséé biká' dayiz'ąą.
boy drum FOC rock 3sg.on up.3sg.perf.put
The boy put THE DRUM on top of the rock.

(90) Ishkiin isaa tséé go biká' dayiz'ąą.
boy drum rock FOC 3sg.on up.3sg.perf.put
The boy put the drum on top of THE ROCK.

Examples (91) and (92) demonstrate that both the direct object and the object of the postposition can be realized as an in situ Wh phrase.

(91) Ishkiin hant'é tséé biká' dayiz'ąą ?
boy what rock 3sg.on up.3sg.perf.put
What did the boy put on top of the rock ?

(92) Ishkiin isaa hant'é biká' dayiz'ąą ?
boy drum what 3sg.on up.3sg.perf.put
What did the boy put the drum on ?

As a straightforward extension of the proposed structures for Western Apache transitive and ditransitive clauses, I assume that the SO-PPO-V word order in (89) - (92) follows from the configuration in (93). Note that other than its hierarchical location below ObjAgrP, the exact structural position of the postpositional object is not crucial to the discussion below.

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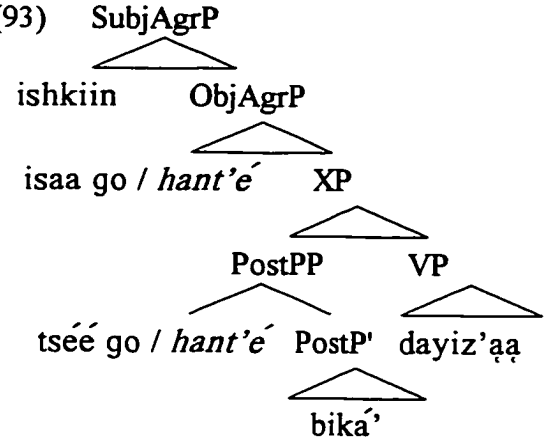
(93)



Given the structural analysis in (93), the Wh/Focus cooccurrence generalization predicts that examples with Wh direct object and focused NP-*go* postpositional object should be grammatical. The focused NP in such cases does not c-command the canonical position of the Wh argument. As example (94) demonstrates, this prediction is correct.

(94) Ishkiin hant'é tsée go bikáʼ dayiz'ąą ?
boy what rock FOC 3sg.on up.3sg.perf.put
What did the boy put on top of THE ROCK ?

The Wh/Focus cooccurrence generalization further predicts that examples with focused NP-*go* direct object and Wh postpositional object should be ungrammatical. In these examples, the focused NP does c-command the canonical position of the Wh phrase, in violation of the Wh/Focus generalization. As example (95) demonstrates, this prediction is also correct.

(95) * Ishkiin isaa go hant'é bikáʼ dayiz'ąą ?
boy drum FOC what 3sg.on up.3sg.perf.put
What did the boy put THE DRUM on ?

In summary, there is robust evidence from Western Apache transitive, ditransitive, and postpositional constructions in support of the empirical adequacy of the Wh/Focus

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cooccurrence generalization (69). Focused NP-*go* arguments cannot c-command the canonical position of a Wh phrase. I will explore the theoretical basis for (69) in Section 5.7. First, however, I will demonstrate the use of the Wh/Focus generalization as a diagnostic tool in analyses of Wh adjunct positioning (Section 5.5) and optional OSV word order (Section 5.6).

5.5 Wh Adjuncts and Focus

In Section 2.3, I discussed the distribution and interpretation of the Western Apache Wh adjuncts with respect to the overt arguments in a clause. In a transitive clause, VP adverbial Wh adjuncts can surface in positions preceding the subject, in between the subject and object, or in between the object and verb. (96) illustrates the distributional freedom of VP adverbial *hayú* 'where'.

(96) (Hayú) hastiin (hayú) kịh (hayú) náágole' ?
(where) old.man (where) house (where) 3sg.imprf.build
Where is the old man building the house ?

I argued that this distributional freedom follows from an analysis in which the VP adverbial Wh adjuncts were generated (thematically licensed) in a relatively low structural position but could undergo optional Wh movement to higher positions in the clause.

I also noted in Section 2.3 that the Wh adjuncts *hant'éwạ* 'why' and *hagot'úgo* 'how' are ambiguous in interpretation, with both sentential and VP adverbial readings. While these adjuncts are freely positioned with respect to the overt arguments in a clause on their VP adverbial reading, they are restricted to clause initial position on their sentential reading. (97) and (98) demonstrate the distribution of *hant'éwạ* in a transitive

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clause for both its VP adverbial 'for what purpose' and sentential 'for what reason' interpretations.

(97) Hant'éwą hastiin kịh náágolaa ?
why old.man house 3sg.perf.build
Why (reason or purpose) did the old man build the house ?

(98) Hastiin (hant'éwą) kịh (hant'éwą) náágolaa ?
old.man (why) house (why) 3sg.perf.build
For what purpose did the old man build the house ?

Following similar observations for a variety of other languages (cf. Rizzi 1990, Lin 1992, Tsai 1994, among others), I argued that the distributional asymmetry between sentential and VP adverbial Wh adjuncts follows from an analysis in which the sentential adjuncts are generated in higher structural positions than their VP adverbial counterparts. In particular, I proposed that the sentential Wh adjuncts are generated in positions above the canonical subject position, and, in the absence of a Wh lowering operation, have no derivational means to surface in a position below the subject. In Section 3.5, I provided a second argument in support of this analysis, arguing that generation of the sentential Wh adjuncts in a position above the *ha...shị* licensing projection explained the lack of an indefinite reading of these adjuncts in the presence of *shị*. The VP adverbial Wh adjuncts, by hypothesis generated below the *ha...shị* licensing projection, are interpreted as indefinites in the presence of *shị*.

The purposes of this section are twofold. First, I demonstrate that the Wh/Focus cooccurrence generalization in (69) applies to clauses containing Wh adjuncts and focused NP. Specifically, a focused NP-*go* argument cannot c-command the canonical position of a Wh adjunct, where 'canonical' refers to the base generated position in which the adjunct is thematically licensed. Second, given the applicability of (69) to Wh adjunct

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constructions, I demonstrate that the distribution of Wh adjuncts in sentences containing focused NP provides a strong additional argument in support of distinct structural positions for the base generation of sentential and VP adverbial Wh adjuncts.[29]

5.5.1 Wh Adjuncts and Object Focus

Although the VP adverbial Wh adjuncts may typically surface in a position between the verb and an overt object argument, as in (96) and (98), the adjuncts may not follow a focused NP-*go* object. (99) demonstrates the ungrammaticality of VP adverbial *hant'éwạ* following a focused object.[30]

(99) * Hastiin kịh go hant'éwạ náágole' ?
old.man house FOC why 3sg.imprf.build
For what reason is the old man building A HOUSE ?

Similarly, examples (100) and (101) illustrate the ungrammaticality of *hayú* and *das'áh* following a focused object.

(100) * Hastiin kịh go hayú náágole' ?
old.man house FOC where 3sg.imprf.build
Where is the old man building THE/A HOUSE ?

(101) * Hastiin kịh go das'áh náágole' ?
old.man house FOC when.nonpast 3sg.imprf.build
When will the old man build A HOUSE ?

---

[29] This section discusses Wh/Focus interaction with *hant'éwạ* 'why', *hagot'úgo* 'how', *hayú* 'where at/to' and *das'áh* 'when nonpast'. Note that the relevant distributional facts for *hadí'* 'where from' and *dadạ́'* 'when past' parallel those of *hayú* and *das'áh*.

[30] As noted, the sentential reading of *hant'éwạ* is independently excluded from positions following the subject.

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Since the VP adverbial Wh adjuncts can follow a non-focused object, the cooccurrence of Wh adjunct and focused object in (99) - (101) is obviously key to the analysis of these examples. Note, however, that there is not an absolute restriction against the cooccurrence of VP adverbial Wh adjuncts and focused NP-*go* objects in Western Apache clauses. Wh adjuncts and focused objects may cooccur in a single clause as long as the focused object does not c-command the Wh adjunct. Examples (102) - (104) illustrate that VP adverbial *hant'éwą*, *hayú*, and *das'áh* can surface in a position between an overt subject and focused object.

(102) Hastiin hant'éwą kịh go náágole' ?
old.man why house FOC 3sg.imprf.build
For what purpose is the old man building A HOUSE ?

(103) Hastiin hayú kịh go náágole' ?
old.man where house FOC 3sg.imprf.build
Where is the old man building A HOUSE ?

(104) Hastiin das'áh kịh go náágole' ?
old.man when.nonpast house FOC 3sg.imprf.build
When will the old man build A HOUSE ?

Furthermore, examples (105) - (107) demonstrate that *hant'éwą*, *hayú*, and *das'áh* can surface in a position preceding the subject of a transitive clause with focused NP-*go* object. Note that *hant'éwą* in (105) can be interpreted with either its sentential or VP adverbial reading.

(105) Hant'éwą hastiin kịh go náágolaa ?
why old.man house FOC 3sg.perf.build
Why (reason or purpose) did the old man build THE/A HOUSE ?

(106) Hayú hastiin kịh go náágole' ?
where old.man house FOC 3sg.imprf.build
Where is the old man building A HOUSE ?

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(107) Das'áh hastiin kịh go náágole' ?
when.nonpast old.man house FOC 3sg.imprf.build
When will the old man build A HOUSE ?

Clearly, there is no absolute constraint against the cooccurrence of a Wh adjunct and a focused NP-*go* object in Western Apache sentences. The examples in (99) - (107) can be explained, however, by the Wh/Focus generalization. The Wh/Focus generalization prohibits configurations in which a focused argument c-commands the canonical position of a Wh phrase. Although motivated on the basis of Wh argument/Focus interaction, the application of the Wh/Focus generalization to these Wh adjunct examples is straightforward. In (99) - (101), a focused object overtly c-commands a Wh adjunct and thus necessarily c-commands the canonical, base generated, position of that adjunct.[31] This c-command relationship is prohibited by the Wh/Focus generalization and the examples are appropriately excluded. In (102) - (107), on the other hand, the focused object does not overtly c-command the Wh adjunct. The Wh/Focus generalization correctly predicts the grammaticality of (102) - (107) on the assumption that the focused object fails to c-command the base generated position of the Wh adjuncts in these examples.

With respect to the base generated position of the VP adverbial Wh adjuncts, two distributional facts must be resolved. Consider (108) and (109).

(108a) ✓ ... NP-Subject Wh-Adjunct NP-Object ...

(108b) ✓ ... NP-Subject NP-Object Wh-Adjunct ...

(109a) ✓ ... NP-Subject Wh-Adjunct NP-*go*-Object ...

[31] Given the absence of Wh lowering, there is no derivation which will place a Wh phrase in a position lower than its base generated position.

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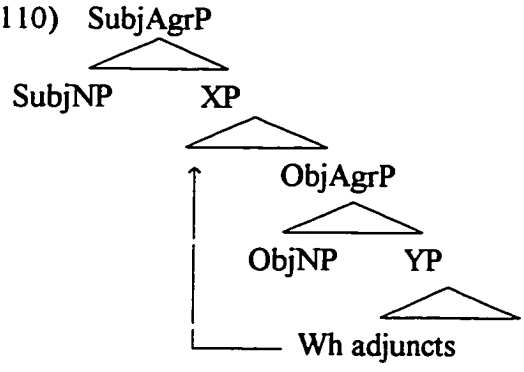
(109b) * ... NP-Subject NP-*go*-Object Wh-Adjunct ...

The representations in (108) recapitulate the noted fact that VP adverbial Wh adjuncts and non-focused objects are freely ordered with respect to each other. One potential analysis of this distributional freedom is that the Wh adjuncts are generated in a position below the canonical position of the object argument and optionally raise to a position intermediate between subject and object. (110) illustrates the proposal.

(110)



The derivation in (110), however, is not compatible with the distribution, summarized in (109), of VP adverbial Wh adjuncts in clauses with focused objects. Specifically, the Wh/Focus generalization prohibits a focused argument from c-commanding the canonical position of a Wh phrase. But if (110) is correct, the canonical, base generated, position of a VP adverbial adjunct is necessarily c-commanded by a focused object. Contra (102) - (107), a Wh adjunct and focused object should never cooccur.

Alternatively, the distributional freedom in (108) could follow from an analysis in which Wh adjuncts are generated above the canonical object position, but object arguments optionally scramble to higher positions. (111) illustrates this proposal.

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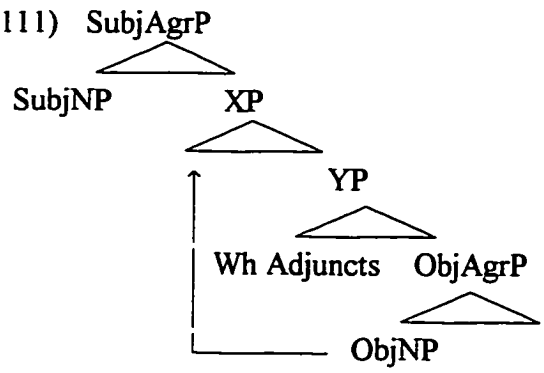
(111)



The analysis in (111) is compatible with the observed interaction between focused objects and VP adverbial Wh adjuncts summarized in (109). By hypothesis, an object argument overtly situated below an in situ VP adverbial Wh adjunct has not scrambled and does not c-command the base generated position of that adjunct. This is the situation in (102) - (104) where the Wh adjuncts surface in a position intermediate between subject and object, and the grammaticality of these examples is correctly predicted by the Wh/Focus generalization. The grammaticality of examples (105) - (107) is also explained within this approach. The Wh adjuncts in (105) - (107) overtly raise to Spec WhP, and the object arguments do not optionally scramble to a position c-commanding the adjunct's base generated position.[32]

One additional analysis which resolves (108) and (109) holds that VP adverbial Wh adjuncts are freely generated in positions above or below the canonical object position. (112) illustrates this proposal.

[32] The exact position of the object in (105) - (107) cannot be determined from the PF linear string. The grammaticality of each example, however, entails that the focused object has not scrambled to a position c-commanding the canonical position of the Wh adjunct.

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(112) SubjAgrP

SubjNP XP

Wh Adjuncts ObjAgrP

ObjNP YP

Wh Adjuncts

Given (112), VP adverbial Wh adjuncts can surface in positions above or below a non-focused object argument (108) simply because the adjuncts can be base generated in such positions. The Wh/Focus generalization prohibits configurations in which a focused object c-commands a Wh adjunct (109b), but Wh adjuncts can be directly generated above a focused object (109a) without violation of the Wh/Focus generalization.

At this point, I am unable to absolutely exclude or verify the analyses in either (111) or (112).[33] Note, however, that the issues raised in (110) - (112) apply beyond the domain of Western Apache. Consider, for example, the English Superiority effects in (113).[34]

(113a) * Where$_1$ did who buy books t$_1$?

(113b) Who$_1$ t$_1$ bought books where ?

Example (113a) is excluded as a Superiority violation because the Wh adjunct 'where' raises to Spec WhP across the hierarchically superior Wh subject 'who'. (113b) is grammatical because the hierarchically superior Wh subject does raise to Spec WhP.

[33] (112) is, however, incompatible with particular theoretical assumptions noted in sections 1.7 and 2.3.4. In those sections, I suggested that all argument and adjunct constituents in a clause are 'generated' in particular thematically licensed projections.

[34] See Section 4.3 for a cross-linguistic discussion of Superiority phenomena.

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Given the relevance of Superiority to the derivation of questions with Wh subject and Wh adjunct, similar effects are a priori expected in questions with Wh object and Wh adjunct. Superiority should prefer either the movement of Wh objects to Spec WhP, or the movement of Wh adjuncts to Spec WhP, the preference dependent entirely upon which element is generated in the hierarchically superior position. As the examples in (114) demonstrate, however, the relevant sentences are equally grammatical with either Wh object or Wh adjunct raised.[35]

(114a) What$_1$ did John buy t$_1$ where ?

(114b) Where$_1$ did John buy what t$_1$?

These examples suggest that cross-linguistically the underlying structural relationship between objects and VP adverbial adjuncts is not fixed in a manner that influences syntactic operations such as Wh movement. Any analysis of object/Adjunct interaction will have to address this fact. The analyses in (111) and (112) constitute two possible approaches,[36] but the analysis in (110) might also be salvaged given additional considerations which I will not pursue herein.[37] What is consistent in all three analyses, and crucial to the Wh/Focus generalization, is that the canonical, pre-Wh movement, position of a VP adverbial Wh adjunct can be identified with a position that is not c-

[35] The marked position of the traces in these examples is arbitrary and not necessarily indicative of the relative underlying positions of VP adjuncts and object arguments.

[36] The analysis in (112), with Wh adjuncts freely generated above or below the object position must further address the fact that in situ Wh adjuncts and Wh objects in English do surface in a fixed order.

(i) Who saw what where ?
(ii) * Who saw where what ?

[37] Scrambling operations which precede A' movement, for example, may reset the positions from which A' dependencies and conflicts are computed.

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commanded by an overt object. Section 5.5.3 will further refine this analysis on the basis of the interaction between focused subjects and Wh adjuncts.

5.5.2 A Complication with *hagot'ú́go*

There is an additional complication to the Wh/Focus paradigm with respect to the compatibility of *hagot'ú́go* 'how' with focused NP-*go* arguments. First, note that 'how', similar to 'why', 'where', and 'when' in (99) - (101), cannot follow a focused object (115).

(115) * Hastiin ḳih go hagot'ú́go náá́gole' ?
old.man house FOC how 3sg.imprf.build
How is the old man building A HOUSE ?

While the other Wh adjuncts can precede a focused object (102) - (107), however, VP adverbial 'how' is absolutely excluded from sentences containing a focused object. Example (116), with 'how' preceding the focused NP-*go* object is ungrammatical.

(116) * Hastiin hagot'ú́go ḳih go náá́gole' ?
old.man how house FOC 3sg.imprf.build
How is the old man building A HOUSE ?

Similarly, example (117) is excluded with 'how' on its VP adverbial reading 'by what means/method', although the sentence can be interpreted with 'how' on its sentential reading 'how can it be'.

(117) Hagot'ú́go hastiin ḳih go náá́gole' ?
how old.man house FOC 3sg.imprf.build
How can it be that the old man is building THE HOUSE ?
[e.g. He is in no condition to do so.]

Since (115) - (117) are acceptable if the object argument is not focused (Section 2.3.2), the ungrammaticality of these examples necessarily follows from the cooccurrence

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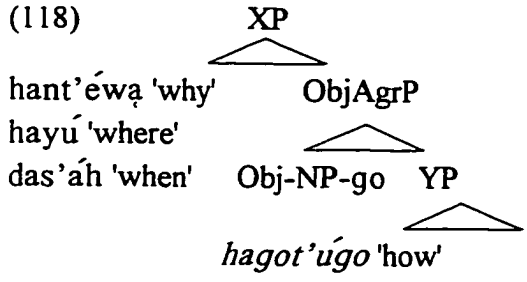
of VP adverbial 'how' and a focused object. This leaves as problematic, however, the asymmetry between VP adverbial 'how' and the other VP adverbial Wh adjuncts with respect to their ability to precede a focused object. One possible explanation for this asymmetry is that while the canonical positions of the other VP adverbial Wh adjuncts can be identified with positions above an overt object, the canonical position of VP adverbial 'how' is necessarily identified with a position below the object. (118) illustrates this proposal.

(118)



Given (118), a focused object will always c-command the canonical position of VP adverbial 'how'. This configuration is excluded by the Wh/Focus generalization, and VP adverbial 'how' and a focused object can never cooccur. As the canonical positions of the other VP adverbial Wh adjuncts, as well as those for 'why' and 'how' on their sentential readings, are above the object, these adjuncts are not similarly excluded from all sentences containing a focused object. Note, however, that (118) complicates the possible analyses of Wh adjunct distribution and 'canonical' position in (110) - (112). As I provide an alternative analysis of the exceptional behavior of 'how' below, I will only briefly summarize the implications of (118) for (110) - (112).

The analyses in (110) - (112) attempt to derive not only Wh adjunct/Focus interaction, but also the ability all VP adverbial Wh adjuncts, including 'how', to surface in

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positions preceding or following a non-focused object. If all VP adverbial Wh adjuncts are generated below the object position, optionally scramble to a higher position, and the scrambled position is interpreted as the canonical position (110), then scrambling must be exceptionally prohibited for 'how' if and only if the object is focused. Alternatively, if all VP adverbial Wh adjuncts are generated above the object position, that position is interpreted as the canonical position, and the object optionally scrambles (111), then scrambling of a focused object must be exceptionally obligatory if and only if VP adverbial 'how' is present in the clause. Similarly, if the VP adverbial Wh adjuncts are optionally generated above or below the object position, with their base generated positions interpreted as canonical (112), then exceptional scrambling of a focused object must apply obligatorily if and only if 'how' is present in the clause. In summary, while (118) suggests that the canonical position of 'how' is necessarily below the position of a focused object, this requirement is not compatible with the ability of 'how' to precede a non-focused object without additional and otherwise unmotivated stipulation.

There is, however, an alternative explanation for the marked behavior of 'how'. As argued in Section 2.1.4, the final morpheme in *hagot'ugo* 'how' is the subordinating/adverbial particle *-go*. Section 5.1.5 noted the possibility that *-go* as a focus marker is an instance of this same particle (see also Chapter 6). Interestingly, just as multiple instances of *-go* as a focus marker are excluded from a given clause (Section 5.3.1), speakers reject clauses containing both *-go* as an NP focus marker and *-go* as an adverbial morpheme. Example (119) demonstrates the use of *dataanego* 'slowly', an adverbial expression which necessarily ends in the *-go* morpheme.

(119) Hastiin dataanégo ḳih náágole'.
old.man slowly house 3sg.imprf.build
The old man is slowly building a house.

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As example (120) demonstrates, (119) is deemed ungrammatical when one of the arguments in the clause is marked by *-go* as a focus particle.

(120) * Hastiin go dá́taanégo ḳih náágole'.
old.man FOC slowly house 3sg.imprf.build
THE OLD MAN is slowly building a house.

This example supports the proposal that *-go* as a focus marker and *-go* as an adverbial/subordinating element are two instances of the same particle. (120) is ungrammatical because it includes two instances of the particle *-go* and multiple instances of this particle are excluded from a single clause. VP adverbial 'how', which also ends in the *-go* morpheme, may be similarly excluded from sentences with focused NP-*go* objects, and no exceptional stipulations distinguishing 'how' from the other VP adverbial Wh adjuncts are required. This approach leaves as unexplained, however, the possible cooccurrence of 'how' on its sentential reading and a focused NP-*go* object (117). Possibly the high base generated position of sentential 'how' places the adjunct outside of the domain over which the constraint against two *-go* particles is evaluated.

5.5.3 Wh Adjuncts and Subject Focus

In Section 5.5.1, I demonstrated that the Wh/Focus generalization (69) applies to the interaction of VP adverbial Wh adjuncts and focused objects. I argued that the observed Wh/Focus interaction in such cases necessarily entails that the canonical positions of these adjuncts can be identified as positions above the object, and discussed three possible analyses of the adjunct paradigm. Having considered the implications of each of these analyses, and to simplify the discussion below, I will adopt the proposal in (111) in which the VP adverbial adjuncts are generated in positions above ObjAgrP and object DP may optionally scramble to a higher position. I interpret the base generated

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positions of the adjuncts as the canonical adjunct positions with respect to the Wh/Focus cooccurrence generalization.

The proposed analysis still leaves as undetermined the structural relationship between an overt subject argument and the base generated positions of the Wh adjuncts. In this section, I discuss Wh/Focus interaction in sentences with focused NP-*go* subjects and Wh adjuncts, and argue that VP adverbial Wh adjuncts are generated in positions below the subject while sentential Wh adjuncts are generated in positions above the subject.

The examples below demonstrate that no Wh adjunct may surface in a position following a focused NP-*go* subject. (121) - (124) demonstrate the ungrammaticality of Wh adjuncts in positions between a focused NP-*go* subject and an object.

(121) * Hastiin go hant'éwạ kịh náágole' ?
old.man FOC why house 3sg.imprf.build
Why is THE OLD MAN building a house ?

(122) * Hastiin go hayú kịh náágole' ?
old.man FOC where house 3sg.imprf.build
Where is THE OLD MAN building a house ?

(123) * Hastiin go das'áh kịh náágole' ?
old.man FOC when.nonpast house 3sg.imprf.build
When will THE OLD MAN build a house ?

(124) * Hastiin go hagot'úgo kịh náágole' ?
old.man FOC how house 3sg.imprf.build
How is THE OLD MAN building a house ?

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Examples (125) - (128) demonstrate the ungrammaticality of Wh adjuncts in positions following both subject and object when the subject is marked by the focus particle *-go*.[38]

(125) ?* Hastiin go ḳih hant'éwạ náágole' ?
old.man FOC house why 3sg.imprf.build
For what purpose is THE OLD MAN building a house ?
[We already know the old man is building the house.]

(126) ?* Hastiin go ḳih hayú náágole' ?
old.man FOC house where 3sg.imprf.build
Where is THE OLD MAN building a house ?
[We already know the old man is building the house.]

(127) ?* Hastiin go ḳih das'áh náágole' ?
old.man FOC house when.nonpast 3sg.imprf.build
When will THE OLD MAN build a house ?
[We already know the old man is going to build the house.]

(128) * hastiin go ḳih hagot'úgo náágole'
old.man FOC house how 3sg.imprf.build
How is THE OLD MAN building the house ?

The ungrammaticality of (121) - (128) is not surprising. All examples presented in this chapter with a Wh phrase overtly following a focused constituent have been deemed ungrammatical. Consider, however, examples (129) and (130).

(129) * Hayú hastiin go ḳih náágole' ?
where old.man FOC house 3sg.imprf.build
Where is THE OLD MAN building a house ?

(130) * Das'áh hastiin go ḳih náágole' ?
when.nonpast old.man FOC house 3sg.imprf.build
When will THE OLD MAN build a house ?

---

[38] Examples (124) and (128), with *hagot'úgo*, are considerd worse than the parallel examples with *hant'éwạ*, *hayú*, and *das'áh*. This additional degree of ungrammaticality probably follows from the prohibited cooccurrence of two *-go* particles in one clause (see Section 5.5.2).

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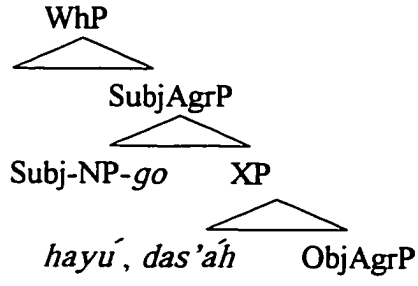
These examples are ungrammatical although the focused NP-*go* subject does not overtly c-command the Wh adjunct in either sentence. Moreover, as all Wh adjuncts are permitted in clause initial position in the absence of a focused subject (see sections 2.3 and 5.5.1), it is necessarily the presence of the focused subject that induces the ungrammaticality in (129) and (130). The Wh/Focus cooccurrence generalization offers a straightforward explanation for these examples, but requires that the VP adverbial Wh adjuncts *hayú* 'where' and *das'áh* 'when' are generated in positions below the subject. The Wh/Focus generalization prohibits configurations in which a focused argument c-commands the canonical position of a Wh phrase. As noted, I interpret the 'canonical' position of a Wh adjunct as its base generated position. If *hayú* and *das'áh* are generated in positions below the subject, as illustrated in (131), the canonical positions of these adjuncts will necessarily be c-commanded by a focused subject regardless of whether or not the adjuncts raise to Spec WhP.

(131)



Since it is precisely the configuration in (131) that the Wh/Focus generalization prohibits, *hayú* and *das'áh* are correctly predicted to never cooccur with a focused subject.

Given the analysis of *hayú* and *das'áh* in (131), consider the parallel examples with *hant'éwạ* 'why' (132) and *hagot'úgo* 'how' (133).

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(132) Hant'éwą hastiin go ḳih náágolaa ?
why old.man FOC house 3sg.perf.build
Why (reason) did THE OLD MAN build the house ?
[He has six healthy sons, they could have done it. Not clear that there can be a purpose reading here.]

(133) Hagot'ú́go hastiin go ḳih náágole' ?
how old.man FOC house 3sg.imprf.build
How can it be that THE OLD MAN is building a house ?

While these examples are grammatical, the sentences can only be interpreted with sentential readings of the adjuncts. The exclusion of the VP adverbial readings of 'why' and 'how' in (132) and (133) thus suggests, following (131), that these adjuncts, as VP adverbials, are also generated in positions below the subject. A focused subject will necessarily c-command the canonical, base generated, positions of VP adverbial 'why' and 'how', a configuration precluded by the Wh/Focus generalization. The grammaticality of (132) and (133) with 'why' and 'how' on their sentential interpretations, on the other hand, suggests that the canonical, base generated, positions of these adjuncts are not located below the subject. This strongly supports the proposals in sections 2.3.4 and 3.5 that sentential Wh adjuncts are generated in higher positions, possibly directly in Spec WhP, than VP adverbial adjuncts. Moreover, the discussion herein excludes the alternative possibility that sentential Wh adjuncts are generated low but obligatorily raise to high structural positions. Since the Wh/Focus generalization prohibits a focused argument from c-commanding the base generated position of a Wh adjunct, this alternative analysis would predict (132) and (133) to be ungrammatical.

The tree diagram in (134) summarizes the proposed structural analysis of the Western Apache Wh adjuncts. VP adverbial 'why', 'how', 'where', and 'when' are generated in positions above the canonical object position, but necessarily below the

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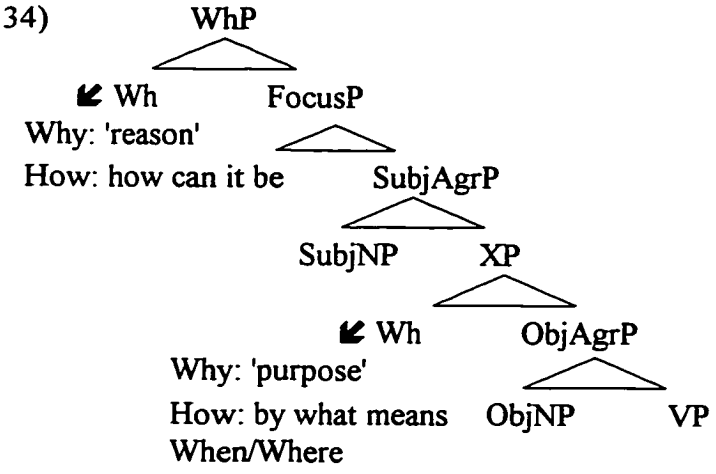
canonical subject position. Given the Wh/Focus generalization, this explains the ability of these Wh adjuncts to precede a focused object as well as their absolute incompatibility with a focused subject. 'Why' and 'how' as sentential Wh adjuncts are generated in structural positions above the canonical subject position, possibly directly in Spec WhP. This explains their compatibility with focused subjects as well as their obligatory position preceding an overt subject in any clause. Finally, in positioning WhP above FocusP, the analysis in (134) leaves open the possibility that the constraint against multiple *-go* particles is a constraint against multiple elements in Spec FocusP (Section 5.3). This may additionally explain the compatibility of sentential *hagot'úgo* 'how', generated above FocusP, with a focused NP-*go* argument despite the absolute incompatibility of VP adverbial 'how' with focused NP (Section 5.5.2).[39]

(134)



5.6 OSV Word Order without the *yi/bi* Alternation

In this section, I apply the Wh/Focus generalization (69) as a diagnostic tool in an analysis of optional OSV word order in particular morphosyntactic contexts. As noted in

[39] If WhP and FocusP are analyzed as the same projection, sentential 'how' must be generated in an even higher structural position to maintain compatibility with a focused argument.

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Section 1.6.6, Western Apache transitive clauses with verbs marked by the *yi-* 3rd person agreement morpheme exhibit strict SO-*yi*-V word order. Examples (135) and (136) demonstrate strict SOV word order with the verb *yi-ztał* 'kick'. The first argument in each example is necessarily interpreted as subject.

(135) Hastiin góséé yiztał.
old.man dog 3sg.perf.kick
i) The old man kicked the dog.
ii) *The dog kicked the old man.

(136) Góséé hastiin yiztał.
dog old.man 3sg.perf.kick
i) The dog kicked the old man.
ii) *The old man kicked the dog.
[Reading (i) best in reference to a dog kicking a man in a cartoon.]

Also noted in Section 1.6.6, examples such as (135) and (136) can only be interpreted with OSV word order if the *yi-* prefix is replaced with the inverse marker *bi-*. (137) demonstrates OS-*bi*-V word order for (135). The initial argument in (137) is obligatorily interpreted as object.[40]

(137) Góséé hastiin biztał.
dog old.man 3sgINV.perf.kick
The dog was kicked by the old man.

OSV word order is also optionally available, however, in Western Apache sentences with verbs that are not marked by *yi-/bi-* morphology. *Naágole'* 'to build over an area', for example, lacks *yi-/bi-* morphology, and sentences with this verb can be

[40] Although the example is translated as a passive, there is no direct evidence to support an analysis of the *yi-/bi-* alternation as passivization. Speas (1990a) suggests *bi-* is an incorporated object pronominal and the overt object NP is generated as a topic adjunct to the sentence.

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expressed in SOV (138) or OSV (139) word order with no apparent variation in interpretation.

(138) Hastiin kịh náágole'.
old.man house 3sg.imprf.build
The old man is building a house.

(139) Kịh hastiin náágole'.
house old.man 3sg.imprf.build
The old man is building a house.

Note that the optional OSV word order in these examples is not due to the fact that the grammatical roles of the animate human, as agentive subject, and the inanimate 'house', as object, are pragmatically clear. (140) and (141), where the animate human is necessarily the Agent/Subject of the kicking action, are also pragmatically clear but OSV ordering is not possible. In these examples, however, the SOV *yi-* agreement morpheme is present.

(140) Hastiin isaa yiztał.
old.man drum 3sg.perf.kick
The old man kicked the drum.

(141) * Isaa hastiin yiztał.
drum old.man 3sg.perf.kick
The old man kicked the drum.

Note also that the verb 'build' does not exceptionally license OSV word order. Forms of this verb with *yi-* morphology, such as *áyíílaa* 'build an object', necessarily induce an SOV interpretation regardless of the animacy of subject and object (142) and (143).

(142) Hastiin isaa áyíílaa.
old.man drum 3sg.perf.make
The old man made a drum.

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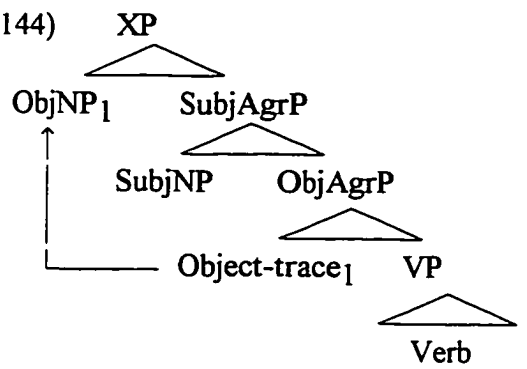
(143) * Isaa hastiin 'áyíílaa.
drum old.man 3sg.perf.make
The old man made a drum.
[Meaning clear, but sentence still not ok.]

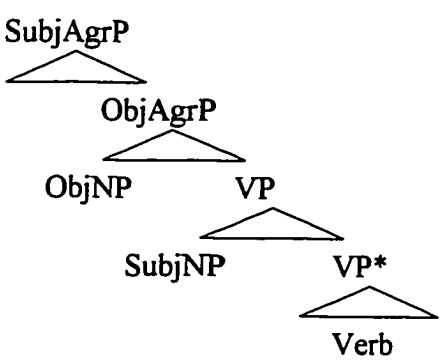
There are at least three possible analyses of the optional OSV word order available in examples such as (138) and (139). First, within an analysis in which overt subject and object arguments are generated internal to the VP and ultimately raise to Case/Agreement positions, OSV word order could indicate additional raising of the object past the subject Case/Agreement position. (144) illustrates this approach.

(144)



Second, within a Case/Agreement analysis of SOV word order, optional OSV word order could indicate that the subject argument has failed to raise from its VP internal position to its object dominate Case/Agreement position. (145) illustrates this proposal.

(145)



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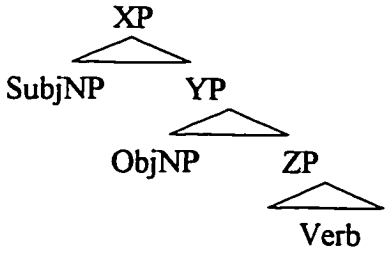
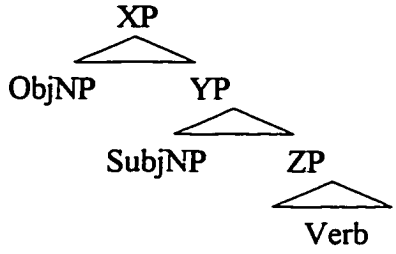
Third, in analyses which reject the proposal that overt nominal arguments raise to Case/Agreement positions internal to the clause, optional OSV word order could indicate that the subject and object arguments are simply generated in opposite positions in OSV and SOV constructions. (146) illustrates this proposal.[41] Note that XP and YP refer to the SOV positions of subject and object arguments, respectively.

(146a) SOV



(146b) OSV



Given the Wh/Focus generalization and the hypothesized generation of VP adverbial Wh adjuncts in positions between the subject and object in SOV constructions (Section 5.5), the possible surface locations of VP adverbial Wh adjuncts in OSV constructions should serve as a diagnostic in an analysis of OSV word order. Since VP adverbial Wh adjuncts can precede a focused object in SOV sentences, for example, they should also be able to precede a focused object in an OSV sentence if the object has not raised from its SOV position. If VP adverbial Wh adjuncts cannot precede a focused OSV object, that object must be situated in a higher structural position than it occupies in SOV sentences. Similar evidence on the position of subject arguments in OSV constructions should follow from an investigation of Wh adjunct/focused subject interaction.

[41] Without additionally hypothesizing overt movement of adjunct DP, (146) is the only approach compatible with a Pronominal Argument analysis of the language. See Chapter 8.

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Note first that the focus particle *-go* can mark either the subject (147) or object (148) argument in OSV clauses. Any judgments of ungrammaticality in OSV examples with Wh adjuncts must necessarily be due to Wh/Focus interaction.

(147) Kịh hastiin go náágole'.
house old.man FOC 3sg.imprf.build
THE/AN OLD MAN is building the house.
[Not the boy, etc.]

(148) Kịh go hastiin náágole'.
house FOC old.man 3sg.imprf.build
The old man is building A HOUSE.
[Not a boat, etc.]

Additionally, examples (149) - (151) demonstrate that a VP adverbial Wh adjunct may not follow a focused argument in an OSV sentence. These examples fall within the analysis in Section 5.5, in which focused arguments are prohibited from c-commanding a Wh adjunct, and indicate that the Wh/Focus generalization is active in OSV sentences.

(149) * Kịh go hayú hastiin náágole' ?
house FOC where old.man 3sg.imprf.build
Where is the old man building A HOUSE ?

(150) * Kịh go hastiin hayú náágole' ?
house FOC old.man where 3sg.imprf.build
Where is the old man building A HOUSE ?

(151) * Kịh hastiin go hayú náágole' ?
house old.man FOC where 3sg.imprf.build
Where is THE OLD MAN building a house ?

Now consider example (152).

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(152) Hayú ḳih go hastiin náágole' ?
where house FOC old.man 3sg.imprf.build
Where is the old man building A HOUSE ?

In (152), a VP adverbial Wh adjunct surfaces in a position preceding a focused NP-*go* object and the sentence is grammatical. This example is significant in that it eliminates both (144) and (146) as possible analyses of optional OSV word order. To illustrate, recall example (129), repeated here as (153).

(153) * Hayú$_1$ hastiin go trace$_1$ ḳih náágole' ? = (129)
where old.man FOC house 3sg.imprf.build
Where is THE OLD MAN building a house ?

Example (153) is excluded by the Wh/Focus generalization given the proposed generation of VP adverbial Wh adjuncts in positions intermediate between the canonical subject and object positions. The focused NP-*go* subject c-commands the base generated position of the VP adverbial adjunct in (153), a configuration excluded by the Wh/Focus generalization, and the example is appropriately ruled out. Since OSV ordering is derived in (144) by movement of the object to a position hierarchically superior to the subject position, a raised NP-*go* object will also c-command the base generated position of a VP adverbial Wh adjunct. (154) illustrates the proposed object raising analysis of (152).

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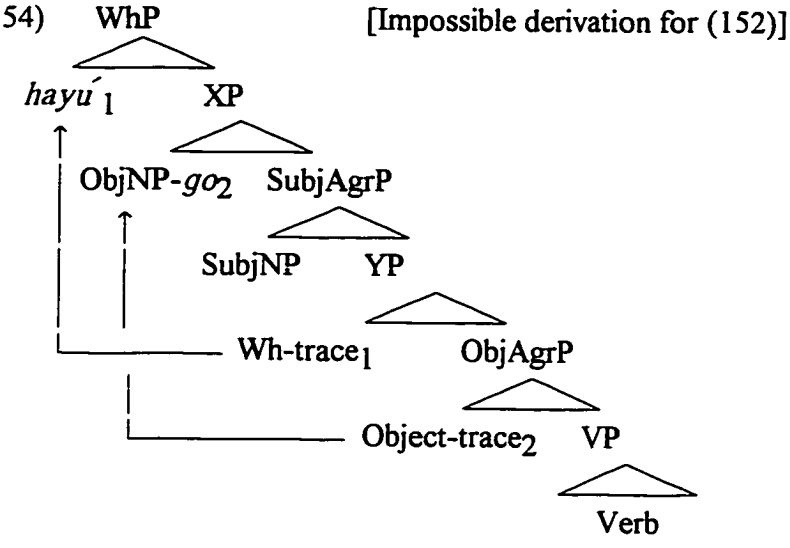
(154) [Impossible derivation for (152)]



The configuration in (154), however, with a focused NP c-commanding the base generated position of a Wh phrase, is excluded by the Wh/Focus generalization. The example is thus incorrectly predicted to be ungrammatical within an object raising analysis of OSV word order (144), and such an approach cannot be correct.

A parallel argument excludes (146) as a possible analysis of OSV word order. (146) holds that subject and object arguments are base generated in opposite structural positions in SOV and OSV sentences. Since Wh adjuncts cannot cooccur with focused subjects in SOV sentences because the subject c-commands the base generated position of the Wh adjunct, Wh adjuncts are predicted to be incompatible with focused objects in OSV sentences. Within the analysis in (146), a focused OSV object c-commands the base generated position of a Wh adjunct (155b) in the exact configuration excluded between a focused SOV subject and a Wh adjunct (155a).

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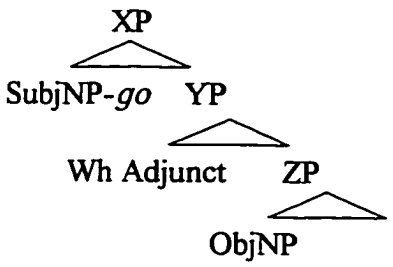
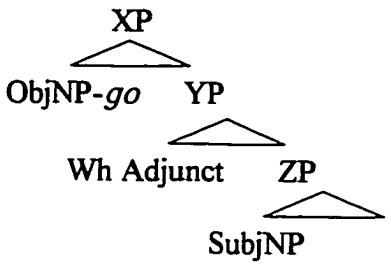
(155a) SOV



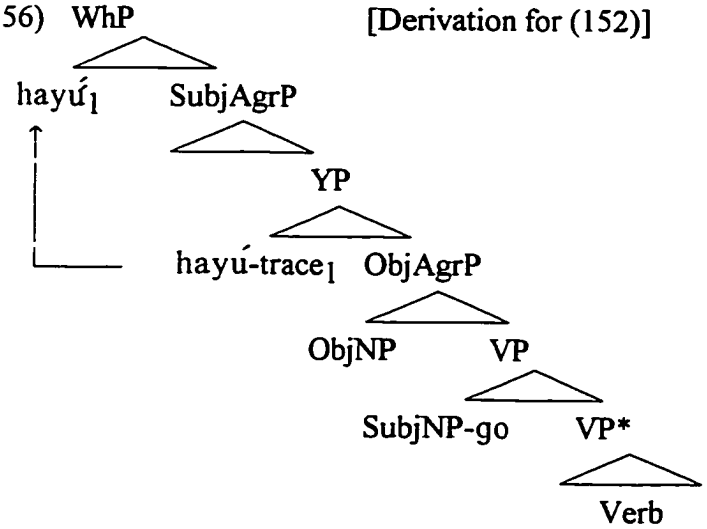
(155b) OSV



Since focused objects and VP adverbial Wh adjuncts can cooccur in OSV sentences (152), the analysis of OSV word order in (146) cannot be correct.

Given the preceding discussion, only (145), in which OSV word order is derived through the lack of subject raising to Spec SubjAgrP, remains as a possible analysis of (152). As (156) illustrates, this analysis does correctly predict (152) to be grammatical.

(156) WhP [Derivation for (152)]



By hypothesis, the subject and object arguments are generated VP internally but only the object raises to its Case/Agreement position in an OSV sentence. As (156) illustrates, the focused subject does not c-command the base generated position of a VP adverbial Wh adjunct, and the OSV structure for (152) does not violate the Wh/Focus generalization.

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If the analysis in (145) is correct, VP adverbial Wh adjuncts are predicted to be grammatical in OSV sentences with focused subjects. VP adverbial Wh adjuncts and focused subjects cannot cooccur in SOV sentences because a focused subject in Spec SubjAgrP necessarily c-commands the base generated position of a VP adverbial adjunct (Section 5.5.3). In an OSV sentence, as illustrated in (156), however, the subject does not reach Spec SubjAgrP and does not c-command the VP adverbial adjunct position. As examples (157) and (158) demonstrate, VP adverbial Wh adjuncts can cooccur with focused subjects in OSV sentences despite the incompatibility of these adjuncts with focused subjects in SOV sentences. The prediction of the VP internal subject analysis in (145) is correct.

(157) Hayú ḳih hastiin go náágole' ?
where house old.man FOC 3sg.imprf.build
Where is THE OLD MAN building a house ?

(158) Ḳih hayú hastiin go náágole' ?
house where old.man FOC 3sg.imprf.build
Where is THE OLD MAN building a house ?

5.7 The Analysis of Wh/Focus Interaction

The preceding section demonstrates that the Western Apache Wh/Focus generalization [Section 5.4.3 (69)] holds robustly across a variety of syntactic constructions and applies to both Wh arguments and Wh adjuncts.

(69) Western Apache Wh/Focus Cooccurrence Restriction: A focused NP-*go* Argument may not c-command the canonical position of a Wh phrase.

This section explores the theoretical motivation and analysis for (69). In Section 5.7.1, I introduce additional Wh/Focus examples which help to delimit the range of possible

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approaches to the Wh/Focus generalization. I provide one movement based analysis of the Wh/Focus paradigm in Section 5.7.2, and briefly argue against two alternative analyses in sections 5.7.3 and 5.7.4.

The discussion below frequently references the typical Wh/Focus examples in (159) - (161), first introduced in Section 5.4.1. For clarity, I will consistently refer to these examples as (159) - (161), and will repeat only their associated abstract representations.

(159) Hadín ma' go yizkah ? = WhSubj FocObj Verb
who coyote FOC 3sg.perf.shoot
Who shot THE COYOTE ?

(160) * Hastiin go hant'é yizkah ? = * FocSubj WhObj Verb
old.man FOC what 3sg.perf.shoot
What did THE OLD MAN shoot ?

(161) * Hant'é hastiin go yizkah ? = * $WhObj_1$ FocSubj t_1 Verb
what old.man FOC 3sg.perf.shoot
What did THE OLD MAN shoot ?

5.7.1 Additional Facts

Consider in comparison examples (159) and (161).

(159) WhSubj FocObj Verb

(161) * $WhObj_1$ FocSubj t_1 Verb

Example (159) provides two important pieces of information with respect to Wh/Focus interaction. First, it demonstrates that Wh phrases and focused NP can cooccur in Western Apache clauses. Second, it demonstrates that Wh phrases may precede focused

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NP. Neither of these properties, therefore, can be directly responsible for the unacceptability of (161). There are several obvious differences between (159) and (161), however, that could influence the grammaticality of these examples.

One distinction between (159) and (161) is that a focused argument c-commands a Wh trace in the latter, but not in the former. The Wh object overtly raises past the subject in (161). In contrast, even if the Wh subject has overtly raised in (159), its trace will not be c-commanded by the in situ object.[42] (161) could thus possibly be ruled out by a restriction against a focused argument c-commanding a Wh trace. Such an analysis, however, will not explain the ungrammaticality of (160) with an in situ Wh object.

(160) * FocSubj WhObj Verb

Moreover, Section 3.4 demonstrated that the trace of a raised *ha-* word is not relevant to Wh operator-variable binding or, more generally, to the interpretation of the *ha-* word. For example, although a *ha-* object is interpreted as a polarity expression when c-commanded by the negative marker *doo* (162), the *ha-* object may raise past the negative marker and receive an interrogative interpretation (163).

(162) Isdzan doo ishkiin hant'é yaayiné' da.
woman NEG boy what 3sg.perf.give NEG
The woman didn't give THE BOY anything.

(163) Hant'é$_i$ isdzan doo ishkiin t$_i$ yaayiné' da ?
what woman NEG boy 3sg.perf.give NEG
What didn't the woman give to THE BOY ?

[42] Section 5.3.4 specifically argues against overt movement of a focused object to a pre-subject position.

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As the trace of the raised *ha-* word is c-commanded by *doo*, it cannot be directly relevant to the binding and interpretation of the *ha-* word itself.[43] It is therefore unlikely that (161) is excluded due to a constraint pertaining specifically to the object trace.

Another distinction between (159) and (161) is that overt movement has only obviously taken place in (161). Movement of the Wh subject in (159) would apply string vacuously, and the overt position of the Wh subject cannot be determined from the linear string alone. If overt Wh movement occurs only in (161), then (161) could possibly be excluded by a constraint against *any* overt Wh movement in clauses with focused arguments. Again, this constraint alone would not explain the ungrammaticality of (160) with an in situ Wh object. Moreover, the discussion below demonstrates that overt Wh movement is possible in clauses with focused NP-*go* arguments.

Example (164) demonstrates that an in situ Wh indirect object is compatible with a focused NP-*go* direct object in a ditransitive clause.

(164) Ishikín hadín chách'il go yaada'izné' ?
boys who acorn FOC 3dl/pl.perf.give
Who did the boys give AN ACORN to ?

Overt movement of the Wh indirect object in (164) is possible, as indicated by interpretation (i) in (165), despite the presence of the focused direct object.

(165) Hadín$_1$ ishikín t$_1$ chách'il go yaada'izné' ?
who$_1$ boys trace$_1$ acorn FOC 3dl/pl.perf.give
i) Who did the boys give AN ACORN to ?
ii) Who (group) gave the boys AN ACORN ?

[43] Section 3.4.3 provides a parallel argument with raised *ha-* words and the uncertainty operator *-shi*.

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Examples (166) and (167) illustrate the same point with Wh extraction from an embedded clause. The Wh subject of a subordinate clause containing a focused object (166), may be extracted from that clause (167).

(166) Ishikín Earl nalbíl go nayisniih ńdanzih.
boys Earl car FOC 3sg.perf.buy 3dl/pl.imprf.think
The boys think Earl bought A CAR.

(167) Hadín$_1$ ishikín t$_1$ nalbíl go nayisniih ńdanzih
who boys wh-trace car FOC 3sg.perf.buy 3dl/pl.imprf.think
Who do the boys think bought A CAR ?
[Not talking about a boat, etc.]

There is one crucial distinction between the grammatical instances of Wh movement in (165) and (167), and the ungrammatical case in (161). In each of the grammatical examples, the raised Wh phrase originates in a position hierarchically superior to the focused argument. In contrast, the raised Wh phrase in (161) originates in a position below the focused argument. This asymmetry is already noted in the Wh/Focus generalization which prohibits configurations in which a focused argument c-commands the canonical, pre-Wh movement, position of a Wh phrase. The preceding discussion, however, now strongly suggests that the source of this constraint is a blocking effect by a focused argument on the raising of a Wh phrase from a lower structural position.

Section 5.7.2 explores one possible syntactic explanation for the blocking effect of focused NP on Wh movement. (168) and (169), however, briefly illustrate the general proposal at this point. In (168), a partial representation for (161), the Wh object is unable to raise past the focused subject, and the given OSV ordering cannot be derived.

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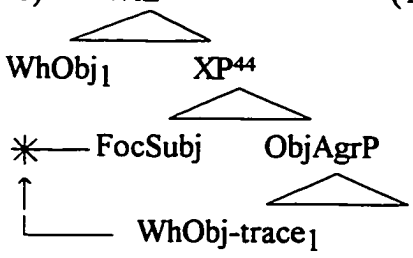
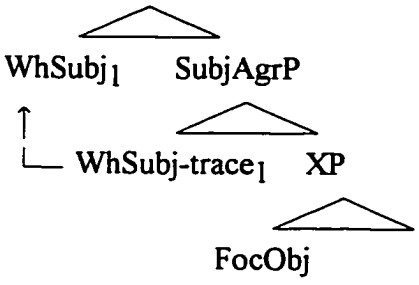
(168) WhP = (161) * $WhObj_1$ FocSubj t_1 Verb



The Wh subject in (159), as illustrated in the partial representation in (169), can raise to Spec WhP without crossing the overt position of the focused object.

(169) WhP = (159) WhSubj FocObj Verb



Still, the blocking analysis of (161) does not explain the ungrammaticality of examples, such as (160), in which a focused argument c-commands an in situ Wh phrase.

(160) * FocSubj WhObj Verb

(160) would fall within the blocking analysis, however, if some additional consideration required that the Wh object in this example raise to Spec WhP. Such movement would be blocked by the c-commanding NP-*go* subject, and the derivation would fail.

Movement of the Wh object in (160) would be necessary if Western Apache grammar required that at least one Wh phrase raise to Spec WhP, overtly or covertly,

[44] Although overt arguments presumably raise to their Case/Agreement positions, the exact overt position of the focused NP will be explored in Section 5.7.2.

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either to type a clause as interrogative or satisfy a +Wh feature in WhP. Since the Wh object in (160) is the only Wh element in the sentence, it would necessarily have to raise. Nevertheless, example (170) indicates that this approach is not correct.

(170) ?* Hadín ishkiin go hant'é yaayiné' ?
who boy FOC what 3sg.perf.give
Who gave what to THE BOY ?
[Kind of wordy ... someone excited or yelling might say it - 'who the hell gave ...' but not in a calm conversation.]

Example (170) is ungrammatical although the Wh subject, in a position hierarchically superior to the focused indirect object prior to Wh movement, can raise to Spec WhP without crossing the focused indirect object. Since the Wh subject can reach Spec WhP, the clause can be typed as an interrogative and any +Wh features can be satisfied. (170) is thus predicted to be grammatical, regardless of the relationship between the focused indirect object and Wh direct object. Note further that (170) is acceptable if the indirect object is not focused (171).

(171) Hadín ishkiin hant'é yaayiné' ?
who boy what 3sg.perf.give
Who gave what to the boy ?
[This is clearly good and could be said calmly.]

This indicates that the ungrammaticality in (170), and by extension (160), does not follow from the lack of 'at least one' Wh phrase in Spec WhP.

Alternatively, example (160) could be excluded if Western Apache grammar required that *all* Wh phrases raise to Spec WhP by LF. Since movement of the Wh object past the focused subject is ruled out by hypothesis, the Wh object cannot reach Spec WhP. Similarly, the ungrammaticality of (170) would follow from the inability of

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the Wh direct object to raise to Spec WhP across the focused indirect object. While I cannot eliminate this analysis, two facts question the approach. First, there has been no evidence presented in this dissertation that Wh phrases can or must move to Spec WhP at LF. In the absence of such evidence, a grammar which eliminates this additional movement is less complex than one which requires such movement.[45] Second, the lack of ambiguity in the interpretation of *ha-* words, within a given syntactic context, is surprising if LF movement is available. Consider again the negation examples in (172) and (173).

(172) Isdzan doo ishkiin hant'é yaayiné' da. = (162)
woman NEG boy what 3sg.perf.give NEG
The woman didn't give THE BOY anything.

(173) Hant'é$_i$ isdzan doo ishkiin t$_i$ yaayiné' da ? = (163)
what woman NEG boy 3sg.perf.give NEG
What didn't the woman give to THE BOY ?

The *ha-* word in (172), as argued in Section 3.4, is interpreted as a polarity expression because the negative operator *doo* blocks the binding relationship between the *ha-* word and a potential Wh operator in WhP. Overt movement of the *ha-* word past *doo* is possible, however, and in such cases the *ha-* word receives an interrogative interpretation (173). As LF is the level of representation at which operator-variable relationships are interpreted, it is surprising that the *ha-* word in (172) cannot be optionally interpreted as an interrogative Wh phrase. If LF movement is available, the *ha-* word in (172) could covertly raise past *doo* and enter a binding relationship with a Wh operator in WhP. If LF Wh movement is not available the lack of ambiguity in (172) follows

[45] See also Hornstein (1995) for discussion of the possible elimination of all A' movement from LF.

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straightforwardly.[46] This argument against obligatory Wh movement to Spec WhP in (160) does not hold, however, and LF Wh movement can be maintained, if it is stipulated that operator-variable relationships are defined in the pre-LF structure at Spell-Out. Given this stipulation, LF movement can apply freely without influencing the operator-variable relationships established at Spell-Out.[47]

If LF Wh movement is eliminated from the grammar or does not hold obligatorily for Wh phrases,[48] an alternative explanation for the ungrammaticality of (160) is required.

(160) * FocSubj WhObj Verb

One final possibility that I will consider is that the potential operator-variable binding relationship between the *ha-* object in (160) and a Wh operator in WhP is blocked by the focused subject. This entails that a focused argument qualify as an operator, on par with the negative operator *doo* and uncertainty operator *-shi* discussed in Section 3.4. In support of this proposal, Section 5.3.3 provided one argument, based on the distribution of focused NP in coordinate structures, that focused NP-*go* arguments do act as

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[46] A parallel argument can be made considering the uncertainty operator *-shi*. The bare *ha-* word in (i) is unambiguosly interpreted as an indefinite unless it overtly raises out of the binding domain for *-shi* (ii). See Chapter 3.

(i) Hadínshi hant'é yizkah.
who.UNCERT what 3sg.perf.shoot
Someone shot something.

(ii) Hant'é$_1$ hadínshi t$_1$ yizkah.
what who.UNCERT 3sg.perf.shoot
What did someone shoot ?

[47] Chapter 6 provides one argument, however, that operators must c-command their variables at LF.

[48] This entails that Wh phrases are prohibited from coordinate structures do to a contraint against operator-variable binding relationship across a coordinate boundary.

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operators. Given this analysis, the *ha-* object in (160) cannot surface in situ because the focused subject both blocks the potential binding relationship with the Wh operator and fails to supply an interpretation to the *ha-* word. Movement of the *ha-* word to a position accessible by the Wh operator is blocked by the focused subject. I will tentatively adopt this proposal as a preliminary analysis of the Western Apache Wh/Focus generalization. In the next section, I explore more fully the theoretical basis for this approach.

5.7.2 The Blocking Effect of Focus on Wh Movement

Above, I argued that the Wh/Focus cooccurrence restriction (69) against configurations in which a focused argument c-commands the canonical, pre-Wh movement, position of a Wh phrase follows from two constraints. First, a focused argument, as an operator, blocks the potential binding relationship between a *ha-* word it c-commands and the Wh operator in WhP. This constraint rules out examples such as (160). Second, a focused argument blocks the raising of a *ha-* word it c-commands. This constraint rules out examples such as (161).

(160) * FocSubj WhObj Verb

(161) * WhObj_1 FocSubj t_1 Verb

The syntactic analysis of the blocking effect of focused arguments on Wh movement remains undetermined. Note first that since Wh phrases can cooccur with non-c-commanding focused arguments (159) and can undergo movement in such cases (165) & (167), focused NP-*go* arguments cannot be analyzed as occupying the specifier of some relatively dominant clausal projection through which *all* Wh phrases must raise. Rather, since focused arguments only block Wh movement of Wh phrases they c-

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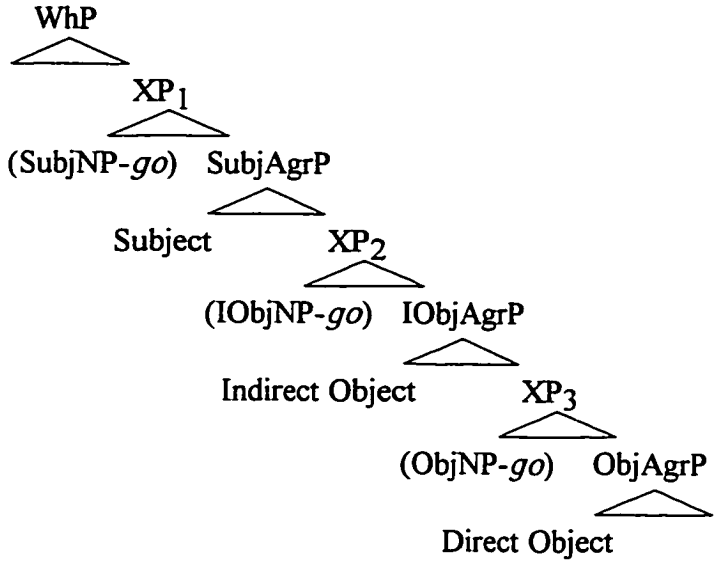
command, they must occupy intermediate positions in the clause through which those Wh phrases necessarily raise on their way to Spec WhP. The proposal is illustrated abstractly for a ditransitive clause in (174).

(174)



Prior to any A' movement, all Wh and non-Wh arguments raise from their VP internal thematic positions to their canonical Case/Agreement positions. Focused arguments additionally, and overtly, raise to projections local and dominant to their Case/Agreement positions. These projections are arbitrarily labeled XP in (174). Wh phrases also necessarily raise through these XP positions on their way to Spec WhP, but cannot raise through positions occupied by a focused argument. The diagram in (175) illustrates the proposed derivation for (161).

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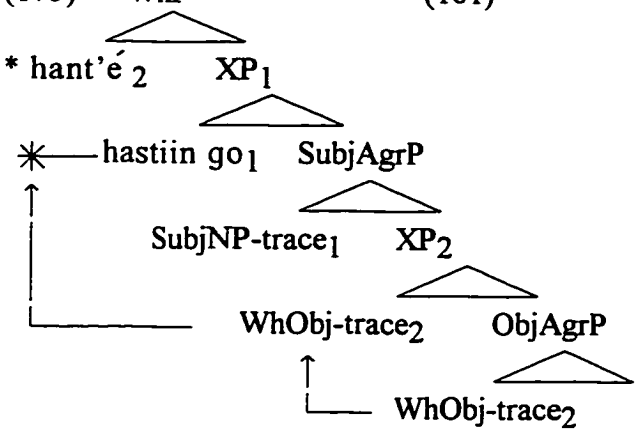
(175) WhP = (161)



To reach Spec WhP, the Wh object in (175) must first raise from its Case/Agreement position, Spec ObjAgrP, to the specifier position of XP_2, the intermediate landing site for raised A' elements dominating ObjAgrP. Next, the Wh object needs to raise to Spec XP_1, the intermediate landing site for raised A' elements dominating SubjAgrP. This position is occupied by the focused subject argument, however, and Wh movement is blocked.

Wh phrases in Case/Agreement positions hierarchically superior to a focused argument can raise to Spec WhP because the overt position of a lower focused argument is irrelevant to the derivation. Consider the raising of Wh indirect objects in clauses containing focused direct objects (176).

(176) Hadín$_1$ ishikín t$_1$ chách'il go yaada'izné' ? = (165)
who$_1$ boys trace$_1$ acorn FOC 3dl/pl.perf.give
i) Who did the boys give AN ACORN to ?
ii) Who (group) gave the boys AN ACORN ?

The tree diagram in (177) illustrates the proposed derivation for (176). As the Wh indirect object initiates Wh movement from a position hierarchically superior to the overt

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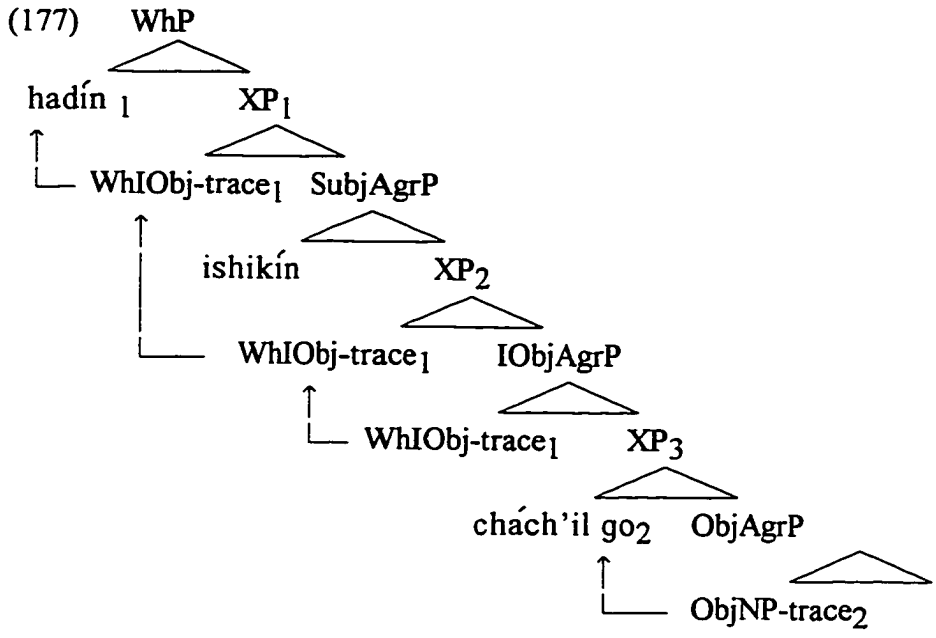
position of the focused argument, it does not need to raise through the particular XP position occupied by that argument.

(177)



One additional advantage of this analysis is that it provides a structural explanation for the partial Wh movement examples discussed in Section 2.2.3. Consider the ditransitive example in (178). As noted, the canonical word order of a ditransitive clause in Western Apache is S-IO-OV.

(178) Isdzan hant'é$_1$ ishkiin t$_1$ yaayiné' ?
woman what$_1$ boy wh-trace$_1$ 3sg.perf.give
What did the woman give the boy ?

The question raised by (178) is what position Wh phrases occupy when they raise from their canonical positions but do not surface in Spec WhP. Given the analysis proposed in this section, partially raised Wh phrases can be analyzed as overtly occupying the intermediate A' landing sites dominating each Case/Agreement projection. The Wh direct

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object in (178), for example, is overtly situated in XP_2, the intermediate landing site dominating IObjAgrP in (177).

In proposing that raised Wh phrases in Western Apache do not necessarily surface in Spec WhP, a possibility considered in Section 2.2.5, the analysis above provides an argument against Western Apache Wh movement as a feature checking operation. As any Wh features in the clause are presumably checked in WhP, overt movement of a Wh phrase to a position other than Spec WhP must have an alternative motivation. This supports the proposal that Wh movement applies in Western Apache for the establishment of scope and binding relationships. When operators other than the covert +Wh interrogative operator are present in a clause,[49] the *ha-* words, as Wh phrases, raise to positions from which they can be bound by the interrogative operator without interference from the other potential binders. When additional operators are not present, as in (178), Wh phrases may still optionally raise although the affect of such movement on the scopal interpretation of the clause is not obvious (see Section 2.2.5 and Chapter 7).

The proposed XP projections in the tree diagrams above are motivated on the basis of Wh/Focus interaction and partial Wh movement. The specific identity of these projections has yet to be identified. Similarly, motivation for the overt movement of focused arguments into these XP positions has not been provided. With respect to this latter point, Section 5.3.3 specifically argued that focused NP-*go* arguments, as operators, must raise. The trace of the raised NP-*go* argument is by hypothesis the only element which can qualify as variable in the operator-variable binding relationship

[49] For example, negative *doo*, Focus, or the UNCERTainty operator *shi*.

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required for the interpretation of a focused argument. Section 5.3.4 also argued, however, that focused arguments do not overtly raise to Spec FocusP. Local movement of the focused arguments to XP positions resolves these potentially conflicting requirements. The local movement creates the trace necessary in Focus operator-variable binding, but does not entail overt movement of the focused argument to Spec FocusP.

As to the specific identity of the XP projections, one possible analysis is that they are not independent clausal projections, but represent adjoined configurations with the Case/Agreement projections. Focused arguments adjoin to their Case/Agreement projections to create an operator-variable binding configuration, and Wh phrases raise to Spec WhP only via successive cyclic adjunction to the Case/Agreement projections. Recent work by Dominique Sportiche (1997) on clausal structure in English and Romance, however, provides a potential alternative to this adjunction analysis.

In an effort to explain particular patterns with respect to quantifier scope, reconstruction, and principles A, B, and C of the binding theory (Chomsky 1981), Sportiche proposes that Larson's (1988) hypothesis that each argument of a verb surfaces in its own VP projection be modified. Specifically, Sportiche argues that each argument of a verb has not only its own VP projection, but its own series of functional projections in which quantifiers, determiners, and Case/Agreement elements may surface. For the argument projections of a transitive construction, for example, Sportiche proposes a structure equivalent to (179).

(179) .. $[_{clause}\ Q_n{}^*$ .. Case/Agr .. $[_{VP}\ NP_{subj}\ V_1\ [_{clause}\ Q_n{}^*$ .. Case/Agr .. $[_{VP}\ NP_{obj}\ V_2$

In (179), each argument of the verb surfaces in its own mini-clause. These mini-clauses contain a VP shell, in which the bare NP argument is generated and thematically licensed,

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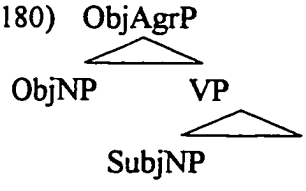
and a series of functional projections external to the VP shell. The functional projections minimally contain Case/Agreement positions for the NP argument, but may additionally include projections in which quantifiers, determiners, and other elements associated with an NP are generated. These latter projections are represented abstractly as Q_n*.[50]

With respect to Western Apache, Sportiche's approach to clause structure not only permits the existence of functional projections above and associated with each Case/Agreement position, but requires such projections. Moreover, in a Sportiche configuration the focus particle *-go* can be analyzed as an element which occurs in the Qn* structure, and to which the NP it is associated with must raise. The additional stipulation that Wh phrases raise through this Qn* projection is still required to explain the blocking effect of Focus on Wh movement, but the position itself is motivated.

The structure in (179), however, is not obviously compatible with the proposed analysis of optional OSV word order in Section 5.6. Section 5.6 demonstrated, on the basis of Wh adjunct/Focus interaction, that object arguments in OSV structures have not raised from their Case/Agreement projections, and that subject arguments in OSV structures surface in positions below the object. I argued that one analysis of these facts is that subject arguments, generated VP internally below ObjAgrP, fail to raise to SubjAgrP in OSV constructions. The proposal is illustrated in (180).

(180)



[50] Tense and Aspect, as predicates, precede the structure in (179).

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Within Sportiche's approach to clause structure in (179), however, subject arguments are never generated in positions below the Case/Agreement projection of an object argument. Moreover, in the absence of overt NP lowering, subject arguments can never surface in positions below the Case/Agreement projection of an object argument.

In summary, while Sportiche's extended VP shell approach to clause structure would provide strong support for the existence of the XP projections proposed in the analysis above, such an approach is incompatible with the analysis of Western Apache OSV word order in Section 5.6. As I will not pursue a reanalysis of OSV word order in this dissertation, I will reject an extended VP shell approach to clause structure for Western Apache. The intermediate A' positions for focused arguments and raised Wh phrases proposed above are thus analyzed as either adjoined positions to the Case/Agreement projections in the clause or otherwise unidentified functional projections.

5.7.3 Superiority

In this section, I briefly argue against an alternative approach to Western Apache Wh/Focus interaction which analyzes the Focus blocking effect on Wh movement as a Superiority effect. Descriptively, the Superiority Condition (Chomsky 1973) holds that if two elements are eligible to raise to a given position, the hierarchically dominant element must raise. Chapter 4 summarized the literature on Superiority and demonstrated its role in multiple Wh questions in Western Apache. At least superficially, the Focus blocking effect on Wh movement can be characterized as a Superiority effect given two assumptions. First, focused arguments and Wh phrases must raise to/through the same projection in the complementizer system. Without this assumption, the Superiority

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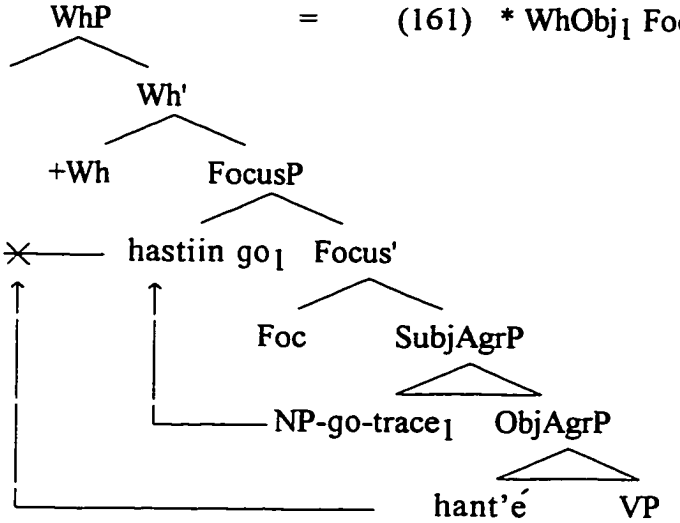
condition, as a condition on movement, is not relevant.[51] Following proposals for Wh/Focus interaction in other languages, I will tentatively assume that both Wh phrases and focused arguments raise to/through Spec FocusP.[52] Second, one Wh phrase must raise to Spec WhP to type a Wh question as interrogative or license +Wh features in WhP. The diagram in (181) illustrates the potential analysis of (161) as a Superiority effect.

(181) 

= (161) * WhObj$_1$ FocSubj t$_1$ Verb

[51] The discussion below specifically addresses Weak Cross Over (Hornstein 1995) and Path Containment (Pesetsky 1982, May 1985) approaches to Superiority which do not entail movement to a single position.

[52] Horvath (1986), for example, argues that a Wh phrase in Hungarian can only be interpreted as an interrogative operator if it acquires the +Focus feature through movement to the focus position. Similarly, Rizzi (1995) argues that question operators and focused constituents in Italian compete for the same position, Spec FocusP. This prohibits the cooccurrence of Wh phrases and focused constituents, (i)-(ii).

(i) * A chi IL PREMIO NOBEL dovrebbero dare ? [Rizzi 1995:16]
'To whom THE NOBEL PRIZE should they give?'

(ii) * IL PREMIO NOBEL a chi dovrebbero dare? [Rizzi 1995:16]
'THE NOBEL PRIZE to whom should they give?'

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Both the focused subject and Wh object in (181) are eligible to raise to Spec FocusP. Given the Superiority Condition, the focused subject must raise because of its hierarchically superior position to that of the Wh object. The focused subject in Spec FocusP blocks raising of the Wh object to Spec WhP, however, and the +Wh/interrogative features of the clause are not satisfied. This approach will similarly exclude, without additional stipulation, all examples in which a focused argument is in a hierarchically superior position to the sole Wh phrase in a clause. Moreover, all examples with no focused argument in a hierarchically superior position to a Wh phrase are correctly predicted to be grammatical.

Nevertheless, there are numerous reasons to doubt that the proposed Superiority analysis is correct. For one, the analysis fails to explain examples such as (182).

(182) ?* Hadíń ishkiin go hant'é yaayiné' ? = (170)
who boy FOC what 3sg.perf.give
Who gave what to THE BOY ?
[Kind of wordy ... someone excited or yelling might say it - 'who the hell gave ...' but not in a calm conversation.]

Example (182) is ungrammatical despite the fact that the hierarchically dominant Wh subject should be able to raise to Spec WhP and satisfy any +Wh/interrogative features of the clause. To account for (182), a Superiority analysis must additionally require that *all* Wh phrases in a clause raise to Spec WhP, a requirement that lacks independent motivation and is rejected in Section 5.7.2.

The Superiority analysis is also problematic with respect to the argument in Section 5.3.4 that focused constituents do not overtly raise to Spec FocusP. To derive the attested word order of declarative sentences with focused arguments (Section 5.3.4),

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the raising of focused arguments in declaratives must be prohibited. As illustrated in (181), however, the Superiority analysis of Wh/Focus interaction requires that focused arguments be eligible for overt movement to Spec FocusP in Wh questions. Moreover, the analysis requires that such movement apply obligatorily if the focused argument is the closest Wh/Focus element to Spec FocusP. While this situation might hold by stipulation,[53] any such approach is highly suspect in that it requires overt movement of focused arguments only in contexts where such movement necessarily results in ungrammaticality.

There is also a strong empirical discrepancy between Western Apache Wh Superiority effects and Wh/Focus interaction. Section 4.3 demonstrated that Superiority violations in multiple Wh questions with two Wh phrases can be alleviated by the addition of a third Wh phrase. This effect was noted for both English and Western Apache. (183), for example, cannot be interpreted as a construction in which a Wh object has raised past a Wh subject. Such an interpretation would require a structural derivation which violates Superiority.

(183) Hant'é hadín yiztał ? = (Ch. 4 #24)
what who 3sg.perf.kick
i) What (animal) kicked who ?
ii) * What did who kick ?

The raised Wh object interpretation is possible, however, if an additional Wh phrase is added to the clause (184).

[53] One such stipulation, lacking any independent empirical or theoretical motivation, is that the features which induce movement to Spec FocusP are strong, and entail overt movement, only in Wh questions.

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(184) Hant'é hadín dadą́' yiztał ? = (Ch. 4 #35)
what who when.past 3sg.perf.kick
Who kicked what where ?
[Speaker comment: The additional word *dadą́'* makes this sentence ok as compared with *hant'é hadín yiztał.*]

The ungrammatical Wh/Focus examples, however, are not salvaged by the presence of an additional Wh phrase in the clause. (185) and (186) demonstrate this point for examples (160) and (161), respectively.[54]

(185) * Hastiin go hant'é hayú yizkah ? (160) * FocSubj WhObj Verb
old.man FOC what where 3sg.perf.shoot
What did THE OLD MAN shoot where ?

---

[54] Similarly, the other ungrammatical Wh/Focus examples discussed in Section 5.4.

(i) ?* Isdzan hant'é ishkiin go yaayiné' ?
woman what boy FOC 3sg.perf.give
What did the woman give to THE BOY ?

(ii) ?* Isdzan ishkiin go hant'é yaayiné' ?
woman boy FOC what 3sg.perf.give
What did the woman give to THE BOY ?

The additional presence of *dadą́'* 'when nonpast' does not improve the grammaticality of these examples.

(iii) ?* Isdzan hant'é ishkiin go dadą́' yaayiné' ?
woman what boy FOC when.past 3sg.perf.give
What did the woman give THE BOY and when ?

(iv) ?* Isdzan ishkiin go hant'é dadą́' yaayiné' ?
woman boy FOC what when.past 3sg.perf.give
What did the woman give THE BOY and when ?

Note that these latter examples are acceptable without the particle *-go.*

(v) Isdzan ishkiin hant'é dadą́' yaayiné' ?
woman boy what when.past 3sg.perf.give
What did the woman give to the boy and when did she do it ?

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(186) * Hant'é hastiin go hayú yizkah ?
what old.man FOC where 3sg.perf.shoot
What did THE OLD MAN shoot where ?

(161) * WhObj$_1$ FocSubj t$_1$ Verb

This discrepancy between multiple Wh questions and Wh/Focus interaction is surprising, as well as unexplained, if ordering constraints with both types of phenomena are explained as aspects of the Superiority Condition.

Finally, in Section 4.6 I adopted Hornstein's (1995) analysis of Superiority as Weak Cross Over. The Wh/Focus interaction examples considered herein, however, are not obviously relevant to this particular theoretical approach. In brief, the key component to Hornstein's analysis is that all but one of the Wh phrases in a multiple Wh question are interpreted functionally, i.e., as containing a covert pronominal element that is bound to the denotation of another element in the clause. While this analysis may be appropriate for multiple Wh questions which receive Pair-List interpretations, it is highly suspect in an analysis of Wh/Focus constructions. As noted in Section 5.1 and demonstrated in the grammatical Wh/Focus examples in (187) and (188), focused NP-*go* arguments may be interpreted as definite.

(187) Hadín ma' go yizkah ?
who coyote FOC 3sg.perf.shoot
Who shot THE COYOTE ?

(188) Hadín ḳih go náágole' ?
who house FOC 3sg.imprf.build
Who is building THE/A HOUSE ?

Definite NP, however, obviously do not contain null pronominal elements which vary with the denotation of some other element in a clause. Any analysis of Wh/Focus interaction which requires such pronominal elements in focused arguments cannot be

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maintained. In summary, the analysis of Western Apache Wh/Focus interaction as an aspect of Superiority is incompatible with the Weak Cross Over approach to Superiority (Hornstein 1995) adopted in this dissertation. Given this theoretical conflict, the empirical problems noted above, and the alternative analysis in Section 5.7.2, I reject the hypothesis that Western Wh/Focus interaction is an aspect of Superiority.

5.7.4 A Note on the Path Containment Condition

In this section, I briefly consider the possible analysis of Western Apache Wh/Focus interaction as an aspect of the Path Containment Condition (189).

(189) Path Containment Condition: Intersecting A'-categorial paths must embed, not overlap. [Pesetsky 1982 (Section 4.5)]

With respect to Wh/Focus interaction, the PCC refers to the A' paths between Wh phrases and their licensing position Spec WhP, and between focused arguments and their licensing position Spec FocusP. Three structural configurations of WhP and FocusP must be considered.

First, consider the proposed configuration in which WhP dominates FocusP. Within such a configuration, as illustrated in (190), the PCC incorrectly predicts grammatical examples in which a Wh argument is not c-commanded by a focused argument (159) to be ungrammatical. The A' paths in (190) overlap rather than embed.

(190) WhP FocP WhSubj FocObj

(159) WhSubj FocObj Verb

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Moreover, the parallel derivations for ungrammatical examples in which a focused argument does c-command the canonical position of a Wh phrase are incorrectly predicted to be grammatical. (191) illustrates the PCC analysis for both (160), with covert movement, and (161), with overt movement.

(191) WhP FocP FocSubj WhObj

(160) *FocSubj WhObj Verb
(161) *WhObj FocSubj Verb

A PCC analysis of Wh/Focus interaction also fails if WhP and FocusP are identified as the same projection. For the ungrammatical examples in (160) and (161), two representations are possible. In (192), the focused subject raises first to Wh/FocP. The Wh object, raises next and, by hypothesis, adjoins to the left of the subject.

(192) Wh/FocP FocSubj WhObj = *(160) & *(161)

While examples (160) and (161) are ungrammatical, however, the paths in (192) do not overlap, and the given representation satisfies the PCC. (192) can be excluded by the stipulation that the first element raised into Wh/FocP in a Wh question must be a Wh phrase. Given this stipulation, (193) is the only possible derivation for (160) and (161).

(193) Wh/FocP FocSubj WhObj = *(160) & *(161)

The A' paths in (193) intersect and examples (160) and (161) are correctly predicted to be ungrammatical. This approach fails, however, with ditransitive examples such as (194).

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(194) ?* Hadín ishkiin go hant'é yaayiné' ? = (170)
who boy FOC what 3sg.perf.give
Who gave what to THE BOY ?
[Kind of wordy ... someone excited or yelling might say it - 'who the hell gave ...' but not in a calm conversation.]

The PCC analysis of (194) is as given in (195).

(195) Wh/FocP WhSubj FocIObj WhObj = *(194)

In this analysis, the first element raised into Wh/FocP is a Wh phrase, satisfying the stipulation to this effect for Wh questions, and none of the A' paths intersect. (195) thus incorrectly predicts example (194) to be grammatical.

The PCC can derive the Western Apache Wh/Focus paradigm, however, if it is assumed that WhP and FocusP are distinct projections with FocusP dominant. As illustrated in (196), the required PCC derivation for (159), a grammatical example, does not include overlapping paths.

(196) FocP WhP WhSubj FocObj (159) WhSubj FocObj Verb

The required derivations for (160), (161), and (194), in contrast, do require overlapping paths, and the examples are correctly excluded. (197) provides the PCC representation for both (160), with covert movement, and (161), with overt movement.

(197) FocP WhP FocSubj WhObj (160) *FocSubj WhObj Verb
(161) *WhObj FocSubj Verb

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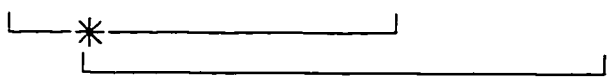
In (198), the PCC representation for (194), the path of the LF raised Wh object overlaps with the path of the LF raised focused indirect object.

(198) FocP WhP WhSubj FocIObj WhObj = *(194)



At this point, I am not aware of any empirical evidence, given a structural configuration in which FocusP dominates WhP, which challenges the proposed PCC analysis of Western Apache Wh/Focus interaction. I would note, however, that those works that employ specific projections within the complementizer system for Wh and focus licensing argue either that WhP and FocusP be analyzed as one projection (e.g., Rizzi 1996: Italian), or as two projections with WhP hierarchically above FocusP (cf. Koopman 1997: Vata, Nweh). As demonstrated, neither of these configurations is compatible with a PCC approach to Wh/Focus interaction in Western Apache. Moreover, in Section 5.5 I argued that the base generated position of sentential Wh adjuncts, arguably Spec WhP, must be above FocusP to explain the exceptional compatibility of sentential 'how' with focused arguments (see sections 5.5.2 and 5.5.3). In Chapter 6, I will provide one additional argument that WhP is hierarchically superior to FocusP in Western Apache based on the distribution and interpretation of Wh phrases in clauses marked by the *-go* particle (see Section 6.2).

Note also that the PCC was rejected as an analysis of Superiority and Anti-Superiority phenomena in Chapter 4 because it was unable to account for the full range of Anti-Superiority effects considered. Hornstein's Weak Cross Over analysis was shown to account for all Superiority and Anti-Superiority phenomena in multiple Wh questions in a

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manner that unifies the analyses of these phenomena, pair-list readings, and Weak Cross Over effects. Moreover, this unified analysis provides an explanation for the alleviation of Superiority effects by non-Wh elements, as in (199) and (200), which does not follow straightforwardly from a PCC approach.

(199a) *Who did who persuade that Bill should leave [Hornstein 1995:144]

(199b) Who did who persuade PRO to leave

(200a) *What did who reveal about Paul [Hornstein 1995:144]

(200b) What did who reveal about his mother

In each of the (b) examples, the non-Wh element PRO or 'his' alleviates a Wh Superiority violation. Within Hornstein's analysis, this alleviation follows because the additional element makes possible a linking representation that does not violate the Weak Cross Over Constraint. There is no obvious movement of PRO or 'his', or linking of these elements to higher positions, in (199) and (200), however, which would potentially eliminate an overlapping A' path within a PCC approach.

Finally, unlike the movement approach to Wh/Focus interaction proposed in Section 5.7.2, a PCC approach to Western Apache Wh/Focus interaction fails to account for the partial movement and intermediate landing sites available in Wh questions. While none of these arguments absolutely rules out the PCC approach to Wh/Focus interaction, the arguments taken together, particularly in light of the alternative analysis in Section 5.7.2, do challenge the use of the PCC in this particular domain.

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CHAPTER 6

THE *-go* AND *-híí* PARTICLES WITH SUBORDINATE CLAUSES

In this chapter, I briefly explore the use of the *-go* and *-híí* particles as non-factive and factive complementizers, respectively. I demonstrate that the *-go* and *-híí* complementizers are the same syntactic elements identified as the *-go* and *-híí* determiners in Chapter 5. On the basis of Wh/complementizer interaction, I further refine the structural and derivational analysis of the Western Apache clause developed in chapters 2 through 5. Finally, I discuss the implications of the complementizer data with respect to the adverbial use of *-go* and the analysis of relative clauses in Navajo and Western Apache.

6.1 The *-go* and *-híí* Particles as Complementizers

Complement clauses in Western Apache may be optionally marked by the particles *-go* or *-híí*. The particles indicate the degree of commitment the speaker and matrix subject have towards the validity of the proposition expressed in the subordinate clause. As I argue that the syntactic relationship between the particles and the clauses they modify is parallel to that between a determiner and its NP argument (Section 6.1.3), I refer to the *-go* and *-híí* particles, in their clausal use, as complementizers.

6.1.1 *-híí* as a Factive Complementizer

As demonstrated in (1), the typical word order in Western Apache sentences with complement clauses is Subj-[Complement Clause]-Verb.

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(1) Earl John isaa áyíílaa ṇ́zịh.
Earl John drum 3sg.perf.make 3sg.imprf.think
Earl thinks John made a drum.
[Does not entail John did make drum. With *áyíílaa -go*, Earl has stronger belief that John did make drum.]

Note that nothing intervenes between the subordinate verb *'áyíílaa* 'build' and the matrix verb *ṇ́zịh* 'think' in this example.[1] Native speaker intuitions for (1) are that the matrix subject 'Earl' does not necessarily have a strong belief in the validity of the subordinate proposition 'John made a drum', and that the speaker of the sentence is providing no indication as to his opinion of the validity of that proposition.

In contrast, the attitudes of both speaker and matrix subject towards the validity of the subordinate proposition are indicated in example (2).[2]

(2) Earl John isaa áyíílaa híí ṇ́zịh.
Earl John drum 3sg.perf.make FACT 3sg.imprf.think
Earl thinks John made a drum.
[Earl is not a witness, but John did make a drum - at least the speaker knows this.]

This example varies from (1) in that the particle *-híí* surfaces in a position between the subordinate and matrix verbs. Native speaker judgments for (2) indicate that both speaker and matrix subject are strongly committed to the validity of the subordinate proposition. More specifically, while the matrix subject strongly believes the subordinate proposition to be true, the speaker presupposes its validity. The interpretation of

[1] Certain matrix verb stems, such as *yigołṣịh* 'know', require that the embedded clause be marked by a *-go* or *-híí* particle.

[2] Anticipating the results of this section, I gloss *-híí*, in its clausal use, as FACTive.

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Western Apache complement clauses marked by the particle *-híí́* thus parallels the interpretation of factive complements in English (3).

(3) Earl knows that John made a drum.

As in example (2), the validity of the complement clause in (3) is presupposed by the speaker. Due to this presupposition, the denial of a proposition introduced by a factive verb in English is highly marginal and appropriate only when the speaker is emphasizing the strength and inaccuracy of the matrix subject's commitment to the validity of the expressed proposition (4).

(4) ? Earl KNOWS that John made the drum, but John DIDN'T make the drum.

Similar judgments hold with respect to the denial of a proposition marked by *-híí́* in Western Apache. Example (5) is considered ungrammatical unless the speaker is specifically emphasizing the strength and inaccuracy of the matrix subject's belief.

(5) John Earl ḳih náágolaa híí́ ńzḳh ...
John Earl house 3sg.perf.build FACT 3sg.imprf.think ...
John REALLY, TRULY thinks that Earl built the house ...
... ṇdi Earl doo ḳih náágolaa da.
... but Earl NEG house 3sg.perf.build NEG
... but Earl didn't build the house (and John is wrong).
[Absolutely needs 'really truly' in translation to work.]

No special emphasis is required in the absence of *-híí́* (6), and these negation examples thus strongly support the intuition that the validity of a complement clause marked by *-híí́* is presupposed by the speaker.[3]

[3] Schauber (1979) draws a similar conclusion with respect to Navajo clauses with *-ígíí́* (Section 6.3).

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(6) Earl John isaa áyíílaa ṇ́zịh ...
Earl John drum 3sg.perf.make 3sg.imprf.think ...
Earl thinks John made the drum ...
... ṇdi John doo isaa áyíílaa da.
... but John NEG drum 3sg.perf.make NEG
... but John didn't make the drum.

Note that the role of *-híí* as a factive complementizer parallels that of *-híí* as a +referential determiner (Section 5.2). In both uses, *-híí* serves to indicate that the argument it modifies references a specific entity in the discourse or real world context. For NP, such entities are +specific/+referential individuals and objects. For complement clauses, such entities are factual propositions and events.[4] Section 6.2 will introduce syntactic evidence in support of an analysis of determiner *-híí* and complementizer *-híí* as two instances of the same particle.

Given the role of *-híí* as a factive complementizer, it is surprising that the matrix subject's belief in the subordinate proposition is not absolute in (2). The uncertainty in example (2) is indicated by the judgment that the subject cannot be a witness to the given event. Such uncertainty is not present in example (7), however, which differs from (2) only in that the matrix verb *ṇyígołsịh* is translated as English 'know'.[5]

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[4] Note also that *-híí*, as a factive complementizer, constitutes one more example of a Western Apache clausal marker which indicates the attitude of speaker/Subject to a proposition. As discussed in Section 1.6.7.3, Western Apache grammar includes several past tense markers which indicate whether the validity of a proposition is asserted *ni'*, assumed from evidence *lẹ́nk'eh*, surprising *lạ*, or in question *lạ́n*.

[5] Note that *ṇ́zịh* 'think' and *ṇyígołsịh* 'know' are based on the same verbal root *zịh* pertaining to general awareness/belief. Possibly the requirement that complement clauses of *ṇyígołsịh* be marked by *-go* or *-híí* follows from the higher inherent degree of commitment with 'know'. Alternatively, there may be a syntactic distinction between 'think' and 'know' that I have yet to identify. With respect to the examples provided in this chapter, however, *ṇ́zịh* and *ṇyígołsịh* exhibit parallel behavior beyond the obligatory requirement that the complement of *ṇyígołsịh* be marked by a complementizer.

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(7) Earl John isaa áyíílaa híí ṇyígołsịh.
Earl John drum 3sg.perf.make FACT 3sg.imprf.know
Earl knows John made a drum.
[No question about whether or not John made drum. Earl saw it.]

Given that the commitment of the matrix subject to the validity of the subordinate proposition is stronger in (2), with the *-híí* complementizer, than in (1), with no complementizer, the presence of *-híí* necessarily contributes to the indication of the subject's attitude toward that proposition. The comparison of examples (2) and (7), however, also suggests that the choice of matrix verb is relevant to the strength of the matrix subject's belief. Therefore, while the particle *-híí* alone indicates the degree of commitment the speaker has towards a given proposition, the combination of *-híí* and the matrix verb express the matrix subject's degree of commitment to that proposition.

6.1.2 *-go* as a Non-Factive Complementizer

As illustrated in (8), Western Apache complement clauses can also be marked by the particle *-go*.[6]

(8) Earl John isaa áyíílaa go ṇ́zịh.
Earl John drum 3sg.pef.make N-FACT 3sg.imprf.think
Earl thinks John made a drum.
[Earl does not witness construction. Speaker not saying anything about whether or not John did make a drum.]

Native speaker intuitions for this example are that the matrix subject has a stronger degree of commitment to the validity of the subordinate proposition than indicated in the parallel example with no complementizer (1), but necessarily maintains some uncertainty with respect to that proposition. The matrix subject in (8) cannot be a direct witness of

[6] Anticipating the conclusion of this section, I gloss *-go*, in its clausal use, as N-FACT for non-factive.

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the event referenced by the subordinate proposition, and lacks knowledge with respect to event time, location, method, or motivation. This degree of uncertainty does not follow solely from the verb *ṇ́zịh* 'think'. Similar uncertainty is present in example (9) with the matrix verb *ṇyígołsịh* 'know'.[7]

(9) Earl John isaa áyíílaa go ṇyígołsịh.
Earl John drum 3sg.perf.make N-FACT 3sg.imprf.know
Earl knows that John made a drum.
[Earl 99% certain. He knows, but not as an eye witness.]

Although the use of 'know' in (9) implies a high degree of certainty on the part of the matrix subject, the presence of the particle *-go* entails that this certainty is not absolute.

Finally, the use of *-go* in (8) and (9) indicates that the speaker is not committed to the validity of the subordinate proposition. The speaker might be uncertain as to the proposition's validity or specifically believe the proposition to be false. In either case, the validity of the proposition is not presupposed, and its denial in subsequent discourse is pragmatically acceptable (10) without the emphatic interpretation required with *-híí* complements (5).

(10) John Earl kịh náágolaa go ṇ́zịh ...
John Earl house 3sg.perf.build N-FACT 3sg.imprf.think ...
John thinks Earl built the house ...
... ṇdi Earl doo kịh náágolaa da.
... but Earl NEG house 3sg.perf.build NEG
... but Earl didn't build the house.
[Sentence is really good.]

[7] Schauber (1979) notes that Navajo *-go* cannot be used with necessarily factive verbs. Similarly, Navajo *-íígíí* cannot be used with necessarily non-factive verbs. These constraints, if present at all, are clearly not absolute in Western Apache.

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In summary, *-go* is used to indicate that a given proposition is not considered necessarily factual by either speaker or matrix subject.[8] In contrast with *-hií* as a factive complementizer, *-go* can thus be characterized as a non-factive complementizer. Note that also in contrast with *-hií* as determiner/complementizer, it is not a priori obvious that *-go* as a focus marker (Section 5.1) and *-go* as a non-factive complementizer are related. Nevertheless, Section 6.2 provides evidence which suggests that focus *-go* and non-factive *-go* are two instances of the same particle.

6.1.3 Multiple *-go* and *-hií* Particles

In Section 5.3, I demonstrated that multiple instances of the *-go* and *-hií* nominal modifiers are excluded from a single sentence. I argued that this followed from a requirement that *-go* and *-hií* arguments be licensed through unique associations with FocusP and RefP. If the *-go* and *-hií* particles, in their clausal use, are the same particles used as nominal modifiers, then subordinate clauses marked by *-go* or *-hií* should also be licensed only through unique associations with FocusP and RefP.[9] The constraint against multiple particles in one sentence is thus expected to hold regardless of the role a given particle serves in a clause. As the examples below demonstrate, this expectation is borne out by the data.

---

[8] Willie (1996) suggests Navajo *-go* is used by speakers when they believe the event expressed in a clause has taken place but do not want to commit to the truth of their comments. Similarly, Schauber (1979) notes that Navajo *-go* clauses do not presuppose the validity of the expressed proposition.

[9] The identification of the *-go* licensing projection as FocusP might be reconsidered given that Focus is not obviously relevant to *-go* as a non-factive complementizer. Other than its label, however, all other proposed aspects of 'FocusP', such as its hierarchical position and licensing properties, can apply to the analysis of *-go* as complementizer.

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Example (11) demonstrates that an embedded argument may be marked as +referential by *-híí* , as NP modifier, in a subordinate clause marked by *-go*, as complementizer.

(11) Ishkiin John isaa híí áyíílaa go ǹzịh.
boy John drum REF 3sg.perf.make N-FACT 3sg.imprf.think
The boy thinks John made that particular drum.

The particle *-híí*, as NP modifier, however, may not surface in a subordinate clause with *-híí* as complementizer (12).

(12) * Ishkiin John isaa híí áyíílaa híí ǹzịh.
boy John drum REF 3sg.perf.make FACT 3sg.imprf.think
The boy thinks John made that particular drum.

Similarly, while an embedded argument may be focused by the particle *-go* (13), such marking is excluded if the subordinate clause itself is marked by *-go* (14).

(13) Ishkiin John isaa go áyíílaa híí ǹzịh.
boy John drum FOC 3sg.perf.make FACT 3sg.imprf.think
The boy thinks John made A DRUM.

(14) * Ishkiin John isaa go áyíílaa go ǹzịh.
boy John drum FOC 3sg.perf.make N-FACT 3sg.imprf.think
The boy thinks John made A DRUM.

The presence of *-go* and *-híí* with the matrix subject in these examples is also restricted by the complementizer in the subordinate clause. As NP modifier, *-híí* may surface with the matrix subject when the subordinate clause is marked by *-go* (15), but not when the subordinate clause is marked by *-híí* (16).

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(15) Ishkiin híí John isaa áyíílaa go ńzịh.
boy REF John drum 3sg.perf.make N-FACT 3sg.imprf.think
That particular boy thinks John made a drum.

(16) * Ishkiin híí John isaa áyíílaa híí ńzịh.
boy REF John drum 3sg.perf.make FACT 3sg.imprf.think
That particular boy thinks John made the drum.

And while -*go* can focus the matrix subject if the subordinate clause is marked by -*híí* (17), -*go* cannot focus the matrix subject if the subordinate clause is marked by -*go* (18).

(17) Ishkiin go John isaa áyíílaa híí ńzịh.
boy FOC John drum 3sg.perf.make FACT 3sg.imprf.think
THE BOY thinks John made a drum.

(18) * Ishkiin go John isaa áyíílaa go ńzịh.
boy FOC John drum 3sg.perf.make N-FACT 3sg.imprf.think
THE BOY thinks John made the drum.

Examples (11) - (18) are difficult to explain if the nominal and clausal uses of the particles, despite obvious homophony, constitute distinct syntactic entities. Not only may -*go* and -*híí* surface in matrix and subordinate contexts as NP modifiers, but they may do so in the presence of overt -*go* and -*híí* complementizers. It is only the cooccurrence of a given NP modifier with a homophonous complementizer that is excluded. In contrast, if the nominal and clausal uses of -*go* and -*híí* constitute two uses of the same syntactic entities, these examples follow from the previously motivated constraint against two instances of one particle in a sentence.

The analysis of the -*híí* particle's dual role as complementizer and/or determiner is straightforward. I propose that -*híí* is an X^0 level element which selects a nominal or clausal argument and requires that that argument raise to its specifier position. When modifying an NP argument, -*híí* behaves like a determiner and the phrase projected by -

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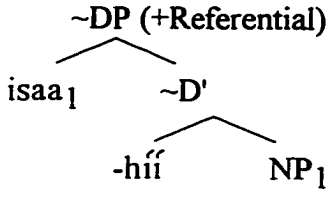
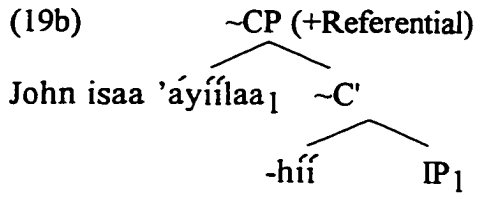
hií maintains nominal status (19a). When modifying a clause, *-hií* behaves like a complementizer and the phrase projected by *-hií* maintains clausal status (19b).

(19a)



(19b)



Parallel to the analysis of the particle *-shi* in Section 3.5, the syntactic category of the phrase projected by *-hií* is dependent upon the category of the argument *-hií* modifies. As with *-shi*, *-hií* can be analyzed as unmarked for syntactic category or as ambiguous between determiner and complementizer. In either case, the *-hií* phrase is necessarily +specific/+referential and must be licensed by association with Spec RefP at LF.

An equivalent structural analysis can be maintained for *-go*, although there is no obvious relationship between its determiner use in focus constructions and its complementizer use in non-factive clauses. One possible correlation that can be excluded is that the two uses of *-go* are related with respect to obviation. Farkas (1992) defines obviative complement clauses as clauses in which the subject argument is obligatorily disjoint in reference from the matrix subject. Farkas further notes that in Romance languages that have obviative clauses, the obviative clauses are a subset of the language's subjunctive complements. (20) illustrates an obviative subjunctive complement in French.

(20) Pierre$_i$ veut qu'il$*_{i/j}$ parte. [Farkas (1992: 85)]
P. wants that he leave.SUBJ(unctive)

Crosslinguistically, the subjunctive is typically used in clauses to which a speaker attaches no degree of positive commitment (Palmer 1986). As noted, Western Apache *-go*

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clauses exhibit this characteristic. If Western Apache *-go* clauses were also obviative, the relationship between the focus and clausal uses of *-go* could be identified as one of contrast. While an obviative complement signals that its subject contrasts with the matrix subject, a contrastively focused NP signals that its referent is appropriate in contrast to a set of alternatives. This hypothesis is not correct, however, as complement clauses marked by *-go* are not obviative and the matrix and embedded subjects can corefer (21).

(21) Hastiin isaa áyíílaa go ńzįh.
old.man drum 3sg.perf.make N-FACT 3sg.imprf.think
i) He$_i$ thinks the old man$_j$ may have made the drum.
ii) The old man$_i$ thinks he$_{i,j}$ may have made the drum.

Nevertheless, the applicability of the constraint against two instances of one particle in a sentence to both the nominal and clausal uses of *-go* strongly suggests these two uses are representative of one element. Although the historical origin of *-go* as a focus marker is not critical to the synchronic analysis of the particles in this dissertation, I tentatively conclude that focus *-go* derives from a merger of the emphatic particle *-ga*, noted for an earlier dialect of Western Apache in Edgerton (1963), and a more general use of *-go* on nominals. As noted in Section 5.1.5, modern Navajo maintains a distinction between an emphatic *ga'* particle and an adverbial use of *-go* on NP.

6.2 Wh Questions with *-go* and *-híí* Complementizers

In section 5.4 - 5.7, I discussed the interaction of *ha-* words with *-go* and *-híí* as NP modifiers. I argued that although both *-go* and *-híí* arguments undergo LF movement, only NP-*go* arguments participate in operator-variable relationships and interfere with Wh operator-variable binding. In this section, I explore the interaction of *ha-* words with *-go* and *-híí* as complementizers. I argue that subordinate clauses, like

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NP/DP arguments, are licensed by movement to particular clausal projections. The proposed analysis provides direct support for the hypothesis that RefP dominates FocusP.

The interpretation of Western Apache *ha-* words generated in subordinate clauses is dependent in part on the complementizer associated with that clause. For example, although an in situ *ha-* argument can be interpreted as an interrogative Wh element in embedded *-go* clauses (22),[10] it is necessarily interpreted as a non-interrogative indefinite in embedded *-hií* clauses (23).[11]

(22) John Earl hant'é yizkah go ṇ́zı̨h ?
John Earl what 3sg.perf.shoot N-FACT 3sg.imprf.think
What does John think Earl shot ?
[Possibly also: 'John thinks Earl shot something.' Statement reading much more obvious here than in *John hant'é Earl yizkah go ṇ́zı̨h.* = (24)]

(23) John Earl hant'é yizkah hií ṇ́zı̨h.
John Earl what 3sg.perf.shoot FACT 3sg.imprf.think
John thinks Earl shot something.
[Statement only.]

Moreover, clause internal movement of the *ha-* word does not influence this asymmetry. A *ha-* word raised to an initial position in an embedded *-go* clause may also receive an interrogative Wh interpretation (24), while the raised *ha-* word in the parallel *-hií* construction is again interpreted as an indefinite (25).

[10] A bare *ha-* word overtly situated in a *-go* clause may be marginally interpreted as an indefinite. This marked reading is most readily available when the *ha-* word surfaces in situ (22).

[11] C-commanding negative and uncertainty operators such as *doo* and *-sh̨i* will influence the interpretation of an embedded *ha-* word. See Chapter 3.

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(24) John hant'é Earl yizkah go ṇ́zı̨h ?
John what Earl 3sg.perf.shoot N-FACT 3sg.imprf.think
What does John think Earl shot ?
[Possibly also: 'John thinks Earl shot something.']

(25) John hant'é Earl yizkah híí ṇ́zı̨h.
John what Earl 3sg.perf.shoot FACT 3sg.imprf.think
John thinks Earl shot something.
[Statement only.]

Note finally that a *ha-* argument may be extracted from embedded *-go* and *-híí* clauses. In such cases, the *ha-* argument is interpreted as an interrogative Wh element regardless of whether the embedded clause is marked by *-go* (26) or *-híí* (27).

(26) Hant'é John Earl yizkah go ṇ́zı̨h ?
what John Earl 3sg.perf.shoot N-FACT 3sg.imprf.think
What does John think Earl shot ?
[Ok only as a question.]

(27) Hant'é John Earl yizkah híí ṇ́zı̨h ?
what John Earl 3sg.perf.shoot FACT 3sg.imprf.think
What does John think Earl shot ?
[Ok only as a question.]

The examples above raise two crucial questions with respect to Western Apache clause structure and the interpretation of *ha-* words. First, what prohibits the interrogative interpretation of a *ha-* word within a *-híí* clause as opposed to a *-go* clause? Second, how is this prohibition reconciled with the ability of a *ha-* word to extract from a *-híí* clause and receive an interrogative interpretation?

Chapter 3 demonstrated that a *ha-* word fails to receive an interrogative interpretation when a non-Wh operator intervenes between the *ha-* word and the covert Wh interrogative operator in WhP. It is unlikely, however, that interrogative readings for

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ha- words in subordinate *-hií* clauses are excluded because of the presence of a non-Wh operator. Sections 5.3 - 5.7 argued, on the basis of the distribution of NP-*hií* arguments in coordinate structures and Wh questions, that *-hií* arguments are not involved in operator-variable binding relationships. Given the proposal that complementizer *-hií* and determiner *-hií* are the same syntactic element (Section 6.2), the default hypothesis is that clausal *-hií arguments* also do not involve operator-variable binding. In addition, since *ha-* words can extract from *-hií* clauses (27), Wh interpretations for *ha-* words internal to a *-hií* clause cannot be excluded through an analysis in which interrogative *ha-* words obligatorily raise to WhP by LF, but *-hií* clauses constitute a barrier to movement.

One distinguishing characteristic of *-hií* arguments which is potentially relevant to the interpretation of *ha-* words, however, is that *-hií* arguments must raise to Spec RefP by LF. As a *ha-* word overtly situated within a *-hií* clause raises, by hypothesis, to Spec RefP as a part of the *-hií* constituent, such movement could influence the structural configuration between the *ha-* word and the Wh operator in WhP. Sections 5.3.2 and 3.4 argued respectively that RefP and WhP are projections within the matrix complementizer system.[12] Given the additional hypothesis that RefP dominates WhP, the LF movement of a *-hií* clause containing a *ha-* word will necessarily position that *ha-* word, as variable, outside of the domain of the Wh operator in WhP. (28) illustrates the LF representation for (23).

[12] Section 5.3.2 argued on the basis of the constraint against multiple *-hií* particles in sentences with complement clauses that RefP is necessarily a projection within the matrix complementizer system. Section 3.4 provided a similar argument for WhP on the basis of the interpretation of embedded *ha-* words in sentences with matrix negative or uncertainty operators.

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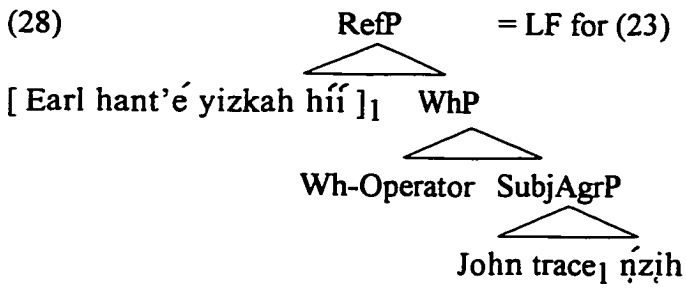
(28) = LF for (23)



I propose that the structural configuration in (28) is ruled out because the *ha-* word, as Wh variable, is neither in a Spec-Head relationship with the Wh operator nor c-commanded by the Wh operator. Given that such configurations are necessary for the interpretation of an operator-variable binding relationship at LF, a *ha-* word internal to a *-hií* clause cannot be interpreted as an interrogative Wh element.[13] Note that this analysis also correctly excludes example (25). Although the *ha-* word in (25) has raised to an initial position in the *-hií* clause, it is nevertheless raised as a part of the *-hií* constituent to Spec RefP, and outside of the domain of the Wh operator, at LF.

The proposed analysis also provides an explanation for the grammaticality of example (27). The embedded *ha-* object in (27) overtly raises to Spec WhP and is not included in the *-hií* clause when it raises to Spec RefP at LF. In contrast to (23) and (25), the *ha-* word, as Wh variable, and the Wh operator in (27) are in an appropriate binding configuration at LF. (29) illustrates the proposed LF representation for (27).[14]

---

[13] Additional considerations are necessary to account for the grammaticality of *-hií* modifying a *ha-* word interpreted as an interrogative Wh element (Section 5.2.3). Possibly the unique interpretations of these arguments follow from atypical Wh derivations at LF. Alternatively, the movement of a *ha-* argument through Spec WhP may satisfy Wh operator-variable binding regardless of further movement to Spec RefP. Within such an analysis, the movement of *-hií* clauses through Spec WhP must still be excluded.

[14] *ha-* traces are not relevant to the interpretation of a *ha-* word itself (Section 3.4.3).

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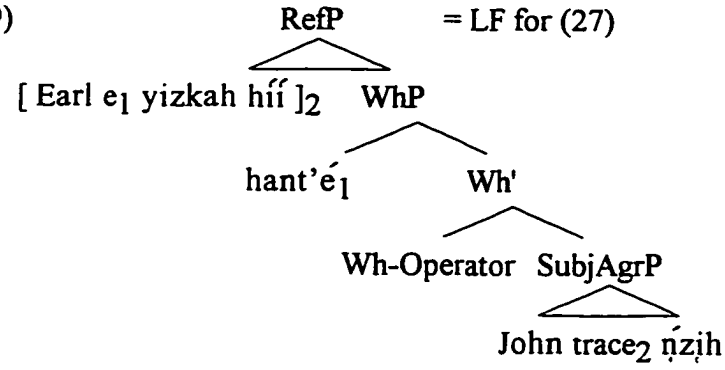
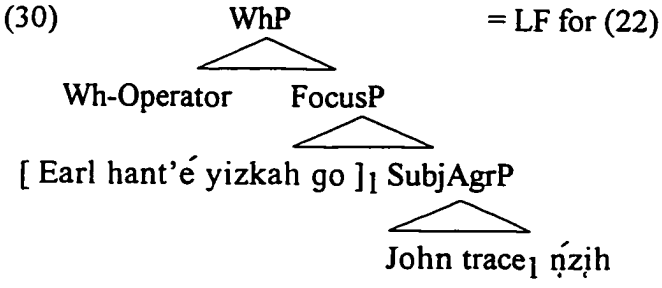
(29) = LF for (27)



Given the analysis outlined in (28) and (29) for *-híí* clauses, the availability of interrogative Wh readings for *ha-* arguments within *-go* clauses entails that the position in which *-go* arguments are licensed is below WhP. As illustrated in (30) for example (22), a *ha-* word contained within a *-go* complement raised to Spec FocusP at LF is still within the binding domain of the Wh operator in WhP.

(30) = LF for (22)



Sentences with *ha-* arguments internal to a *-go* complement thus do not violate the configurational constraint on operator-variable binding. Still, a final word is required with respect to the operator status of NP-*go* arguments. Section 5.4 demonstrated that focused NP-*go* arguments, as operators, interfere with the binding relationship between the Wh operator in WhP and a *ha-* word c-commanded by the focused NP. As the default hypothesis is that clausal *-go* arguments also involve operator-variable binding, the acceptability of interrogative Wh readings in (22) and (24) is surprising. To maintain the analysis in (30), it must be assumed that a variable contained within an operator, i.e.,

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a *ha-* word contained within a *-go* clause, can be bound by an element external to that operator (31).

(31) $\text{Operator}_1 \ldots [_{\text{Operator}} \ldots \text{Variable}_1 \ldots]$

Alternatively, it must be assumed that *-go* clauses do not qualify as operators. This possibility suggests that operator-variable binding in NP-*go* constructions is an aspect of contrastive focus rather than an inherent property of the *-go* construction itself.

The essential component of the analysis above is the hypothesis that clausal arguments obligatory raise to particular and distinct projections within a clause for purposes of feature licensing. I believe this proposal is a natural extension of a variety of recent works on movement. Numerous works since Diesing (1990), for example, have argued that DP arguments raise to distinct licensing projections in a clause based on featural properties of specificity and definiteness. Lee (1996, 1997) provides a particularly relevant argument that Zapotec verbs inflected for definite aspect, indicating a high degree of speaker commitment to a proposition, overtly raise to a position above the surface position of verbs inflected for other aspectual categories. More generally, there is no a priori reason that subordinate clauses should not participate in movement for purposes of feature licensing, particularly within the feature checking Minimalist framework of Chomsky (1995).

Finally, note that the proposed analysis of Western Apache *-go* and *-hií* clauses can be extended to analyses of related phenomena in other languages. For example, in situ Wh phrases are excluded from finite complement clauses but permitted in non-finite complement clauses in Iraqi Arabic (cf. Wahba 1991, Ouhalla 1994) and Hindi (Mahajan

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1990). Nevertheless, Wh phrases may be overtly extracted from finite clauses in both languages. The examples below illustrate the basic pattern for Hindi. (32) demonstrates that an in situ Wh phrase, interpreted as a matrix interrogative element, is possible in a non-finite clause.

(32) raam-ne mohan-ko kise dekhne ke liye kahaa [Mahajan 1990:160]
Ram-erg Mohan-erg whom to see for told
Who did Ram tell Mohan to look at ?

Examples (33) and (34) demonstrate that although an in situ Wh phrase is not acceptable in a finite complement clause, it is possible to extract the Wh phrase from such contexts.

(33) *raam-ne socaa ki mohan-ne kis-ko dekhaa [Mahajan 1990:136]
Ram-erg thought Mohan-erg who saw
Who did Ram think Mohan saw?

(34) kis-ko raam-ne socaa ki mohan-ne dekhaa [Mahajan 1990:137]
who Ram-erg thought Mohan-erg saw
Who did Ram think Mohan saw?

Mahajan (1990) and Simpson (1996) provide analyses of (32) - (34). In brief, Mahajan argues that Wh phrases in Hindi must be locally licensed by a +Wh Comp and proposes that Wh phrases can reach an appropriate position either through overt movement or through movement in conjunction with the raising of a non-finite clause at LF. Simpson argues that Hindi Wh feature checking can occur in non-local configurations, and without Wh movement, but must occur via a +Wh complementizer within the tense domain of a Wh phrase. Embedded finite clauses constitute a tense domain, but only matrix clauses contain a +Wh complementizer.[15]

[15] Clauses subcategorized by verbs taking question complements must also contain a +Wh complementizer or other means of licensing a Wh feature. In situ Wh, for example, are possible in finite question complements in Hindi as in (i).
- *Continued on Next Page* -

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The Hindi Wh facts are clearly similar to the Western Apache facts discussed above.[16] Subordinate *-go* clauses in Western Apache behave parallel to Hindi non-finite clauses, while subordinate *-hií* clauses behave parallel to Hindi finite clauses. The finite versus non-finite distinction crucial to both Mahajan's and Simpson's analyses, however, does not apply to the Western Apache *-go* and *-hií* clauses.[17] Nevertheless, the analysis proposed for Western Apache can be applied to the Hindi paradigm. If finite complement clauses in Hindi raise at LF to positions above WhP, but non-finite complement clauses do not raise or raise to positions below WhP, an embedded Wh phrase will be within the domain of the Wh operator in WhP only in the latter case. (35) illustrates the basic proposal.

(35) Licensing-Projection: Finite Clauses

WhP

Licensing-Projection: Non-Finite Clauses

(i) raam-ne mohan-se puuchaa ki kOn aayaa hE [Mahajan 1990:131]
Ram-erg Mohan asked who has come
Ram asked Mohan who has come?

[16] The discussion applies to the Iraqi Arabic Wh paradigm as well.

[17] A *-go* clause containing an in situ interrogative *ha-* word can be overtly marked for tense. In (i), the future particle *doleeł* is included within the *-go* clause and the verb exhibits future tense morphology. If Wh licensing is restricted to a tense domain, these examples should not be interpretable as Wh questions. There are, however, several restrictions pertaining to tense in *-go* clauses which I have yet to work out. Pending that analysis, the role of tense in the *-go/-hií* Wh paradigm cannot be necessarily excluded.

(i) Isdzan [hastiin hant'é náyídooł'ah doleeł go] ńzịh ?
woman [old.man what 3sg.fut.butcher FUT N-FACT] 3sg.imprf.think
i) What does the woman think the old man will butcher ?
ii) The woman thinks the old man will butcher something.

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As in Western Apache, a Hindi Wh phrase overtly extracted from a finite complement clause is not within the complement, and is not raised out of the domain of the Wh operator, when the finite clause raises to its licensing projection at LF.

6.3 Further Implications

In this section, I discuss the implications of the proposed analysis of the *-go* and *-hií* complementizers with respect to the relative clause construction in Navajo and Western Apache, and the adverbial use of *-go*.

6.3.1 Relative Clauses and the Distinction between *-ihií* and *-hií*

Schauber (1979) explores several syntactic and semantic asymmetries between Navajo complement clauses marked by *-go* and *-ígií*. Schauber does not address the ability or inability of *-go* or *-ígií* to modify NP, but the primary use and distribution of these Navajo particles with complement clauses parallels that of *-go* and *-hií* in Western Apache. In particular, Schauber concludes that complements of Navajo *-ígií* necessarily refer to a presupposed fact or previously discussed proposition in discourse, while complements of *-go* are not presupposed.

Also parallel to *-go* and *-hií* in Western Apache, Navajo *ha-* words, as interrogative Wh phrases, can overtly surface within *-go* clauses (36a), but are excluded from *-ígií* clauses (36b).[18]

[18] The parallel *-hií* examples are grammatical with an indefinite reading of the complement internal *ha-* word. Presumably this reading is not possible in the Navajo cases due to the obligatory presence of the overt question marker *lá*.

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(36a) Jáan Mary lá háadi deeshnishgo bił béehózin [Schauber 1979:276]
John Mary Q where.at 3.P.workComp 3.with 3.be known
Where does John know Mary to work ?

(36b) * Jáan Mary lá háadi deeshnishígíí bił béehózin

In contrast to Western Apache *-hií* complements, however, *ha-* words may not be extracted from Navajo *-ígíí* complements. The examples in (37) demonstrate the asymmetry between Navajo *-go* and *-ígíí*. The clause initial position of the *ha-* word in (37b) does not influence the grammaticality of the sentence.

(37a) hádąą́'lá Jáan Mary yich'į' haadzíi'go nił béehózin [Schauber 1979:276]
when Q John Mary 3.to 3.P.talkCOMP 2.with 3.be known
When do you know John to have talked to Mary ?

(37b) * hádąą́'lá Jáan Mary yich'į' haadzí'ígíí nił béehózin

Schauber argues that examples such as (36b) and (37b) are ruled out on semantic grounds. In brief, Schauber suggests that an embedded clause in which a Wh phrase originates in a direct question must be 'semantically dominant'. For Schauber, a clause is semantically dominant if it is not presupposed and does not have contextual reference (see also Erteschik 1973). Since *-ígíí* clauses are presupposed and have contextual reference, they are necessarily incompatible with direct Wh questions. Schauber's semantic solution for Navajo complement clauses, however, cannot be extended to Western Apache. As demonstrated in (22) - (27), although Wh interrogatives cannot surface within a *-hií* complement clause, they can be extracted from such clauses.

The proposed syntactic analysis of Western Apache *-hií* clauses and Wh question formation, however, can be extended to Navajo to rule out instances of Wh interrogatives within *-ígíí* clauses. Specifically, the +referential *-ígíí* clauses raise at LF to Spec RefP,

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a position outside of the domain of the Wh operator in WhP. The constraint against Wh extraction from Navajo *-ígíí* clauses requires additional consideration.

One possible source for the extraction asymmetry between Navajo *-ígíí* clauses and Western Apache *-híí* clauses is the additional presence of *-í*, the first syllable in *-ígíí*, in Navajo. This additional element does in fact surface in one context in Western Apache. As demonstrated in (38), Western Apache relative clauses end in *-ihíí*.[19]

(38) Hastiin adąądą́' ishkiin isaa áyíílaa ihíí yiłtsé̓h doleeł.
old.man yesterday boy drum 3sg.perf.make REL 3sg.fut.see FUT
i) The old man will see the boy that made the drum yesterday.
ii) The old man will see the drum that the boy made yesterday.

Ha- words with non-interrogative interpretations may surface within *-ihíí* relative clauses (39) parallel to the case with *-híí* complement clauses (23).

(39) Hastiin adąądą́' ishkiin hant'é áyíílaa ihíí yiłtsé̓h doleeł.
old.man yesterday boy what 3sg.perf.make REL 3sg.fut.see FUT
i) The old man will see {the thing that/something/what} the boy made yesterday.
ii) The old man will see the boy that made something yesterday.
[Statement only. Possible context for 'something' (i): Boy may have made ten things, the old man will see at least one. Nothing here indicates what object is.]

Unlike the case with *-híí* complement clauses, and parallel to the situation with Navajo *-ígíí* complement clauses, however, *ha-* words, as Wh interrogatives, may not be extracted from *-ihíí* relatives (40).

[19] The relative clause marker is necessarily pronounced as disyllabic *-ihíí* in slow speech and in fast speech following a consonant final verb stem. The initial *-i* is frequently difficult to hear in fast speech following a vowel final verb stem.

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(40) * Hant'é hastiin adąądą́' ishkiin áyíílaa ihíí yiłtsé́h doleeł ?
what old.man yesterday boy 3sg.perf.make REL 3sg.fut.see FUT
i) * What will the old man see that the boy made yesterday ?
ii) * What will the old man see the boy that made yesterday ?

Example (40) thus supports the hypothesis that it is somehow the *-í* in Navajo *-ígíí*, parallel to the *-i* in Western Apache *-ihíí*, that precludes Wh extraction.

From this perspective, it is interesting to very briefly consider the analysis of Navajo and Western Apache relative clauses. The Navajo relative clause has attracted much attention in the Athabaskan syntactic literature (cf. Platero 1974, 1978, 1982, Perkins 1982, Barss et. al. 1989, Willie 1989). Most of the discussion has centered around the determination of the head of the relative construction. Platero (1974), for example, argues that *-ígíí* relatives are headed by an external NP but that this NP may be phonologically deleted. Barss et. al. (1989) suggest that one of the arguments internal to an *-ígíí* construction raises at LF to head the relative clause. And Willie (1989) suggests that the various relativizing enclitics themselves, such as *-ígíí*, constitute the heads of the relative clause. While an explicit analysis of the Navajo and Western Apache relative clause construction is beyond the scope of this dissertation, I do believe the extraction facts with Western Apache *-híí* and *-ihíí* provide some support for Willie's approach. In brief, *-i* in *-ihíí* and *-í* in *-ígíí* can be analyzed as the NP[20] heads of a relative construction with *-híí* and *-gíí* serving as determiners to the *-i* and *-í* NP.[21] Without additional argument, I suggest that the *-i-híí* and *-í-gíí* DP occupy, and thus block, a

[20] Hale & Platero (1996) propose that *-í* is a pronominal element that serves as the base in certain pronouns, determiners, and question words such as *sh-í* '1sg', *b-í* '3rd', *ha-í* 'who', and *e-í* 'that'.

[21] Alternatively, *-híí* might be analyzed as a determiner which selects the relative clause CP as complement (see Kayne 1994), although additional analysis would be required to derive the correct ordering of CP, *-i*, and *-híí*.

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position through which an extracted Wh phrase must move. This analysis has the further implication that Western Apache *-híí́*, as a general NP modifier, derives from *-ihíí́* / *-íghíí́*.. Specifically, the use of this determiner element was extended to NP other than the abstract *-i* element in Western Apache but not in Navajo.[22]

6.3.2 The Adverbial Use of *-go*

Finally, there is empirical support for the hypothesis, tentatively adopted in Section 5.5.2 for *hagot'ú́go* 'how', that the *-go* morpheme obligatorily present with many Western Apache adverbial expressions is the same *-go* particle used elsewhere as determiner and complementizer. First, the examples below demonstrate that the constraint against multiple *-go* particles in one sentence applies to adverbial *-go*. While example (41) illustrates that the adverbial expression *dá́taané́-go* 'slowly' may generally surface in a subordinate clause, (42) demonstrates that this is not possible if the subordinate clause is marked by the particle *-go* as complementizer.

(41) Ishkiin hastiin dá́taanégo ḳih náágole' ńzḳh.
boy old.man slowly house 3sg.imprf.build 3sg.imprf.think
The boy thinks the old man is slowly building the/a house.

(42) * Ishkiin hastiin dá́taanégo ḳih náágole' go ńzḳh.
boy old.man slowly house 3sg.imprf.build N-FACT 3sg.imprf.think
The boy thinks the old man will slowly build a house.

Moreover, examples (43) and (44) demonstrate that adverbial *-go* cannot cooccur with a focused NP-*go* argument.

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[22] Ken Hale (personal communication) notes that *-gíí́* alone cannot modify NP in Navajo. Young & Morgan (1987) report that *-íghíí́* may attach to a noun and is interpreted on par with the English definite determiner.

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(43) * Ishkiin hastiin go dá̓taanégo ḳih náágole' ńzḳih.
boy old.man FOC slowly house 3sg.imprf.build 3sg.imprf.think
The boy thinks THE OLD MAN is slowly building the/a house.

(44) * Ishkiin go hastiin dá̓taanégo ḳih náágole' ńzḳih.
boy FOC old.man slowly house 3sg.imprf.build 3sg.imprf.think
THE BOY thinks the old man is slowly building the/a house.

Finally, adverbial expressions ending in *-go*, similar to their focused NP-*go* counterparts, interfere with the operator-variable binding relationship between a *ha-* word and the Wh operator in WhP. Examples (45) and (46) demonstrate that the adverbial expression 'slowly' may precede or follow an overt object argument.

(45) Hastiin ḳih dá̓taanégo náágole'.
old.man house slowly 3sg.imprf.build
The old man is slowly building the house.

(46) Hastiin dá̓taanégo ḳih náágole'.
old.man slowly house 3sg.imprf.build
The old man is slowly building the house.

Furthermore, examples (47) and (48) demonstrate that a *ha-* argument preceding 'slowly' may be interpreted as a Wh interrogative.

(47) Hastiin hant'é dá̓taanégo náágole' ?
old.man what slowly 3sg.imprf.build
What is the old man slowly building ?

(48) Hant'é hastiin dá̓taanégo náágole' ?
what old.man slowly 3sg.imprf.build
What is the old man slowly building ?

When 'slowly' precedes a *ha-* argument, however, that argument cannot be interpreted as a Wh interrogative (49).

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(49) Hastiin dá̓taanégo hant'é náá̓gole'.
old.man slowly what 3sg.imprf.build
The old man is slowly building something.
[Statement only.]

This suggests that the relationship between an adverb ending in *-go* and a *ha-* word is subject to the Wh/Focus generalization motivated by the interaction of NP-*go* arguments and *ha-* words (Section 5.4.3).[23]

While the applicability of the Wh/Focus generalization and the constraint against multiple *-go* particles in one sentence to adverbial constructions is surprising if adverbial *-go* and *-go* as NP modifier/complementizer are separate entities, the examples above follow straightforwardly if the adverbial, nominal, and clausal uses of *-go* constitute distinct uses of the same syntactic entity.

[23] One discrepancy between the adverbial *-go* and focused argument cases is that a *ha-* word following adverbial *-go* can be interpreted as an indefinite although a *ha-* word following focus *-go* results in ungrammaticality (see sections 5.4 and 5.5). In fact, a similar discrepancy is present with the Superiority/Anti-Superiority effects discussed in Chapter 4. While a Wh argument cannot raise past a hierarchically superior Wh argument, a VP adverbial Wh adjunct can raise past a hierarchically superior Wh subject if the subject is interpreted as an indefinite. The analysis of this argument/Adjunct distinction is left to future work.

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CHAPTER 7

THE ANALYSIS OF WH MOVEMENT AS OPTIONAL OR OBLIGATORY

In Section 2.2, I demonstrated that Wh movement in Western Apache appears to be optional. Wh phrases appear to be able to surface either in situ or in preposed, clause initial positions consistent with Spec WhP. I proposed two possible analyses of Wh movement. Specifically, I argued that Wh movement could be analyzed as truly optional or as obligatorily overt but obscured by the topicalization of non-Wh DP. On the basis of the significant derivational complexity required by the overt movement approach, I tentatively adopted the optional movement analysis. In this Chapter, I briefly revisit this issue with respect to the additional facts of Western Apache syntax introduced in chapters 3 through 6. In some cases the overt Wh movement analysis provides interesting alternatives to the optional movement analyses I have pursued in this dissertation. Nevertheless, the overt approach faces several challenges that ultimately suggest Western Apache Wh movement is more appropriately characterized as optional.

7.1 A Review of Optional and Partial Wh Movement

In this section, I briefly review the basic Wh movement examples presented in Section 2.2. For more comprehensive discussion, see sections 2.2.1 through 2.2.3.

Western Apache Wh phrases appear to be able to surface either in situ or in preposed, typically clause initial positions. A Wh object can surface in its canonical SOV linear position (1a) or in a preposed position preceding an overt subject DP (1b).

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(1a) Hastiin hant'é yiztał ?
old.man what 3sg.perf.kick
What did the old man kick ?

(1b) Hant'é hastiin yiztał ?
What old.man 3sg.perf.kick
What did the old man kick ?

Wh phrases may also undergo movement within subordinate clauses and be extracted from subordinate clauses. The embedded Wh object appears to surface in situ in (2a) and in a preposed initial position within the subordinate clause in (2b).

(2a) John [Earl hant'é nayisniih go] ńzịh ?
John Earl what 3sg.perf.buy N-FACT 3sg.imprf.think
What does John think Earl bought ?

(2b) John [hant'é Earl nayisniih go] ńzịh ?
John what Earl 3sg.perf.buy N-FACT 3sg.imprf.think
What does John think Earl bought ?

In (2c), the embedded Wh object surfaces in a matrix initial position.

(2c) Hant'é John [Earl nayisniih go] ńzịh ?
what John Earl 3sg.perf.buy N-FACT 3sg.imprf.think
What does John think Earl bought ?

In ditransitive clauses, a Wh object may surface in its canonical S-IO-OV linear position (3a), in a preposed clause initial position (3b), or in a position intermediate between overt subject and indirect object (3c). I have referred to this latter option as partial or intermediate Wh movement.

(3a) Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
What did the woman give to the boy ?

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(3b) Hant'é isdzan ishkiin yaayiné' ?
what woman boy 3sg.perf.give
What did the woman give to the boy ?

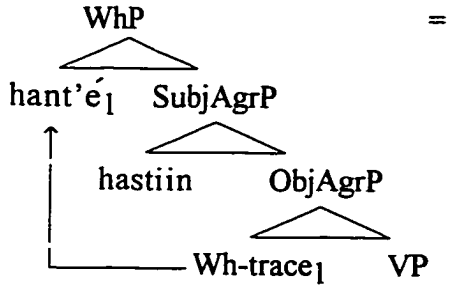
(3c) Isdzan hant'é ishkiin yaayiné' ?
woman what boy 3sg.perf.give
What did the woman give to the boy ?

Note that the status of the Wh phrases in (1) - (3) as in situ or preposed, given just these examples, can only be inferred from the overt linear ordering of arguments. As discussed below, the obligatorily overt analysis of Wh movement rejects the hypothesis that Wh phrases which appear to surface in situ on the basis of linear ordering actually do surface in situ.

7.2 The Analysis of Wh Movement as Obligatorily Overt

Within the obligatorily overt approach to Wh movement introduced in Section 2.2.5, preposed Wh examples such as (1b) represent typical instances of Wh movement. The Wh object overtly raises to Spec WhP for purposes of Wh feature licensing (4).

(4) = (1b)



Examples such as (1a) with Wh phrases apparently in situ are also analyzed as typical instances of Wh movement within this approach. With respect to (1a), the Wh object overtly raises to Spec WhP for purposes of Wh feature licensing, but in addition the subject DP overtly raises to a Topic projection dominating WhP (5). This latter

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movement yields linear SOV ordering for the clause and obscures the fact the Wh object has overtly raised from its Case/Agreement position.

(5) TopicP = (1a)

hastiin$_2$ WhP

hant'é$_1$ SubjAgrP

—Subj-trace$_2$ ObjAgrP

Wh-trace$_1$ VP

There are several implications of the obligatorily overt Wh movement analysis. First, optional Wh movement, problematic from the Minimalist perspective (Chomsky 1995), is not required. Second, the overt approach provides a possible analysis of partial Wh movement examples such as (3c). In (3c), the Wh object intermediate between subject and indirect object arguments is overtly situated in Spec WhP and the subject DP has overtly raised to the Topic projection (see Section 2.2.5).

(6) <u>TopicP</u> <u>WhP</u> <u>SubjAgrP</u> <u>IObjAgrP</u> <u>ObjAgrP</u>
isdzan$_2$ hant'é$_1$ [t$_2$ ishkiin t$_1$ yaayiné']
woman$_2$ what$_1$ subj-trace$_2$ boy wh-trace$_1$ 3sg.perf.give
What did the woman give to the boy ?

Finally, the overt movement approach provides a possible reanalysis of the operator-variable blocking effects discussed in chapters 3 and 5. I argued that negative, uncertainty, and focus operators intervening between a *ha-* word, as variable, and the covert Wh operator in WhP blocked the operator-variable binding relationship between the Wh operator and *ha-* word. Examples (7) - (9) illustrate the basic effects. Binding of the *ha-* objects in (7) and (8) by a Wh operator in WhP is blocked by the intervening

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negative and uncertainty operators *doo* and *shi*, respectively. The *ha-* objects are bound by these intervening operators and receive non-interrogative interpretations as polarity items and indefinites (see sections 3.1, 3.2, and 3.4).

(7) Isdzan doo ishkiin hant'é yaayiné' da.
woman NEG boy what 3sg.perf.give NEG
The woman didn't give THE BOY anything.

(8) Hadínshi hant'é yizkah.
who.UNCERT what 3sg.perf.shoot
Someone shot something.

In (9), the focus operator, analyzed as the DP-*go* constituent, blocks the binding of the *ha-* object by the Wh operator in WhP. In this case, the *ha-* object receives no interpretation and the example is ungrammatical (see sections 5.4 and 5.7).

(9) * Hastiin go hant'é yizkah ?
old.man FOC what 3sg.perf.shoot
What did THE OLD MAN shoot ?

I additionally demonstrated that *ha-* words could raise past a negative or uncertainty operator and receive an interrogative Wh interpretation. Examples (10) and (11) illustrate this effect.

(10) Hant'é$_i$ isdzan doo ishkiin t$_i$ yaayiné' da ?
what woman NEG boy wh-trace 3sg.perf.give NEG
What didn't the woman give to THE BOY ?

(11) Hant'é$_i$ hadínshi t$_i$ yizkah ?
what who.UNCERT wh-trace 3sg.perf.shoot
What did someone shoot ?

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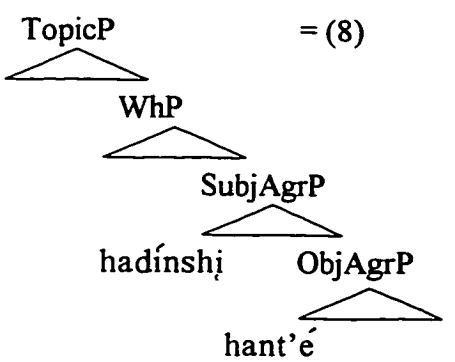
I argued that the optional movement in (10) and (11) raised the *ha-* word out of the domain of the negative and uncertainty operators and permitted a binding relationship between the *ha-* word and the Wh operator in WhP.

Within the obligatorily overt approach to Western Apache Wh movement, *ha-* words must overtly raise to Spec WhP to be interpreted as interrogative Wh phrases, and DP arguments which precede a *ha-* word are necessarily analyzed as topics. This approach provides a possible reanalysis of the operator-variable blocking effects in (7) - (11). Specifically, if negated, indefinite, and focused DP do not qualify as topics and do not raise to TopicP, the *ha-* objects which follow these elements in (7) - (9) cannot be overtly situated in Spec WhP. (12) illustrates the proposal for (8). By hypothesis, the indefinite subject *hadínshi* cannot raise to TopicP and is most likely in its Case/Agreement position SubjAgrP. The *ha-* object is necessarily in a position below the indefinite, is not overtly situated in Spec WhP, and is not licensed as an interrogative Wh element.

(12) 

In contrast, the *ha-* object in example (11) has overtly raised past the indefinite subject, is overtly situated in Spec WhP, and is licensed as an interrogative Wh element. The tree in (13) illustrates the proposed derivation for (11).

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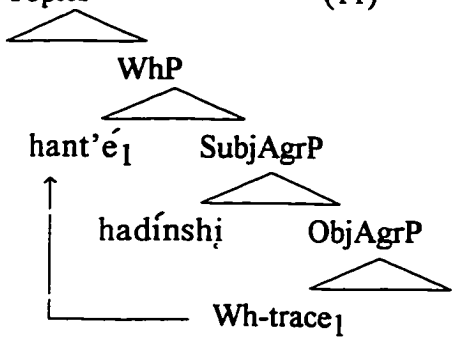
(13) TopicP =(11)



The exclusion of negatively and contrastively focused DP from Topic position is straightforward. Topics are characteristically referential, specific, and presuppositional (cf. Diesing 1990, Kiss 1994, Kiss 1995), but focused constituents are not presuppositional and need not be referential or specific. Moreover, I argued in sections 5.5.3 and 6.2 that focused constituents in Western Apache are associated with a Focus projection that is hierarchically below the Topic and Wh projections. The exclusion of *ha...shị* indefinites from Topic position is less obvious. Examples such as (14) suggest that these elements can be interpreted as referential and specific (see Section 3.1.2).

(14) Hadínshị kịh náágole'.
who.UNCERT house 3sg.imprf.build
Someone is building a house.
[Contexts: You come into a clearing and see a construction site for a house, nobody is around and you have no idea who is doing the building. OR
You come into the clearing and see a man in the process of building the house.]

Example (14) thus poses one challenge to the overt Wh movement analysis. H*a...shị* indefinites must be excluded from Topic position to explain the lack of an interrogative reading in examples such as (8). It is unclear, however, why these elements should be excluded as topics, particularly given the availability of specific readings. Below, I discuss several additional problems and or challenges faced by the overt movement analysis.

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7.3 Problems for the Obligatorily Overt Wh Movement Analysis

In Section 2.2.5, I tentatively rejected the analysis of Western Apache Wh movement as obligatorily overt due to both the derivational complexity required to explain all apparent instances of in situ Wh and the lack of independent evidence in support of overt topicalization. In this section, I discuss several additional issues which are problematic with respect to the overt movement analysis.

7.3.1 Operator-Variable Binding

Above, I noted that the overt Wh movement analysis provides a possible reanalysis of the operator-variable binding effects discussed in chapters 3 and 5. Evidence from multiple Wh questions, however, suggests that the blocking analysis of operator-variable binding developed in those chapters will have to be maintained within an obligatorily overt approach to Wh movement.

Example (15) indicates that even if one Wh phrase in a multiple Wh question must obligatorily surface in Spec WhP, additional Wh phrases in the sentence need not surface in Spec WhP (see Section 4.2). The two Wh phrases in (15) are separated by an intervening non-Wh DP constituent. Assuming one Wh phrase or the other is in Spec WhP, it is highly improbable that the other Wh phrase is as well.[1]

(15) Hadín ishkiin hant'é yaayiné' ?
who boy what 3sg.perf.give
Who gave the boy what ?

[1] Spec WhP must be restricted to +Wh or, more generally, +*ha* elements. If non-*ha*- DP are eligible for movement to Spec WhP there should be no difference in the distribution of Wh and non-Wh constituents in a clause. Non-Wh DP objects, for example, should be able to raise to Spec WhP across a non-Wh DP subject deriving OSV order parallel to the case with a raised Wh object. Such movement is not attested.

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Within an overt movement approach, the grammaticality of (15) possibly indicates that an in situ Wh phrase can be licensed as an interrogative element given the overt movement of another Wh phrase to Spec WhP. Example (16), however, suggests that such licensing is blocked by a negative operator intervening between the Wh phrase in Spec WhP and the in situ *ha-* word.

(16) Hadíń doo ishkiin hant'é yaayiné' da ?
who NEG boy what 3sg.perf.give NEG
i) Who didn't give THE BOY anything ?
ii) ?* Who didn't give THE BOY what ?

There are three approaches to (15) and (16) within an overt Wh movement analysis. First, the overt movement analysis could require that all Wh phrases in a multiple Wh question raise to Spec WhP to be licensed as interrogative elements. This entails that the *ha-* object is in Spec WhP in (15), where it receives an interrogative interpretation, but not in (16). For (15), this further requires that the Wh subject has raised to Spec WhP and then on to a Topic projection dominating WhP since both Wh phrases do not simultaneously occupy Spec WhP in this example. This significantly complicates the overt Wh movement analysis, however, and there is no independent evidence that the Wh subject in (15) has topicalized.

Second, the overt Wh movement analysis could require that all *ha-* words must undergo some movement to receive an interrogative Wh interpretation, but that only one *ha-* word in a multiple Wh question must raise all the way to Spec WhP. The Wh subject in (15) satisfies the featural requirement that induces overt Wh movement to Spec WhP, and the *ha-* object is interpreted as an interrogative Wh phrase only if it has scrambled

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out of its Case/Agreement projection.[2] Crucially, such scrambling must be to a position above the highest position a negatively focused DP can reach as the *ha-* object following the negative indirect object in (16) cannot be interpreted as an interrogative Wh word.[3] I will consider this possibility further in the discussion below.

Alternatively, the obligatorily overt Wh movement analysis must adopt the analysis proposed in chapters 3 through 5 in which an intervening operator such as the negative particle *doo* in (16) blocks the binding relationship between the Wh operator in WhP and a *ha-* word. The proposed operator-variable analysis, however, can account for the interpretation and distribution of the *ha-* words without the additional requirements of obligatorily overt Wh movement and the massive topicalization it entails.

7.3.2 Residual Cases of Partial and Optional Wh Movement

I also noted above that the overt Wh movement analysis provides an analysis of the surface distribution of Wh objects in ditransitive examples such as (3) that does not require optional or partial Wh movement. In particular, the analysis holds that a Wh object in a position intermediate between overt subject and indirect object DP is in Spec WhP with overt topicalization of the subject (3c). Examples such as (17) and (18) challenge this analysis. In (17), the Wh object is in its 'partially raised' position, but is apparently not in Spec WhP. A non-Wh constituent intervenes between the Wh object and a hierarchically superior Wh subject.

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[2] Dominique Sportiche (personal communication) suggests that Wh objects in Dutch may require clause internal scrambling to be interpreted as interrogative elements.

[3] The scrambled Wh position must also be above the highest positions a focused DP (9) or a *ha..shị* indefinite (8) may reach.

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(17) WhP ?? ObjAgrP
Hadíń adąądą́' hant'é$_i$ ishkiin t$_i$ yaayiné' ?
who yesterday what$_i$ boy wh-trace$_i$ 3sg.perf.give
Who gave the boy what yesterday ?

Again, an overt Wh movement analysis will require either that the Wh object in (17) is in Spec WhP and the Wh subject has topicalized, or that the Wh object is in a scrambled position below WhP. Example (18) suggests, however, that such scrambling is itself optional as the Wh object is not required to precede the indirect object DP.

(18) Hadíń adąądą́' ishkiin hant'é yaayiné' ?
who yesterday boy what 3sg.perf.give
Who gave the boy what yesterday ?

Nevertheless, the overt movement analysis can be maintained if the variation between (17) and (18) is analyzed with respect to the position of the indirect object DP *ishkiin* rather than the position of the Wh object. Specifically, (18) could be derived from (17) within the overt Wh movement approach by topicalization of the indirect object past the scrambled position of the Wh object.

Examples (19) and (20) are more problematic for the overt Wh movement analysis. In (19) and (20), an embedded *ha-* object is in a position following negated and indefinite matrix subjects. Within the overt movement analysis, the negated and indefinite DP in these examples are not topicalized and the embedded *ha-* object cannot be overtly situated in Spec WhP. The lack of an interrogative interpretation for the *ha-* object follows from its failure to surface in Spec WhP (see Section 3.4).

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(19) Doo isdzan hant'é$_i$ ishkiin t$_i$ nayisniih go ṇ́zịh da.[4]
NEG woman what boy wh-trace 3sg.perf.buy N-FACT 3sg.imprf.think NEG
i) THE WOMAN doesn't think the boy bought anything/something.
ii) *What doesn't THE WOMAN think the boy bought ?

(20) Hadínshị hant'é$_i$ ishkiin t$_i$ nayisniih go ṇ́zịh.
who.UNCERT what boy wh-trace 3sg.perf.buy N-FACT 3sg.imprf.think
i) Someone thinks the boy bought something.
ii) *What does someone think the boy bought ?
[Contexts for (i): 'His mom' thinks he bought something. OR You believe the boy has not bought anything in a particular store, but you see a list of people who have bought something and the boys name is on the list.]

The problem with (19) and (20) is the position of the *ha-* words. The *ha-* words in these examples are not in situ,[5] but are not +Wh elements subject to obligatory movement to Spec WhP or clause internal scrambling. This poses a challenge to the Wh scrambling analysis of examples (15) - (18) required by the obligatorily overt approach to Wh movement. If the preposed position of the *ha-* objects in those examples is required because *ha-* words must scramble to be licensed as interrogative elements, why do the non-interrogative *ha-* words in (19) and (20) prepose? To salvage the overt movement analysis, it must be maintained that *all ha-* words in Western Apache must undergo obligatory clause internal scrambling but only *ha-* words interpreted as interrogatives

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[4] The embedded *ha-* objects can overtly raise to Spec WhP and be licensed as interrogative Wh elements.

(i) Hant'é$_i$ [doo isdzan [ishkiin t$_i$ nayisniih go] ṇ́zịh da] ?
what [NEG woman [boy wh-trace 3sg.perf.buy N-FACT] 3sg.imprf.think NEG]
What doesn't THE WOMAN think the boy bought ?

[5] The *ha-* objects in these examples may surface in situ (Section 3.4.4).

(i) Doo isdzan ishkiin hant'é nayisniih go ṇ́zịh da.
NEG woman boy what 3sg.perf.buy N-FACT 3sg.imprf.think NEG
i) THE WOMAN doesn't think the boy bought anything/something.
ii) *What doesn't THE WOMAN think the boy bought ?

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must obligatorily raise to Spec WhP.[6] I will not develop this analysis herein, however, as the examples discussed below pose a much more serious challenge to the overt Wh movement approach in general.

7.3.3 The Interpretation of Non-Wh Arguments

Crucial to the overt Wh movement analysis of Western Apache is the requirement that overt DP preceding a *ha-* word interpreted as a Wh interrogative are topicalized. Non-interrogative interpretations of a *ha-* word following a negated, focused, or indefinite DP follow from the inability of these elements to serve as topics. The examples in (21) raise a serious challenge to this approach. The embedded *ha-* objects in (21) are not sentence initial and are not interpreted as interrogative Wh elements.

(21a) John Earl hant'é yizkah híí ńzı̨h.
John Earl what 3sg.perf.shoot FACT 3sg.imprf.think
John thinks Earl shot something.
[Statement only.]

(21b) John hant'é$_i$ Earl t$_i$ yizkah híí ńzı̨h.
John what Earl wh-trace 3sg.perf.shoot FACT 3sg.imprf.think
John thinks Earl shot something.
[Statement only.]

As demonstrated in (21c), the embedded *ha-* object is interpreted as an interrogative Wh element if it overtly surfaces in sentence initial position.

---

[6] One version of a strict overt movement analysis would require that *ha...shı̨* indefinites must raise to Spec WhP. As non-interrogative elements, these indefinites are incompatible with an interrogative Wh operator, and clauses with *ha...shı̨* indefinites in Spec WhP are necessarily non-interrogative. This provides a possible explanation for the lack of an interrogative reading for the *ha-* object in (8).

(i) Hant'éshı̨$_1$ hastiin isdzan t$_1$ náágolaa go ṇyígołsı̨h.
what.UNCERT old.man woman wh-trace 3sg.perf.build N-FACT 3sg.imprf.know
The old man knows that the woman built something.

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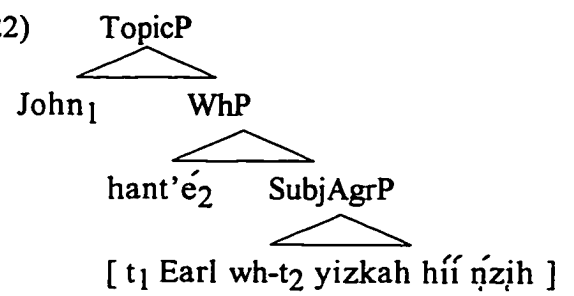
(21c) Hant'é$_i$ John Earl t$_i$ yizkah híí ńzı̨h ?
what John Earl wh-trace 3sg.perf.shoot FACT 3sg.imprf.think
What does John think Earl shot ?
[Ok only as a question.]

In Section 6.2, I provided an analysis of these examples based on optional overt movement of the *ha-* object and obligatory LF movement of the factive subordinate clause. It is unclear, however, how the overt Wh movement analysis can account for this paradigm. Since overt extraction of a *ha-* object from a factive complement is possible (21c), example (21b) should be at least optionally interpreted as a Wh question. Specifically, (21b) should have as a possible derivation overt movement of the embedded *ha-* object to Spec WhP with topicalization of the matrix subject 'John' to TopicP.

(22)



In contrast to negated, focused, or indefinite arguments, it cannot be claimed that names cannot topicalize. In reference to a particular individual, names are necessarily referential and specific. Moreover, topicalization of names is independently required in an overt Wh movement analysis to explain the surface distribution of Wh objects in examples such as (23) and (24).

(23) John hant'é Earl yizkah go ńzı̨h ?
John what Earl 3sg.perf.shoot N-FACT 3sg.imprf.think
What does John think Earl shot ?

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(24) John hant'é náágole' ?
John what 3sg.imprf.build
What is John building ?

The fact that the overt Wh movement analysis must preclude topicalization of the subject 'John' in (21b) seriously questions whether overt DP topicalization is ever possible in Western Apache. Without such topicalization, however, the overt movement analysis cannot be maintained.

If topicalized DP must be referential and specific, the possible interpretations of DP preceding Wh phrases are not always consistent with topicalization. The subject and indirect object DP in (25a) and (25b) can be translated with either the definite determiner 'the' or the indefinite determiner 'a'. All combinations of 'the/a' on subject and indirect object are possible.[7]

(25a) Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
What did the/a woman give to the/a boy ?
[Could be 'some woman or other' or 'some boy or other', we don't have to know who.]

(25b) Hant'é$_1$ isdzan ishkiin t$_1$ yaayiné' ?
what woman boy wh-trace 3sg.perf.give
What did the/a woman give to the/a boy ?

Moreover, the speaker comment for (25a) indicates that the subject and indirect object arguments can be interpreted as non-specific. If non-specific indefinites cannot serve as topics and do not overtly raise to TopicP, the presence of these arguments in positions preceding a *ha-* word interpreted as an interrogative Wh element is problematic for the

[7] Mr. Dawson suggests that there is no difference in possible interpretations between (25a) and (25b).

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overt movement analysis. The subject and indirect object arguments in (25a), on their non-specific interpretations, are not topicalized and necessarily surface in a position below the Topic projections and WhP. This entails that the Wh object, in a position below the overt positions of the subject and indirect object, is not overtly situated in Spec WhP as required by the overt movement analysis.

The availability of a non-specific interpretation for the indirect object in (26), in a position preceding and hierarchically superior to a Wh object, poses a similar problem for the overt Wh movement analysis.

(26) Inee [łá' isdzan] hant'é yaayiné' doleeł ?
man [some woman] what 3sg.perf.give FUT
What will the man give to some woman ?
[Possible contexts: At a giveaway, speaker inquires as to what the man will give to some woman or other, but speaker and man may have no idea who in particular, it may not be decided until later. OR Man may know who will receive acorn.]

7.4 Summary Discussion

The discussion above demonstrates several respects in which the obligatorily overt Wh movement analysis might be modified and implemented in an analysis of certain syntactic phenomena discussed in chapters 2 through 6. To account for the full distribution of interrogative and non-interrogative *ha-* words in Western Apache, the overt movement analysis requires complex derivations involving massive topicalization (Section 2.2) and clause internal *ha-* word scrambling (see above). The benefit of such an approach is the Minimalist compatible elimination of optional Wh movement from the grammar of Western Apache. The optional Wh movement analysis, on the other hand,

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does not require the substantial derivational complexity present with the obligatorily overt approach.

Ultimately, the choice between these analyses is a question of whether there is evidence for or against the overt DP topicalization required by the obligatorily overt approach to Wh movement. In this respect, the examples discussed above and in Section 2.2 suggest DP arguments do not overtly topicalize in Western Apache. Assuming an overt movement analysis, the examples discussed in Section 2.2 indicate that DP arguments cannot topicalize over hierarchically superior Wh arguments although Wh arguments do not prohibit DP topicalization in general and can themselves move to Spec WhP across hierarchically superior non-Wh DP. The examples discussed in Section 2.2 follow straightforwardly, however, in an analysis in which there is no overt topicalization, and optional Wh movement is the only operation that can overtly alter the linear ordering of arguments in a clause. More critically, the examples in (25) and (26) indicate that non-specific DP arguments may overtly precede Wh phrases in a Western Apache sentence. Within an overt movement analysis, these constituents must be topicalized. Topic DP, however, are necessarily referential and specific. Finally, the examples discussed in (21) - (24) lead to an apparent contradiction for the overt Wh movement analysis. Within an overt movement analysis, the absence of an interrogative reading for (21b) forces the conclusion that the matrix subject 'John' cannot topicalize. This is itself problematic as names are referential and specific and qualify as topics. Moreover, the overt movement analysis requires that names do topicalize to explain the presence of interrogative readings in (23) and (24).

In summary, there is no evidence to support, and several arguments against, the presence of overt DP topicalization in Western Apache. As such topicalization is

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required by the obligatorily overt analysis of Wh movement, that approach must be rejected in favor of an analysis of Wh movement as optional. In many cases, Wh movement is motivated for purposes of establishing an operator-variable binding relationship between a *ha-* word, as variable, and a +Wh operator in WhP.[8] In cases where a *ha-* word may be licensed in situ by the +Wh operator, the application of Wh movement may in principle correlate with variation in the scope of the *ha-* word as variable. Such interpretational variation, however, is not indicated by speaker judgments and translations for the sentences considered in this dissertation. The motivation for truly optional Wh movement in Western Apache is left as a matter for future research.

[8] In cases, for example, where a negative or uncertainty operator intervenes between the *ha-* word and the +Wh operator in WhP.

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CHAPTER 8

WESTERN APACHE AND THE PRONOMINAL ARGUMENT HYPOTHESIS

The preceding chapters argue for an analysis of the Western Apache clause in which overt nominal arguments are generated in VP internal thematically licensed positions, overtly raise to Case/Agreement projections, and are potentially subject to overt and covert A' movement operations. From a general perspective, the proposed analysis constitutes a typical approach to syntax within the Principles and Parameters (Chomsky & Lasnik 1995) and/or Minimalist (Chomsky 1995) traditions. Moreover, while the unique properties of Western Apache grammar are of significance in the further development of syntactic theory, the proposed analysis does not entail that the language is in any sense fundamentally distinct from languages such as English which are more frequently the topic of linguistic investigation. Nevertheless, it has been proposed elsewhere that the syntax of Navajo, a close linguistic relative of Western Apache, is fundamentally distinct from the syntax of languages such as English. Building on a proposal in Jelinek (1984), numerous works have argued that overt nominal arguments in Navajo are not generated in clause internal thematic or Case/Agreement positions, but as adjuncts to a clause coindexed with pronominal arguments in those positions.

In this chapter, I briefly summarize the literature pertaining to the analysis of overt nominal arguments as adjuncts in Navajo. This approach to clause structure, referred to as the 'Pronominal Argument Hypothesis' (PAH), has also been adopted in the analyses of numerous other languages and is largely incorporated into Baker's (1996) 'Polysynthesis Parameter'. I summarize these additional works as relevant to the discussion. Given this background, I reconsider the analysis of Western Apache clause

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structure. While I demonstrate that Western Apache exhibits several properties argued to be characteristic of Pronominal Argument languages, I argue that the various syntactic phenomena discussed in chapters 2 - 7 are inconsistent with a Pronominal Argument analysis. I conclude that Western Apache is not a Pronominal Argument language, and that the apparent Pronominal Argument characteristics of Western Apache cannot be diagnostic of Pronominal Argument status. I discuss the implications for the PAH and Polysynthesis Parameter as aspects of Universal Grammar.

8.1 The Pronominal Argument Hypothesis

In a series of papers on the non-configurational properties of Warlpiri (a Pama-Nyungan language spoken in Central Australia), Hale (1981, 1982, 1983) proposed that a cluster of syntactic characteristics common to non-configurational languages follow from a configurationality parameter. The properties Hale considered characteristic of non-configurational languages include free word order, optional overt nominal arguments, and discontinuous expressions. Example (1) demonstrates a discontinuous expression in Warlpiri. The object nominal 'kangaroo' is non-adjacent to its demonstrative 'that'.

(1) Wawirri kapi-rna panti-rni yalumpu. [Warlpiri, Hale 1983:6]
kangaroo AUX spear-NONPAST that
I will spear that kangaroo.

Jelinek (1984) adopted Hale's position on the existence of a configurationality parameter, but rejected his specific theoretical approach to that parameter.[1] Jelinek proposed instead a configurationality parameter which entails that overt nominals in non-

[1] Hale (1983) proposed that the Projection Principle (Chomsky 1981, 1982) does not apply at phrase Structure in non-configurational languages. Jelinek's approach maintains the Projection Principle as a property of UG. Hale (1991) also adopts a Pronominal Argument approach for the analysis of Warlpiri.

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configurational languages are not realized as arguments but as adjuncts linked to pronominal arguments. This approach explains the optionality of overt nominals since the argument structure of a verb is satisfied independently of any overt nominals. Similarly, free word order follows from the analysis as the overt nominal adjuncts do not surface in fixed argument positions within the clause. Finally, the discontinuous expression in (1) is explained given the empirically justified assumption that the demonstrative can stand on its own as a constituent.[2] As nothing prohibits the association of more than one nominal adjunct with a single pronominal argument, both 'that' and 'kangaroo' in (1) can be associated with the hypothesized pronominal object.

With respect to Navajo,[3] PAH analyses are motivated in Sandoval & Jelinek (1989), Willie (1989, 1991), and Jelinek (1990, 1991, 1995b, 1996).[4] The basic Pronominal Argument structure for a Navajo transitive clause (2a) is illustrated in (2b). The clausal projection below the adjoined DP is identified as the Maximal Verb Sentence (MVS) following Willie (1991).

(2a) 'ashkii łíí' yiztał. [Navajo - Jelinek 1996:9]
boy horse 3ACC-3NOM-kicked DIRECT
TOP-ADJ FOCUS Focus-Topic V
(As for) the boy, he kicked [the horse]$_F$.

---

[2] The demonstratives can occur without overt associated nominals, i.e., 'that' qualifies as a full DP.

[3] PAH analyses have been pursued for numerous languages including, but not limited to, Lummi, Choctaw, Chickasaw, Kiowa, Yaqui, Nishga (Jelinek 1988, 1990, 1995a), Mohawk (Baker 1991), Cherokee (Beghelli 1996), and Cree (Reinholtz 1997, Russell & Reinholtz 1996, Reinholtz & Russell 1995). In related work, Baker (1996) analyzes overt nominals as adjuncts in each of the Northern Iroquoian languages, as well as in Tuscarora, Wichita, Kiowa, Southern Tiwa, Huauhtla Nahuatl, Chukchee, Classical Ainu, and the Gunwinjguan languages of Northern Australia.

[4] Hale (1983) discusses Navajo as a non-configurational language.

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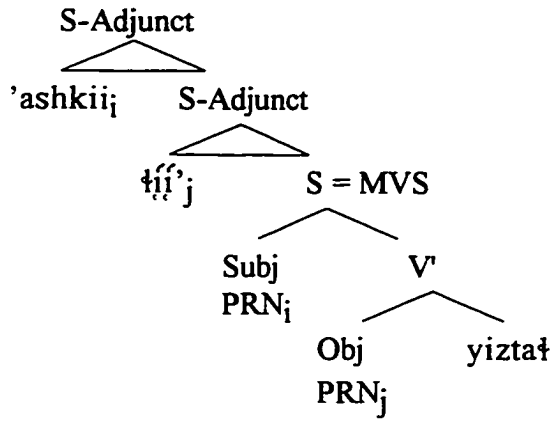
(2b)



Note that the structure I have provided in (2b) abstracts away from three variable aspects of PAH analyses that are not directly relevant to the present discussion. First, I have placed the subject argument position hierarchically above the object argument position. While such hierarchical ordering is cross-linguistically typical, Jelinek & Willie (1995) propose that the subject position is below the object position in Navajo. The motivation for this ordering follows in part from the linear ordering of morphemes within the Navajo verb stem. As in Western Apache (Section 1.5), the Navajo subject morpheme surfaces closer to the verb root than does the object morpheme. I will reconsider Jelinek & Willie's proposal in Section 8.3.2. Second, I have arbitrarily labeled the pronominal arguments in (2b) as PRN. This labeling is neutral with respect to the analysis of the arguments as subject and object pronouns which are incorporated into the verb stem (Willie 1991, Jelinek 1995b) or as null pronouns distinct from the verbal agreement morphology. Baker (1991, 1996) pursues the latter possibility. In particular, Baker's (1996) 'Polysynthesis Parameter' holds that in certain languages theta assignment by a verb to an argument cannot be direct and must be mediated by an agreement morpheme or incorporated root within the verb stem. These mediating elements, however, absorb the Case that the verb might otherwise assign to its arguments. As overt nominal arguments require Case to be interpreted, they are excluded from argument

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positions and can only surface as adjuncts.[5] Only elements that do not overtly require Case, such as complement clauses, Wh traces, and pro, can surface in argument positions.[6] Finally, (2b) does not identify either adjunct nominal as a topic or focused constituent. Jelinek (1995b, 1996) proposes that Navajo adjunct nominals are realized as topic and focus adjuncts. In a transitive clause with two overt 3rd person arguments, the initial nominal is the topic and the nominal closest to the verb is focused. The English translation in (2a), provided by Jelinek, is consistent with this analysis. Sections 5.1 through 5.3, however, demonstrated that the Western Apache focus particle *-go* and referential/topic particle *-hií* can surface on either subject or object in an SOV clause, and can cooccur with no restrictions on the relative ordering of *-go* and *-hií* DP. Overt DP in Western Apache thus cannot be rigidly assigned topic or focus status on the basis of overt linear ordering. Beyond these three variations in PAH analyses, what is consistent in the various possible instantiations of (2b) is that the overt nominal arguments are generated in adjunct positions. The discussion below focuses on the motivation for and consequences of this crucial aspect of Pronominal Argument analyses.

Within the Pronominal Argument literature, several syntactic properties beyond optional overt nominals, free word order, and discontinuous constituents have been identified as characteristic of Pronominal Argument languages. These properties are argued to follow from an analysis of overt nominals as adjuncts and, in turn, are taken as evidence in support of the Pronominal Argument approach. As I demonstrate below,

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[5] Baker does not consider Navajo truly 'Polysynthetic', but leaves open the possibility that Navajo nominals surface only as adjuncts. Navajo lacks productive noun incorporation, a property Baker suggests is a definitional requirement for Polysynthetic languages.

[6] Baker (1991) argues that Wh traces and pro do not need Case to be interpreted at PF because, as phonologically null elements, they are not interpreted at PF. Baker proposes that the Case absorbing agreement morphemes are deleted at LF, the level at which Wh traces must be interpreted.

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Navajo and Western Apache exhibit several of these properties. One characteristic of Pronominal Argument languages that Navajo and Western Apache fail to display, however, is free word order. I will not discuss this property further, but proponents of a PAH analysis of Navajo recognize that rules of construal are required to link overt nominal adjuncts to pronominal arguments in a manner which yields fixed word order (cf. Willie 1991, Sandoval & Jelinek 1989, Jelinek 1996).[7]

8.2 Support for a Pronominal Argument Analysis of Western Apache

Navajo exhibits several properties characteristic of Pronominal Argument languages. Navajo syntax is marked by the presence of rich agreement morphology, optional overt nominal arguments, discontinuous constituents, and internally headed relative clauses. Navajo syntax also fails to display certain expected Condition C effects and lacks universal and negative quantifiers.[8] In this section, I briefly cite the relevant PAH literature pertaining to each of these properties and demonstrate that the properties also hold in Western Apache syntax. As my intent is not to argue the merit of each individual property as evidence for a Pronominal Argument analysis, the discussion is kept to a minimum. In Section 8.3, however, I reconsider the key Western Apache data presented in chapters 2 through 7 and argue that the given paradigms are inconsistent with a Pronominal Argument approach.

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[7] As noted in Section 1.6, Navajo and Western Apache word order is strict (S)O-*yi*-V and (O)S-*bi*-V. There is a substantial literature which suggests that grammatical roles of overt arguments in Navajo are determined by interpretational rules sensitive to *yi*-/*bi*- verbal morphology (cf. Platero 1974, 1978, 1982, Perkins 1978, Speas 1990a).

[8] Several additional language independent characteristics relevant to Pronominal Argument analyses are the applicability of Huang's (1982) Condition on Extraction Domains (Baker 1991, 1996, Hale 1996, Hale & Platero 1996), the presence or absence of particular Weak Cross Over effects (Baker 1991, 1996, Speas 1993), and the availability of determiner quantification (Jelinek 1995a, 1995b, Baker 1996).

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8.2.1 Rich Subject & Object Agreement

A common characteristic of languages argued to exhibit Pronominal Argument structure in Baker (1996) and in works stemming from Jelinek (1984) is the presence of full agreement paradigms for both subject and object. Such morphology is in fact crucial to the Pronominal Argument analysis. For Baker, the agreement morphemes absorb the Case that would otherwise license overt nominals in argument position. For Jelinek, the subject and object morphology receives the theta roles that would otherwise license overt nominals in argument position. Navajo exhibits rich verbal morphology for subjects and objects (cf. Young 1995, Young & Morgan 1987, 1992, Kari 1976, Hoijer 1945 - 1949). Proponents of a PAH analysis of Navajo argue that the pronominal prefixes for subject and object are the true arguments of the verb (cf. Willie 1989).

Section 1.5 demonstrated that Western Apache also has rich verbal agreement morphology for subject and object arguments. The grammar marks 1st, 2nd, 3rd, and 4th persons, singular, dual, and plural number, indefinites, reflexives, and abstract arguments referring to space, time, and ideas. The examples in (3) demonstrate 1st singular and 2nd singular subject and object morphology.

(3a) Nistsé̓h.
ni(2sgObj)+sh(1sgSubj)+ł(Cl)+tsé̓h(imprf.see)
I will see you.

(3b) Shinłtsé̓h.
shi(1sgObj)+n(2sgSubj)+ł(Cl)+tsé̓h(imprf.see)
You will see me.

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8.2.2 Optional Overt DP

Another common characteristic of Pronominal Argument languages is that overt nominal arguments are optional. Following Jelinek (1984), this property holds because the overt nominals are actually adjuncts coindexed with pronominal arguments. The argument structure of a verb is satisfied by the pronominal arguments regardless of the presence or absence of overt nominals. The optionality of overt nominals in Navajo is noted consistently in the PAH literature (cf. Willie 1989, 1991) and is taken as evidence in favor of an analysis of the verbal pronominal prefixes as the true arguments of a verb.

The examples in (4) demonstrate that overt subject and object nominals are optional in Western Apache.

(4a) Hastiin magashi náyínł'ah.
old-man cow 3sg.imprf.butcher
The old man is butchering a cow.

(4b) Magashi náyínł'ah.[9]
cow 3sg.imprf.butcher
He is butchering a cow.

(4c) Náyínł'ah.
3sg.imprf.butcher
He is butchering it.

8.2.3 Discontinuous Constituents

Discontinuous constituents are another common property of Pronominal Argument languages. As noted above, this property follows from the analysis of overt

[9] As noted in Section 1.6.6, Western Apache transitive clauses with *yi-* morphology are (S)O-*yi*-V.

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nominals as adjuncts with no restriction on the number of adjuncts that may be coindexed with a given pronominal argument (Jelinek 1984). Both Navajo and Western Apache exhibit discontinuous constituents. Parallel Navajo examples to the Western Apache sentences in (5) - (7) are given in Speas (1993, 1995).

The examples in (5) demonstrate that a possessor and possessed nominal in Western Apache may be non-adjacent.

(5a) *Joe biye'* San Carlos yú na'iziid.
Joe 3rd.son San Carlos LOC 3sg.imprf.work
Joe's son works in San Carlos.

(5b) *Joe* San Carlos yú *biye'* na'iziid.
Joe San Carlos LOC 3rd.son 3sg.imprf.work
Joe's son works in San Carlos.

The examples in (6) demonstrate that a postposition and its object may be non-adjacent.

(6a) Joe Washington yú *beśu yiqhą* na'iziid.
Joe Washington LOC money 3rd.for 3sg.imprf.work
Joe works for money in Washington.

(6b) Joe *beśu* Washington yú *yiqhą* na'iziid.
Joe money Washington LOC 3rd.for 3sg.imprf.work
Joe works for money in Washington.

Finally, the examples in (7) demonstrate that a quantifier and its associated nominal may be non-adjacent.

(7a) *Isdzané łą'* Bylas yú nada'iziid.
women some Bylas LOC 3pl.imprf.work
Some of the women work in Bylas.

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(7b) *Isdzané* Bylas yú *łá'* nada'iziid.
women Bylas LOC some 3pl.imprf.work
Some of the women work in Bylas.

Speas (1993, 1995) questions the relevance of discontinuous constituents to Pronominal Argument structure. Speas notes first that adjoined constituents in English cannot be discontinuous (8), so it is not specifically an element's adjoined status that permits a discontinuous structure.

(8) . *John's yesterday sister, she woke up late. [Speas 1995:6]

Second, Speas notes that Navajo discontinuous constituents are restricted in the order that the non-adjacent parts may occur in. This restriction does not follow from the Pronominal Argument analysis. The Western Apache examples below, parallel to Navajo examples provided by Speas, demonstrate that a possessed nominal may not precede its non-adjacent possessor (9a), a postposition may not precede its non-adjacent object (9b), and a quantifier may not precede a non-adjacent nominal with which it is associated (9c).

(9a) * *Biye'* San Carlos yú *Joe* na'iziid.
3rd.son San Carlos LOC Joe 3sg.imprf.work
Joe's son works in San Carlos.

(9b) * Joe *yiqhą* Washington yú *bésu* na'iziid.
Joe 3rd.for Washington LOC money 3sg.imprf.work
Joe works for money in Washington.

(9c) ?* *łá'* Bylas yú *isdzané* nada'iziid.
some Bylas LOC women 3pl.imprf.work
Some of the women work in Bylas.

In addition, while Baker (1991) cites discontinuous constituents as evidence in support of an analysis of overt nominals as adjuncts in Mohawk, Baker (1996) notes that

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there is too much cross-linguistic variation in discontinuous constructions to conclude this property follows from a configurationality parameter.

8.2.4 Internally Headed Relative Clauses

Jelinek (1990) discusses the presence of relative clauses with no clause external lexical head in several languages, including Navajo, which she classifies as Pronominal Argument. Jelinek proposes that the presence of 'headless' relatives in languages which do not require overt lexical arguments is not a coincidence and argues that the relative clauses are headed by pronominal arguments which are incorporated into a relativizing affix in a fashion parallel to the incorporation of the pronominal arguments of a verb into the verb stem (see also Willie 1989). Baker (1996) also discusses the presence of internally headed relative clauses in languages with null pronominal arguments. For such cases, Baker proposes that a relative clause surfaces as an adjunct CP with its relative operator coindexed with the null pronominal argument the relative clause modifies.[10]

Internally headed relative clauses are present in Western Apache. The relative clause in (10) begins with the adverb 'yesterday' which cannot be analyzed as a constituent in the future tense matrix clause. As the overt subject and object nominals in the relative clause follow this adverb, they are necessarily internal to the relative construction itself.

(10) [Adąądą́' ishkiin nailín yizts'oos ihíí] yiłtsé̓h doleeł.
[yesterday boy girl 3sg.perf.kiss REL] 3sg.imprf.see FUT
i) He/She will see the girl that the boy kissed yesterday.
ii) He/She will see the boy that kissed the girl yesterday.

[10] Baker (1996: 162-176) provides an analysis of verbal constructions used as nominals in Mohawk, with additional discussion of corresponding constructions in several other Polysynthetic languages.

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8.2.5 Lack of Condition C Effects

Another common property of Pronominal Argument languages which has been argued to follow from and support an analysis of overt nominals as adjuncts is the lack of certain expected Condition C effects (cf. Jelinek 1991, 1996, Hale 1991, Baker 1991, 1996).[11] Condition C of the Binding Theory (Chomsky 1981) prohibits coreference between an overt nominal and a c-commanding element. If overt nominals in Western Apache surface in argument positions, however, the examples in (11) and (12), with acceptable interpretations (11i) and (12i), violate Condition C.

(11) [Adąądą́' ishkiin nailín yizts'oos ihíí] yiłtsé̓h doleeł.
PRN$_{i,j}$ [yesterday boy$_i$ girl 3sg.perf.kiss REL] 3sg.imprf.see FUT
i) He$_i$ will see the girl that the boy$_i$ kissed yesterday.
ii) He$_i$ will see the girl that the boy$_j$ kissed yesterday.

(12) [Dąwą́ Betty bichąghąshę́] yo'ii'.
PRN$_{i,j}$ [all Betty$_i$ 3rd.children] 3sg.perf.see
i) She$_i$ saw all of Betty's$_i$ children.
ii) She$_j$ saw all of Betty's$_i$ children.

Interpretations (11i) and (12i) entail that a nominal expression internal to the matrix object, in argument position, is coreferential with a c-commanding matrix subject PRN.[12] Such coreference is prohibited by Condition C, and (11i) and (12i) are incorrectly predicted to be ungrammatical.

---

[11] See also Hale (1983).

[12] The significance of examples such as (11) in Navajo is first discussed in Platero (1974) and Hale & Perkins (1976). Parallel Navajo examples to (11) and (12) are given in Speas (1993, 1995).

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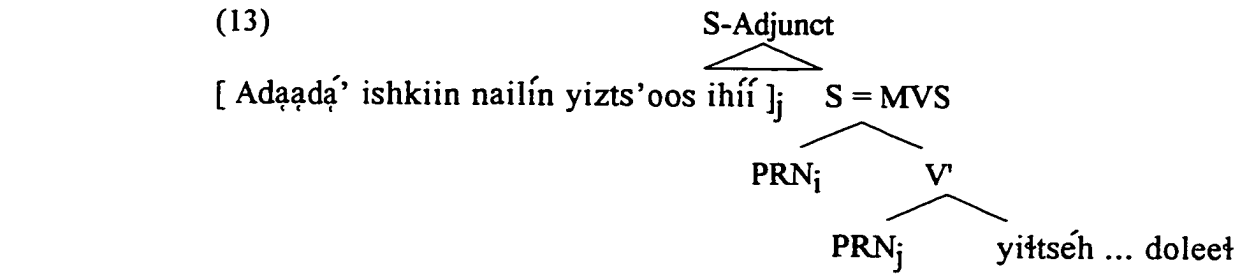
Within a Pronominal Argument analysis, however, the overt object nominals in (11) and (12) are generated as adjuncts and are not c-commanded by the PRN subject in argument position. (13) illustrates the Pronominal Argument analysis for (11).[13]

(13)



Speas (1993, 1995), Hale (1996), and Hale & Platero (1996) challenge the relevance of the PAH to Navajo examples parallel in form and interpretation to (11) and (12). In brief, Speas notes that with respect to Condition C of the binding theory, A' dislocated elements are cross-linguistically interpreted as if reconstructed to their associated argument positions (see also Reinhart 1983). Speas provides independent evidence that reconstruction of overt Navajo nominals must be possible if those nominals do surface in A' (adjunct) positions[14] and concludes that A' positioning of nominals will not in and of itself explain any lack of Condition C effects. Hale and Hale & Platero argue that Condition C is active in Navajo, as expected within a non-Pronominal Argument approach, but can be overridden by particular parsing strategies in clauses with

[13] The diagram in (13) does not address the issue of the overt position of the future marker *doleeł*.

[14] Speas argues that a Navajo overt A' position object containing reflexive morphology bound by a pronominal subject in argument position must reconstruct to a position c-commanded by that subject to satisfy Condition A of the binding theory (cf. Chomsky 1981).

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all third person arguments. When such parsing strategies are inapplicable, Condition C effects resurface.[15]

8.2.6 Absence of Non-referential Quantified NPs

One final characteristic of Navajo and Western Apache typical of Pronominal Argument languages is the absence of non-referential quantified expressions. In particular, Navajo and Western Apache do not have words corresponding to universal and negative elements such as English 'everyone', 'everything', 'no one', and 'nothing'. Baker (1995, 1996) argues that these elements must bind a variable to be interpreted, but are precluded from doing so in a Pronominal Argument language due to their generation in adjunct position. Such quantified expressions are thus predicted not to occur in languages in which overt nominals are necessarily generated as adjuncts.[16] Baker's argument will be discussed in detail in Section 8.3.1.

Western Apache does not have words corresponding to negative quantificational elements such as 'no one' and 'nothing'. As discussed in Section 3.2, Western Apache expresses the equivalent of such elements using *ha-* constructions in which the *ha-* word is within the domain of the negative particle *doo*.

---

[15] There is a strong tendency in Navajo to interpret null third person arguments in one clause as coreferential with overt third person arguments with the same grammatical role in another clause within the same sentence. I refer the reader to the cited references (cf. Platero 1974, 1978, 1982, Perkins 1978, Speas 1990a).

[16] Wh phrases must also bind A-position variables but are present in Pronominal Argument languages. Baker (1996) suggests the +Wh feature in CP forces overt movement of a Wh phrase out of argument position, but no equivalent motivation exists to force overt movement of a quantified expression. A quantified expression in argument position will not be assigned Case by PF.

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(14a) Doo hadín naljeeh niɬ ch'ígon'ą́ą́ da.
NEG who 3sg.imprf.hunt 2sg.to 3sg.perf.teach NEG
No one taught you how to hunt.

(14b) Doo hant'é yiɬ ch'ídaagon'aaɬ da.
NEG what 3sg.to 3pl.fut.teach NEG
They (2+) won't teach him anything.
They (2+) will teach him nothing.

Western Apache also lacks a universal quantifier equivalent to English 'every'. Western Apache speakers translate English sentences with 'every' using the word *dąwą́* 'all' (15).

(15) Dąwą́ ishikín ma' dayo'ii'.
all boys coyote 3pl.perf.see
All of the boys saw the coyote.

As its English gloss suggests, however, this word is equivalent to English 'all'. The phrase *dąwą́ ishikín* 'all of the boys' does not necessarily constitute a non-referential quantified expression as it can refer directly to a set of individuals without quantifier-variable binding. In fact, *dąwą́* is ungrammatical if it does not apply to a set. Examples (16a) and (16b), with *dąwą́* modifying the singular nominal ishkiin 'boy', are ungrammatical with or without the distributive-plural marker *da-* present on the verb stem.

(16a) * Dąwą́ ishkiin ma' dayo'ii'.
all boy coyote 3pl.perf.see
Every boy saw the/a coyote.

(16b) * Dąwą́ ishkiin ma' yo'ii'.
all boy coyote 3sg.perf.see
Every boy saw the/a coyote.

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Speas & Yazzie (1996) provide an alternative, non-Pronominal Argument explanation for the lack of these quantificational elements in Navajo based on the Navajo system of number agreement as expressed in the verb stem. Speas & Yazzie argue that a universal quantifier induces what they term 'thematic' plurality in the Navajo verb and is thus incompatible with an interpretation as English 'every' which necessarily requires singular agreement in its use as a non-referential quantifier. Speas & Yazzie provide a related explanation for the absence of true negative quantifiers.

8.3 Evidence Against a Pronominal Argument Analysis of Western Apache

Although Western Apache exhibits several properties argued to be characteristic of Pronominal Argument languages, many of the syntactic phenomena discussed in this dissertation argue against the generation of overt nominals as adjuncts to the clause. In this section, I briefly review these phenomena and demonstrate that they require either that overt nominals are generated in argument positions or that much of the structure hypothesized for the Western Apache clause be duplicated within the PAH adjunct structure. The former requirement is fundamentally incompatible with a Pronominal Argument analysis. The latter requirement significantly complicates the grammar of Western Apache and, in duplicating clausal architecture that can account for the various phenomena without a Pronominal Argument analysis, also challenges the validity of a Pronominal Argument approach to the language.

8.3.1 The Generation of Wh Phrases in Argument Position

Throughout this dissertation, I make use of the assumption that Western Apache DP arguments are generated in VP internal thematically licensed positions and overtly raise to Case/Agreement projections. This assumption is fundamentally incompatible

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with the generation of overt DP solely as adjuncts to a clause and must be reevaluated given the potential of a Pronominal Argument analysis of the language. In the discussion below, I explore the base generated status of Western Apache *ha-* words used as Wh arguments. I argue that these elements must be generated in argument positions and demonstrate that this requirement significantly complicates the grammar if a Pronominal Argument analysis of non-*ha-* DP is maintained.

Willie (1991) argues that all Wh phrases are generated as adjuncts to the clause in Navajo. As noted in Section 2.2, Willie claims that the overt positioning of Wh phrases, and any variation in that positioning, is determined by the same principles which determine the positioning of non-Wh elements within a Pronominal Argument approach to the language.[17] In Section 2.2 and Chapter 7, however, I demonstrated that Western Apache *ha-* words used as Wh phrases may optionally raise although such movement is not possible for non-*ha* constituents. If Wh phrases are generated in adjunct positions in Western Apache, derivations such as those in (17) and (18) will be required for simple cases of in situ and raised Wh. In (17), both the Wh object and DP subject are generated as adjuncts to the clause coindexed with pronominal elements in argument positions.

[17] Also noted in Section 2.2, Schauber (1979) does argue for the presence of Wh movement in Navajo.

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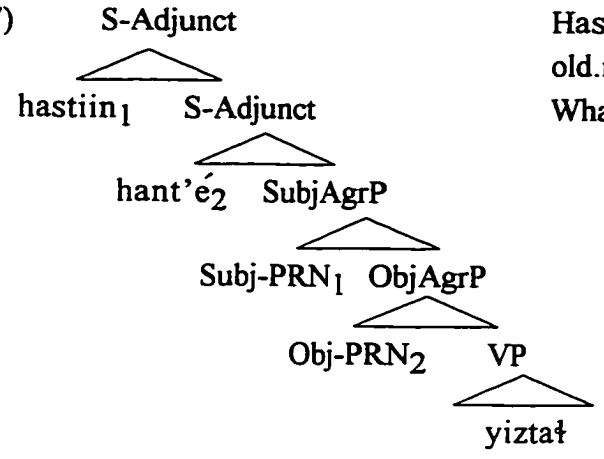
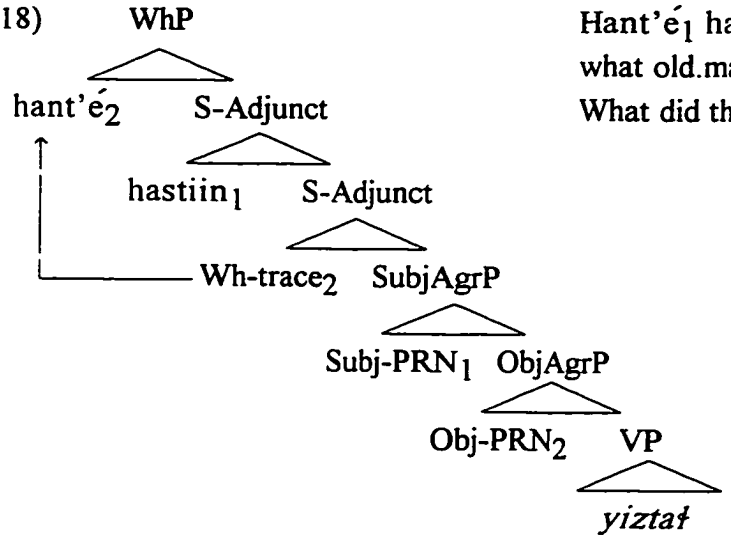
(17)



Hastiin hant'é yiztał ?
old.man what 3sg.perf.kick
What did the old man kick ?

The Wh object and DP subject are also generated as adjuncts in (18), but in this case the Wh object raises to a higher structural position.

(18)



Hant'é1 hastiin t1 yiztał ?
what old.man wh-trace 3sg.perf.kick
What did the old man kick ?

The derivation in (18), however, can be excluded on theoretical grounds. Within the typology of empty categories (cf. Chomsky 1981, 1982), Wh traces, [-pronominal, -anaphor] elements, are analyzed as variables bound by Wh operators. Intrinsic to Chomsky's definition of variable is the requirement that an empty category interpreted as

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a variable be situated in an A-position. The definition of 'variable' in (19) is from Cinque (1990:73).[18]

(19) Variable $=_{def}$ [NP e] in A-position locally A'-bound and operator bound.

The trace of a Wh phrase generated as an adjunct in A'-position, as proposed in (18), necessarily fails the definitional requirement of an A-position variable.[19] Of course this argument against the derivation in (18), based solely on a theory dependent typological definition, is not conclusive. Moreover, even if the validity of (19) is assumed, it might be argued that the null pronoun in object position, coindexed with the Wh phrase, serves the role of variable. The discussion below, building on work in Rizzi (1986, 1995) and Baker (1995, 1996), provides an argument against the derivation in (18) that specifically addresses this latter possibility.

Rizzi (1986, 1995) argues on the basis of clitic left-dislocation constructions (CLLD) in Italian that pronouns cannot function as primary variables and cannot be locally A' bound by a quantifier. Rizzi's argument focuses on the distribution of resumptive clitics and bare quantificational elements in CLLD constructions. As illustrated in (20), a left-dislocated direct object in Italian obligatorily requires a resumptive clitic.

---

[18] For the present discussion, A-position can be interpreted as the Case/Agreement position of an argument and the thematically licensed position of an adverbial adjunct. A'-position can be interpreted as the clausal adjunct positions within a Pronominal Argument approach and/or the specifier positions of complementizer projections such as WhP, RefP, and FocusP.

[19] Within the analysis developed in this dissertation, raised Western Apache *ha-* words are interpreted as variables with respect to the assignment of quantificational force in their overt positions (Chapter 3), but are generated in A-positions and necessarily form a chain with an A-position trace (Chapter 4).

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(20a) Il tuo libro, lo ho comprato. [Rizzi 1995:8]
'Your book, I bought it.'

(20b) *Il tuo libro, ho comprato [Rizzi 1995:8]
'Your book, I bought'

Left-dislocated bare quantificational elements such as 'no one' and 'everything', however, cannot cooccur with a resumptive clitic. A left-dislocated bare quantificational element is grammatical only in the absence of a corresponding resumptive clitic, and only with a focused interpretation. Examples (21) - (22) illustrate the ungrammaticality of a resumptive clitic with left-dislocated 'no one' and 'everything'. Focus is indicated with capitalization.

(21a) *Nessuno, lo ho visto [Rizzi 1995:9]
'No one, I saw him.

(21b) NESSUNO ho visto t [Rizzi 1995:9]
'NO ONE I saw.'

(22a) *Tutto, lo ho fatto [Rizzi 1995:9]
'Everything, I did it.'

(22b) TUTTO ho fatto t [Rizzi 1995:9]
'EVERYTHING I did.'

Rizzi interprets the ungrammaticality of (21a) and (22a) as evidence that the clitic pronouns in CLLD constructions cannot be interpreted as variables bound by A' left-dislocated quantifiers at LF. Rizzi (1986) proposes (23).[20]

[20] Rizzi (1995) does not specifically discuss (23) and instead notes that clitic pronouns and their traces do not satisfy the typological definition of variables. In such an approach, the ungrammticality of CLLD with bare quantificational elements is not the binding relationship between clitic pronouns and bare quantificational elements per se, but a violation of the principle of Full Interpretation (Chomsky 1986a) due to the lack of a variable for the left-dislocated quantifier. Rizzi (1995) must also resort to the typological definition of variables as A-position elements to exclude the possibility of a quantifier raising from its left-dislocated adjunct position and binding its own A' position trace as variable.

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(23) A pronoun cannot be locally A' bound by a quantifier.[21]

Given (23), there are no elements in (21a) and (22a) which qualify as variables for the A' position quantifiers and the examples are excluded as instances of vacuous quantification (cf. Chomsky 1986a 'Full Interpretation').[22] The focus constructions in (22a) and (22b) do not involve clitic pronouns and vacuously satisfy (23). In these cases, the focused bare quantificational elements bind their own traces as variables.

Baker (1995, 1996) adopts (23) in his analysis of the lack of certain quantifiers in Mohawk. As noted for Navajo and Western Apache in Section 8.2.6, Mohawk lacks words such as 'no one' and 'everyone' corresponding to non-referential English quantifiers. Baker proposes a Pronominal Argument analysis of Mohawk clause structure and argues that all overt non-Wh nominals, including quantified NP, are generated in adjoined A'- positions and coindexed with null pronominal elements in argument positions. Quantifiers in Mohawk are thus never in A-positions from which they may licitly bind pronouns and, given (23), are unable to bind pronouns from A' positions. The null pronominal arguments in Mohawk cannot be interpreted as variables and the presence of non-referential quantifiers in the language would necessarily result in vacuous quantification.

Baker (1996) extends his analysis of the lack of non-referential quantifiers in Mohawk to an argument that Mohawk Wh phrases must be generated in argument positions. Baker notes that Wh phrases, as operators, must also bind variables to be

[21] In Rizzi (1986), pronouns may acquire variable status through A-binding by licit primary variables.

[22] Cinque (1990) argues that a clitic pronoun and a non-referential, bare quantificational element cannot enter into a non-movement based binding relationship because such relationships are excluded for non-referential elements.

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properly interpreted. Since null pronominal arguments cannot be interpreted as variables bound directly by operators in A' positions, the default expectation is that Mohawk should either lack Wh words altogether or the properties of Wh questions in Mohawk should be significantly different from those of Wh questions in non-Pronominal Argument languages. Since Mohawk grammar does include Wh words, and Mohawk Wh questions are remarkably similar to their English counterparts in properties of interpretation, movement, and constraints on movement, Baker concludes that Mohawk Wh phrases must be generated in argument positions although non-Wh DP are generated as adjuncts.

As noted in Section 8.1, Baker argues that overt nominals are excluded from argument positions in Mohawk because the Case required by overt nominal arguments is absorbed by the rich agreement morphology inherent to Polysynthetic languages. Specifically, Baker invokes the Case Filter (Rouveret & Vergnaud 1980, Chomsky 1980) as a constraint on PF. The Case Filter excludes DP with phonological content but no Case from argument positions. Baker suggests that Wh phrases in Mohawk necessarily raise in the overt syntax to Spec CP to satisfy a +Wh feature. The trace of a raised Wh phrase, as a null element, is not interpreted at PF and does not require Case in the overt syntax.[23] Baker argues that a similar derivation for Mohawk quantifier phrases is not possible because there is no feature equivalent to the +Wh feature in Wh questions which requires the overt movement of a quantified DP.

Returning to the issue of Western Apache *ha-* words used as Wh phrases, the preceding discussion argues against the base generation of Wh phrases as adjuncts. A'-

[23] Baker (1991) argues that the Case absorbing agreement morphemes are deleted at LF, the level at which Wh traces must be interpreted.

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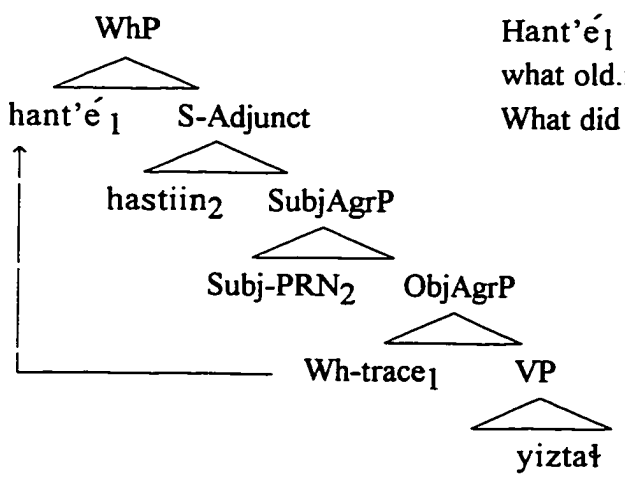
position elements do not qualify as variables, and A-position pronouns are independently excluded as variables bound by A'-position operators. In summary, a licit operator-variable binding relationship, required for the interpretation of Western Apache *ha-* words (Chapter 3), cannot be established if Wh phrases are generated directly in A'-positions. Following Baker's analysis of Mohawk, I will maintain that the Western Apache *ha-* words are generated in argument positions.[24]

As argued for Mohawk, the generation of Wh phrases in argument positions is not fundamentally incompatible with the generation of non-Wh DP as adjuncts. (24) illustrates one possible Pronominal Argument analysis of a Western Apache clause with an overtly raised Wh phrase. The DP subject is generated in adjunct position and the Wh object is generated in argument position but overtly raises to Spec WhP. This derivation is essentially parallel to that proposed for Mohawk Wh questions in Baker (1996).

(24)



Hant'é$_1$ hastiin t$_1$ yiztał ?
what old.man wh-trace 3sg.perf.kick
What did the old man kick ?

[24] Equivalent arguments hold for the analysis of Navajo dialects with optional Wh movement. Such arguments might hold for dialects which lack Wh movement (Willie 1991) as well. In these dialects, the *ha-* words must presumably be part of an operator-variable relationship to be interpreted as interrogative. With or without movement, such relationships will require A-position non-pronominal variables.

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Western Apache Wh questions, however, are distinct from those in Mohawk in one crucial respect. Baker (1996) notes that all Wh phrases in Mohawk, including each of the Wh phrases in a multiple Wh question, raise to a clause initial position. Baker's theory predicts this fact given that all overt nominals are excluded from argument positions in a Mohawk clause. As discussed in Chapter 2 and Chapter 7, however, Western Apache Wh phrases may surface in situ. (25) and (26) demonstrate in situ Wh objects. (26) demonstrates in particular that even within a hypothetical analysis in which one Wh phrase is always in Spec WhP (see Chapter 7) additional Wh phrases in a multiple Wh question do not necessarily surface in Spec WhP.

(25) Hastiin hant'é yiztał ?
old.man what 3sg.perf.kick
What did the old man kick ?

(26) Hadín ishkiin hant'é yaayiné' ?
who boy what 3sg.perf.give
Who gave the boy what ?

If the Wh object in (25) or (26) is in situ, Baker's analysis of Mohawk Wh questions cannot be extended to Western Apache. An in situ Wh argument should be excluded from Western Apache given Baker's proposal that overt nominals in a Pronominal Argument language do not receive Case and cannot be interpreted in argument positions at PF. Note that the Pronominal Argument approach cannot be maintained by rejecting Baker's conclusion that Wh phrases cannot overtly surface in argument positions. If Wh phrases could optionally remain in situ within a Pronominal Argument approach to Western Apache, it should be possible to interpret example (27a) as OSV with the Wh subject in SubjAgrP and the object DP in adjunct position (27b). Nevertheless, this example is obligatorily interpreted as SOV.

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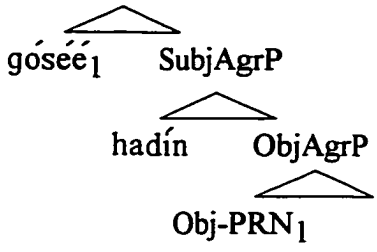
(27a) Góséé hadín yiztał ?
dog who 3sg.perf.kick
i) Who did the dog kick ?
ii) * Who kicked the dog ?

(27b) S-Adjunct



If Wh phrases do not obligatorily raise to Spec WhP in Western Apache, Baker's means of distinguishing Wh phrases from non-referential quantifier phrases also cannot be maintained. As discussed above, Baker argues that Mohawk Wh phrases must raise from their Caseless argument positions to Spec WhP for licensing of a strong +Wh feature. This movement has the additional benefit of creating an A-position trace which qualifies as a variable for the Wh operator. Baker claims that no equivalent feature forces the overt movement of a quantifier phrase to an A'-position. A quantifier phrase generated in argument position would necessarily surface in argument position at PF, in violation of the Case Filter. If Western Apache Wh phrases may surface in situ, any +Wh feature present in the language cannot be strong and cannot force overt Wh movement. Assuming Western Apache Wh phrases do overtly raise to some A'-position, such movement is not motivated by Wh feature licensing and it is unclear what prohibits a similar derivation for non-referential quantifier phrases. Specifically, there is nothing that precludes the generation of non-referential 'everyone' in argument position with overt movement to an A'-position and binding of its A-position trace as variable.

Beyond the issue of non-referential quantifiers, the optional movement of Western Apache Wh phrases significantly complicates a Pronominal Argument approach to the language. To satisfy the requirements of operator-variable binding, Wh phrases must be

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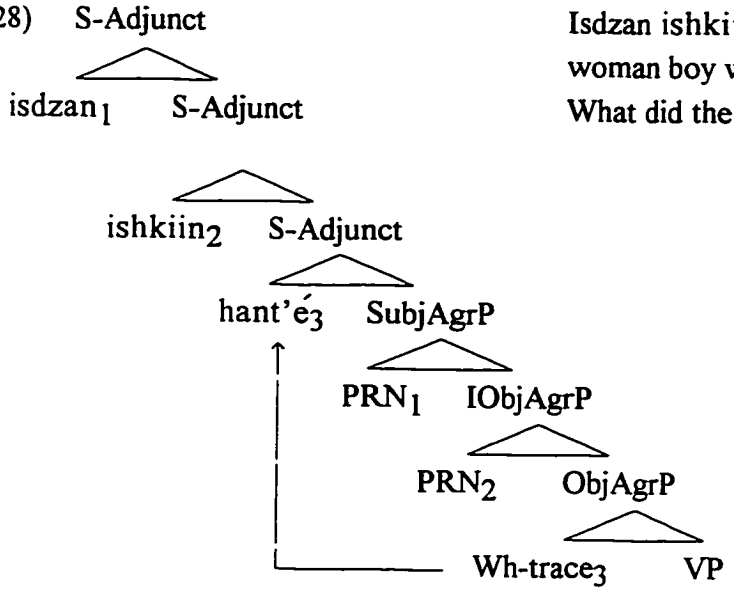
generated in argument positions. By hypothesis,[25] Wh phrases overtly raise to A'-positions although the motivation for this movement is unclear. Since Wh phrases may surface in situ, (26) and (28), Wh movement is not necessarily to Spec WhP and may be to an adjunct position which preserves the canonical linear word order of the clause. In (28), the adjunction of the Wh object to a position below the subject and indirect object adjuncts preserves the canonical S-IO-OV word order of a ditransitive clause.

(28)



Isdzan ishkiin hant'é yaayiné' ?
woman boy what 3sg.perf.give
What did the woman give to the boy ?

Wh phrases are not freely positioned within the adjunct structure as they may not surface in positions below their canonical word order position. (27a), for example, cannot be interpreted as OSV with an adjunct DP object preceding an adjunct Wh subject. Similarly, (29) cannot be interpreted as IO-S-OV with an adjunct DP indirect object preceding an adjunct Wh subject.

[25] Wh movement to A'-positions is also required to explain the lack of an OSV interpretation in (27a) and the possible positioning of Wh phrases to the left of adjunct DP as with the Wh indirect object in (29).

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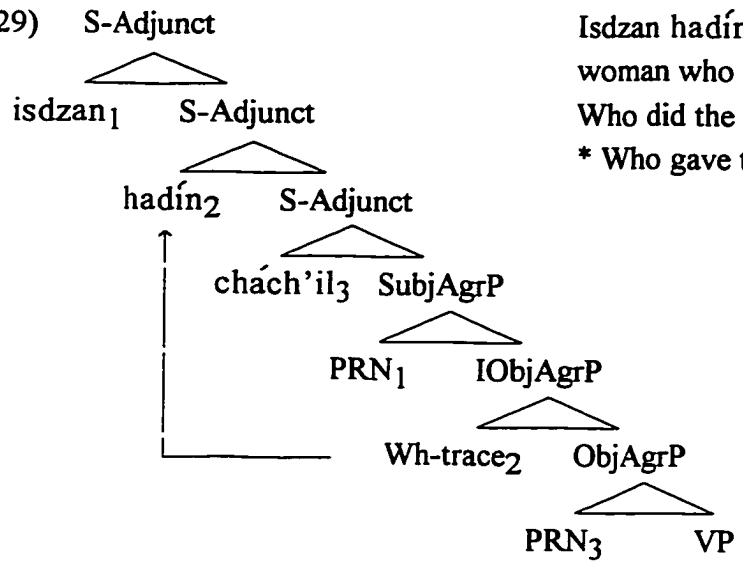
(29)



Isdzan hadín chách'il yaayiné' ?
woman who acorn 3sg.perf.give
Who did the woman give an acorn to ?
* Who gave the woman an acorn ?

It is also not the case, however, that Wh phrases surface only in adjunct positions which preserve canonical linear word order, since they may optionally surface in positions above their canonical word order position. Within a Pronominal Argument approach, the Wh ordering facts would suggest that Wh phrases first raise to adjunct positions which preserve the canonical word order of the clause and then optionally raise in a manner parallel to the movement argued for argument position Wh phrases in Chapter 2 and Chapter 7. Such movement would include optional movement to a clause initial position which may be identified as Spec WhP (30a), and also movement to intermediate positions in the case of ditransitives (30b). In Chapter 5, I argued that this latter movement followed from the presence of additional projections between the canonical overt positions of the verbal arguments. Within a Pronominal Argument approach, these projections will have to be postulated within the adjunct structure.

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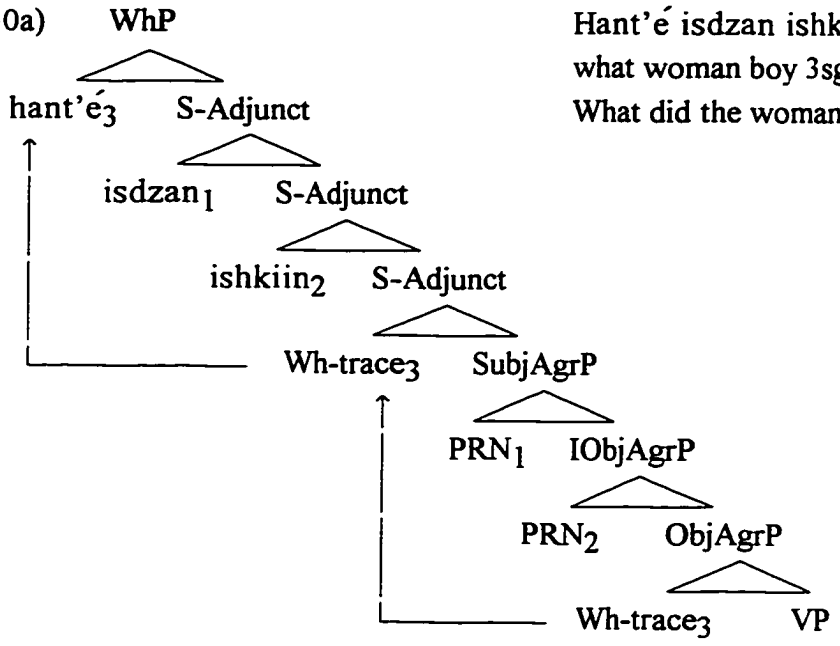
(30a)



Hant'é isdzan ishkiin yaayiné' ?
what woman boy 3sg.perf.give
What did the woman give to the boy ?

(30b) Isdzan hant'é ishkiin yaayiné' ?
Isdzan$_1$ hant'é$_3$ ishkiin$_2$ Obj-t$_3$ [Subj-PRN$_1$ IObj-PRN$_2$ Obj-t$_3$ yaayiné']?
woman what boy obj-trace [subj-prn iobj-prn obj-trace 3sg.perf.give]
What did the woman give to the boy ?

In summary, a Pronominal Argument analysis of Western Apache clause structure, given the optional movement of Wh phrases, can be maintained only at a significant cost. An analysis based on Baker's approach to Mohawk can be imposed on Western Apache, but the motivation for the movement of Wh phrases to A'-positions and the distinction between Wh phrases and non-referential quantifiers is lost. In addition, word order constraints and variation in Wh questions significantly complicate the PAH analysis. The grammatical role (subject, object, etc.) of a Wh phrase cannot be determined from the linear order of adjuncts as Wh phrases may surface in positions which preserve the canonical linear word order of a clause or in positions above (to the left of) their canonical linear position. The requirement that Wh phrases raise minimally to adjunct positions which preserve canonical linear word order thus cannot follow from

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interpretational rules sensitive to word order. Rather, the adjunct structure must include particular, hierarchically ordered adjunct positions corresponding to each of the Case/Agreement projections internal to the clause. A Wh phrase generated in argument position raises first to the fixed adjunct position relevant to its grammatical role, and then optionally raises to higher positions within the adjunct structure. The presence of fixed adjunct positions and the two stage derivation of Wh movement required in a Pronominal Argument analysis of Western Apache, however, are otherwise unattested complications for the PAH. Moreover, nothing in the Western Apache Wh paradigm motivates the proposed analysis as opposed to a simpler approach in which overt nominals surface in hierarchically ordered Case/Agreement projections from which Wh phrases may optionally raise.

8.3.2 Wh Argument/Focus Interaction

In Section 5.4, I discussed examples such as (31a) - (31c) which demonstrate a cooccurrence restriction between Wh arguments and focused DP in Western Apache. A Wh argument may surface in a position above a focused argument (31a), but may not surface in a position below a focused argument (31b) and may not raise past a focused argument (31c).

(31a) Hadín ma' go yizkah ?
who coyote FOC 3sg.perf.shoot
Who shot THE COYOTE ?

(31b) * Hastiin go hant'é yizkah ?
old-man FOC what 3sg.perf.shoot
What did THE OLD MAN shoot ?

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(31c) * Hant'é$_1$ hastiin go t$_1$ yizkah ?
what old-man FOC wh-trace 3sg.perf.shoot
What did THE OLD MAN shoot ?

As an informal description of the interaction between Wh arguments and focused DP, I proposed the Wh/Focus Cooccurrence Restriction given in (32).

(32) Western Apache Wh/Focus Cooccurrence Restriction: An argument marked by the focus particle -*go* may not c-command the canonical position of a Wh phrase.

In Section 5.7, I provided a formal analysis of Western Apache Wh/Focus interaction which preserved the descriptive content of (32). I argued that a focused DP in a position hierarchically superior to the Case/Agreement position of a *ha-* word blocked the operator-variable binding relationship between that *ha-* word and the Wh operator in WhP. I further argued that the focused DP blocked movement of the *ha-* word to a position above the focused DP.

The Wh/Focus paradigm is not easily captured within the proposed Pronominal Argument approach to Western Apache clause structure. By hypothesis, Wh phrases are generated in argument positions[26] and all overt non-Wh DP are generated as adjuncts. Within this approach, however, a focused DP adjunct will always c-command the argument position of a Wh phrase. The Pronominal Argument analysis of examples (31a) and (31b), prior to the movement of the Wh arguments into the adjunct structure, is illustrated in (33a) and (33b), respectively.

[26] Either Wh phrases raise to adjunct positions directly from their VP internal thematic positions or via their Case/Agreement positions. In either case, a focused adjunct DP c-commands all Wh phrases prior to their movement into the adjunct structure.

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(33a) S-Adjunct

ma' go$_1$ SubjAgrP

hadín ObjAgrP

Obj-PRN$_1$

(33b) S-Adjunct

hastiin go$_1$ SubjAgrP

Subj-PRN$_1$ ObjAgrP

hant'é

The structures in (33) do not distinguish (31a) and (31b) with respect to the hierarchical relationship between the focused DP and the Wh argument. In each case, the focused DP c-commands the Wh argument. Given (32), both (31a) and (31b) are predicted to be ungrammatical. For (31a), this prediction is incorrect.

Since (31a) is grammatical, a Pronominal Argument approach to the Western Apache Wh/Focus paradigm will have to maintain that focused DP adjuncts do not block the raising of a Wh phrase from its argument position into the adjunct structure (34).

(34) S-Adjunct = (31a)

hadín$_2$ S-Adjunct

ma' go$_1$ SubjAgrP

wh-trace$_2$ ObjAgrP

Obj-PRN$_1$

Any blocking effect that focused DP exhibit with respect to Wh phrases will thus have to be stated as a condition on the movement of a Wh phrase from its adjunct position to Spec WhP, or as a condition on the operator-variable relationship between the Wh operator in Spec WhP and the Wh phrase in adjunct position. As with the case of optional and partial Wh movement, this will require the reinterpretation of the analysis

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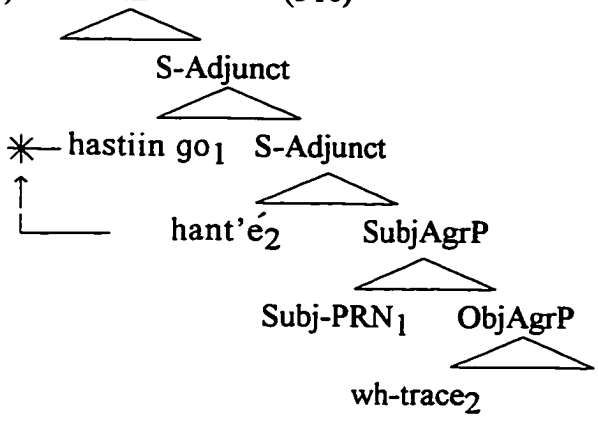
proposed for the interaction of Wh phrases and focused DP in argument positions (Chapter 5) as an equivalent analysis which holds of Wh phrases and focused DP in adjunct positions. A Pronominal Argument approach faces the additional complication of explaining why focused DP do not block A' movement of a Wh phrase into its adjunct position (34), but do block A' movement of a Wh phrase from its adjunct position (35).

(35) WhP = (31c)



Note that the presence of pronominal arguments coindexed with adjunct DP in a PAH analysis does not salvage a Path Containment approach to the Wh/Focus paradigm (Section 5.7.4). The Path Containment Condition (PCC : Pesetsky 1982) prohibits configurations in which A' paths overlap. The PCC correctly predicts (31b) to be ungrammatical (36a), but incorrectly predicts (31a) to be ungrammatical as well (36b).

(36a) FocSubj WhObj [Subj-PRN Obj-trace Verb] = (31b) *FocSubj WhObj Verb

(36b) WhSubj FocObj [Subj-trace Obj-PRN Verb] = (31a) WhSubj FocObj Verb

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In addition, the PCC approach incorrectly predicts (31c) to be grammatical (36c).[27]

(36c) WhObj FocSubj [SubjPRN ObjPRN Verb] = (31c) *WhObj$_1$ FocSubj t$_1$ Verb

8.3.3 Additional Arguments Against a PAH Approach to Western Apache

In this section, I briefly summarize several additional facts presented in this dissertation which argue against a Pronominal Argument analysis of Western Apache.

I provided three pieces of evidence in this dissertation that sentential Wh adjuncts are generated in a position hierarchically superior to the base generated position of VP adverbial Wh adjuncts. First, I motivated this distinction on the basis of the distribution of sentential and VP adverbial adjunct readings (Section 2.3). As demonstrated in (37), the sentential reading of 'how' is only available in clause initial position.

(37a) Hagot'ú́go hastiin ḳih náá́gole' ?
how old.man house 3sg.imprf.build
i) By what means/method is the old man building a house ?
ii) How can it be that the old man is building a house ?

[27] As noted at the beginning of this chapter, Jelinek & Willie (1995) argue that the object argument position is hierarchically superior to the subject argument position in Navajo. With this structure and several non-trivial assumptions, a PCC approach can be formulated which correctly predicts Western Apache Wh/Focus interaction between subjects and objects. I will not develop this approach here, however, as the analysis cannot account for Wh/Focus interaction between direct objects and indirect objects in ditransitive clauses. Jelinek & Willie place the indirect object argument position above the direct object argument position in Navajo. Their complete ordering of argument positions is thus IO-O-S-V. A PCC analysis which captures Western Apache Wh/Focus interaction between subjects and objects with O-S-V argument positions, however, requires O-IO-S-V ordering to capture the interaction with direct and indirect objects.

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(37b) Hastiin hagot'ų́go ḳih náágole' ?
old.man how house 3sg.imprf.build
i) By what means/method is the old man building a house ?
ii) * How can it be that the old man is building a house ?

Second, I argued that a structural distinction between sentential and VP adverbial Wh adjuncts provides an account for the availability of indefinite readings induced by the particle *shi* (Section 3.5). Sentential Wh adjuncts are not interpreted as indefinites in the presence of the *shi* particle because they are generated above the *shi* licensing projection (38a). VP adverbial Wh adjuncts are generated below this projection and are interpreted as indefinites in the presence of *shi* (38b).

(38a) Hagot'ų́go shi hastiin ishkiin yił ch'ígon'ą́ą́ ?
how UNCERT old.man boy 3sg.to 3sg.perf.teach
How can it be that the old man taught the boy ?

(38b) Hastiin hagot'ų́goshi ishkiin yił ch'ígon'ą́ą́ ?
old.man how.UNCERT boy 3sg.to 3sg.perf.teach
The old man taught the boy by some method.

Finally, I argued that the analysis of Wh adjunct/Focus interaction requires a structural distinction between sentential and VP adverbial Wh adjuncts (Section 5.4). As noted in Chapter 5, Wh phrases may not raise past a focused DP in Western Apache. Sentential Wh adjuncts may precede a focused subject (39a) and must therefore be generated in a position above the subject. VP adverbial Wh adjuncts may not precede a focused subject (39a) but may precede a focused object (39b). These adjuncts must be generated in a position between the subject and object positions.

(39a) Hagot'ų́go hastiin go ḳih náágole' ?
how old.man FOC house 3sg.imprf.build
i) How can it be that THE OLD MAN is building a house ?
ii) *By what means/method is THE OLD MAN building a house ?

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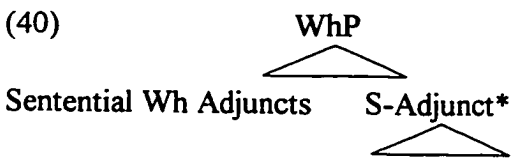
(39b) Hastiin hayú ḳih go náágole' ?
old.man where house FOC 3sg.imprf.build
Where is the old man building A HOUSE ?

A Pronominal Argument analysis of Western Apache clause structure will also have to account for the asymmetries between sentential and VP adverbial Wh adjuncts briefly summarized in (37) - (39). The hierarchically dominant base generated position of sentential Wh adjuncts, identified as Spec WhP in this dissertation, is not problematic. A PAH approach to Western Apache independently requires that WhP dominate the positions of adjunct DP (40) to explain overt Wh movement to clause initial position.

(40)



The generation of VP adverbial Wh adjuncts between the positions of overt subject and object arguments is problematic for a PAH analysis. In Section 8.2, I demonstrated that focused adjunct DP do not block the PAH movement of a Wh phrase from its base generated position within the clause into the adjunct structure. As with Wh argument/Focus interaction, a PAH analysis will necessarily have to derive Wh adjunct/Focus interaction through conditions which hold solely within the adjunct structure. Since only a focused subject blocks the movement of a VP adverbial Wh adjunct from its adjunct position, the VP adverbial Wh adjuncts must be associated with an adjunct position that is intermediate between the adjunct positions of subject and object DP (41).

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(41) S-Adjunct

Subject YP*

VP-Wh-Adjuncts S-Adjunct

Object

The PAH structure in (41) is questionable in that it recreates structure proposed with respect to subject and object argument positions internal to the clause. More critically, however, (41) is unmotivated in a Pronominal Argument analysis. While subject and object nominals may be excluded from argument positions due to a lack of Case (Baker 1991, 1996) or thematic role (cf. Jelinek 1984), Wh adjuncts do not require Case and are not marked by verbal morphology that could in theory absorb any adjunct thematic roles the verb might otherwise assign. There is thus no motivation for a VP adverbial adjunct position within the adjunct structure of a Pronominal Argument language. The fact that such a position is required by Wh adjunct/Focus interaction within a PAH analysis of Western Apache casts doubt on that analysis and suggests that overt subject and object DP do surface in Case/Agreement argument positions.

An additional argument against a Pronominal Argument approach to Western Apache follows from the analysis of optional OSV word order. In Section 5.6, I argued on the basis of Wh/Focus interaction that subject DP in clauses with optional OSV word order surface in a position hierarchically below the position of object DP in SOV clauses. The argument centered around examples such as (42a) and (42b). Since Wh phrases cannot raise past focused DP, (42a) demonstrates that a focused object in an OSV clause is no higher than a focused object in an SOV clause. More specifically, focused objects in

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both SOV and OSV clauses surface in positions below the base generated positions of the VP adverbial Wh adjuncts.

(42a) Hayú ḳih go hastiin náágole' ?
where house FOC old.man 3sg.imprf.build
Where is the old man building A HOUSE ?

Since VP adverbial Wh adjuncts cannot precede a focused subject in an SOV clause (39a), the grammaticality of (42b) suggests that the position of a focused subject in an OSV clause is lower than that in an SOV clause.

(42b) Hayú ḳih hastiin go náágole' ?
where house old.man FOC 3sg.imprf.build
Where is THE OLD MAN building a house ?

I argued that optional OSV word order could be derived by the lack of subject raising to the Case/Agreement position SubjAgrP. It is not obvious how a PAH analysis of Western Apache will account for optional OSV word order, particularly given the facts of Wh/Focus interaction as briefly illustrated in (39) and (42). It cannot be the case that the subject and object switch adjunct positions to yield OSV order, as the object in an OSV clause is arguably in the same position it occupies in an SOV clause. A PAH analysis will necessarily require the complication of an additional adjunct position below the object adjunct position in (41).[28]

Finally, I would note that numerous facts addressed in this dissertation, if interpreted within a Pronominal Argument approach to Western Apache, will require

[28] A PAH approach must also explain why optional OSV word order is only possible in clauses lacking *yi-* agreement morphology. Within a non-PAH analysis, this agreement morphology may be what forces the subject to raise from its VP internal position to Spec SubjAgrP in SO-*yi*-V clauses (see Section 5.6).

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several additional functional projections, ordered with respect to the subject and object adjunct positions, within the adjunct structure. Specifically, a modal projection associated with the *shi* particle (Section 3.5) will be required in a position above the subject adjunct position and a negative focus projection will be required in a position between the subject and object adjunct positions (Section 3.2).[29] Similarly, the unique projections identified as RefP and FocusP (chapters 5 and 6), with the hierarchical ordering RefP > WhP > FocusP, will be required in the adjunct structure as well. Such projections are not necessarily incompatible with a PAH analysis, but require a highly articulated adjunct structure with particular, hierarchically fixed positions for subject and object adjuncts.

8.4 Implications for the Pronominal Argument Hypothesis

In Section 8.2, I demonstrated that Western Apache exhibits several properties argued to be characteristic of Pronominal Argument languages in numerous works stemming from Jelinek (1984). Western Apache syntax is marked by the presence of rich verbal morphology for subjects and objects, optional overt DP, discontinuous constituents, and internally headed relative clauses. In addition, Western Apache fails to display certain expected Condition C effects and lacks non-referential quantified

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[29] The particle *doo* in a position preceding the object marks the object, or the object and verb, as negatively focused. *Doo* in a position preceding the subject only marks the subject as negatively focused.

(i) Doo nadą́' k'ediidlée da.
NEG corn 1dl.imprf.plant NEG
i) We (2) are not planting corn.
ii) We (2) are not planting CORN.
[With respect to (ii): e.g. - It's not corn that we are planting. We are planting watermelon/wheat/etc.]

(ii) Doo hastiinyú nadą́' k'edadilée da
NEG old.men corn 3pl.imprf.plant NEG
[The old men are not the ones planting corn. Somebody else is.]

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expressions. For Navajo and other languages, each of these properties has been argued to follow from and/or support an analysis of clause structure in which overt DP are obligatorily generated as adjuncts coindexed with pronominal elements in argument positions.

Nevertheless, in Section 8.3 I demonstrated that a Pronominal Argument analysis of Western Apache clause structure can only be maintained at a significant cost. Within a PAH analysis, the distribution of Wh phrases in Western Apache requires that the adjunct structure include hierarchically fixed positions for subject and object adjuncts, including an additional position below the object adjunct position for subjects in exceptional OSV constructions, and fixed adjunct positions between the subject and object positions for VP adverbial Wh adjuncts. Fixed structural positions for overt subject and object DP are not predicted by a PAH analysis, and the presence of fixed positions in the adjunct structure for VP adverbial elements is particularly problematic as nothing inherent to a PAH approach excludes these elements from clause internal positions (Section 8.3.3). In addition, a PAH analysis of Western Apache requires functional projections for modality and negation, as well as Focus, Topic, and Wh projections within the adjunct structure.[30] These projections must be ordered with respect to each other and the fixed positions for subject and object adjuncts. To derive the facts of Wh movement and Wh/Focus interaction, a PAH analysis must duplicate in the adjunct structure the structures and derivations proposed for clause internal syntax in chapters 2 through 7. With respect to such derivations, a PAH analysis faces the additional complication of distinguishing A'

[30] Although Focus, Topic, and Wh projections are hypothesized for the complementizer system in non-PAH analyses as well, the point here is that a PAH analysis does not elminate the need for these hierarchically ordered projections.

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movement into the adjunct structure from A' movement within the adjunct structure.[31] Finally, given the argument that Wh phrases must be generated in A-positions, the presence of optional Wh movement in Western Apache eliminates both the motivation for Wh movement into the adjunct structure and the distinction between Wh phrases and quantifiers as proposed for the analysis of Mohawk in Baker (1995, 1996).[32]

The substantial complications required by the distribution of Wh phrases for a PAH analysis of Western Apache, particularly given the critical review of the evidence in support of the PAH (Navajo - Speas 1990a, 1993, Hale 1996, Hale & Platero 1996, and Speas & Yazzie 1996),[33] lead to the conclusion that a Pronominal Argument analysis of Western Apache clause structure is untenable. This in turn entails that the properties of Western Apache syntax considered characteristic of Pronominal Argument languages must follow from analyses that do not rely on Pronominal Argument structure. The PAH properties summarized in Section 8.2 cannot be diagnostic of Pronominal Argument structure and do not in and of themselves constitute evidence for a PAH analysis. Given that the PAH status of Navajo is argued in part on the basis on these properties,[34] the analysis of Navajo as a Pronominal Argument language must be reconsidered (see also

[31] If the requirement that variables occupy A-positions (19) is rejected and Wh DP are generated directly as adjuncts, this additional complication with respect to A' movement is not required. All of the other complications faced by a PAH approach, including the lack of a distinction between Wh phrases and quantifier phrases, will remain.

[32] Baker's distinction between Wh phrases, which he claims raise for feature licensing, and quantifier phrases, which he claims do not, is problematic given recent arguments (cf. Beghelli & Stowell 1995, 1996, Szabolcsi 1996, Sportiche 1996) that quantifier phrases do raise for feature licensing in a manner entirely parallel with the movement of Wh phrases.

[33] See also Davis (1997).

[34] Other properties argued to follow from and/or support a PAH analysis of Navajo, such as a lack of determiner quantification and the *yi-/bi-* alternation (Jelinek 1995a, 1995b, 1996), are also present in Western Apache.

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Speas 1993, Speas & Yazzie 1996). To the extent that these properties are cited as evidence for a Pronominal Argument analysis of other languages, those analyses, and more generally the existence of languages which obligatorily generate overt DP as adjuncts, must be reconsidered as well.

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CHAPTER 9

SUMMARY DISCUSSION

In this dissertation, I presented a description and analysis of the syntax of *ha-* words in Western Apache. The *ha-* words are a class of words which begin with the prefix *ha-* and serve as Wh phrases, indefinites, and polarity items. I explored the distribution and interpretation of the *ha-* words in simple Wh questions and the interaction of the *ha-* words with each other, the *-shị* uncertainty operator, the *doo* negative focus marker, the *-go* focus/non-factive particle, and the *-híí* referential/factive particle.

I provided morphological derivations for the *ha-* words listed in (1) (Section 2.1).

(1)

hadín	who
hant'é	what
hant'éwạ	why
hagot'ógo	how
hayú	where at/to
hadí'	where from
dadạ́'	when (past)
das'áh	when (non-past)
hadíí	which

Following similar proposals for Wh words in other languages (cf. Nishigauchi 1986, 1990, Cheng 1991, Li 1992), I argued for an analysis of the *ha-* words as variables which are bound and assigned quantificational force by the closest c-commanding operator (Chapter 3). I argued that the *ha-* words optionally raise in the overt syntax (Section 2.2) to establish scope/binding relationships, but do not raise at LF as the overt

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position of the *ha-* word determines its scope/binding (Section 3.4). I argued against an alternative analysis of *ha-* word distribution in which *ha-* words interpreted as interrogative Wh elements obligatorily raise to Spec WhP and 'apparent' optionality in movement follows from the topicalization of non-Wh DP (Section 2.2.5, Chapter 7). I concluded that Western Apache exhibits a true instance of optional Wh movement, contra the UG predictions of the Minimalist framework (Chomsky 1995).

I examined sentences with multiple *ha-* words and demonstrated that Western Apache exhibits both Superiority (Chomsky 1973) and Anti-Superiority (Saito 1982, Watanabe 1992) effects. With respect to Superiority, a *ha-* word interpreted as a Wh element cannot raise to Spec WhP across a hierarchically superior Wh element (Section 4.3). With respect to Anti-Superiority, a *ha-* argument is interpreted as an interrogative element if it precedes a Wh adjunct, but as an indefinite if it follows a Wh adjunct (Section 4.4). I argued for an analysis of these effects as aspects of Weak Cross Over following a proposal by Hornstein (1995) for English and Japanese (Section 4.5).

I provided an analysis for *-go* and *-hií* as focus (Section 5.1) and referentiality (Section 5.2) nominal modifiers, respectively. I argued that these particles are generated with the NP they modify, obligatorily raise at LF to particular Focus and Referential complementizer projections (FocusP and RefP), and that focused constituents participate in an operator-variable binding relationship while referential DP do not (Section 5.3). I explored the interaction of the *ha-* words with focused constituents and demonstrated that Wh phrases and focused constituents may cooccur as long as the focused constituent is not in a position c-commanding the Case/Agreement position of a *ha-* argument (Section 5.4) or the thematically licensed position of a *ha-* adjunct (Section 5.5). I argued that focused constituents, as operators, block the binding relationship between a

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c-commanded *ha-* word and the +Wh operator in Spec WhP, and also overtly occupy and block intermediate positions in the clause through which Wh phrases raise (Section 5.7.2).

On the basis of Wh/Focus interaction, I argued that optional OSV word order in clauses with verbs unmarked for *yi-/bi-* agreement morphology follows from the failure of the subject argument to raise to its Case/Agreement position (Section 5.7). On the basis of Wh adjunct/Focus interaction in particular, I supported the argument that VP adverbial Wh adjuncts are generated in distinct and lower structural positions than sentential Wh adjuncts (cf. Rizzi 1990, Lin 1992, Tsai 1994). More specifically, I argued that VP adverbial adjuncts are generated in positions between the Case/Agreement projections for subject and object, while sentential adjuncts are generated directly in WhP (Section 5.5). I initially proposed this analysis on the basis of the distribution of VP adverbial Wh adjuncts, which may surface in positions preceding or following an overt subject, versus that of the sentential Wh adjuncts, which obligatorily precede an overt subject (Section 2.3). Additional support for this analysis was provided on the basis of the availability of indefinite readings for sentential versus VP adverbial *ha-* adjuncts in the presence of the particle *-shi* (Section 3.5).

I explored the use of *-go* (Section 6.1.1) and *-hií* (Section 6.1.2) as non-factive and factive complementizers, respectively, and demonstrated that the nominal and clausal uses of these particles constitute two instances of the same syntactic entity (Section 6.1.3). I discussed the interaction of *-go* and *-hií* clauses with Wh questions (Section 6.2, cf. Schauber 1979: Navajo *-go/-ígií* as complementizers) and argued that clauses marked by *-go* and *-hií* must raise at LF to the Focus and Referential projections in which nominal arguments marked by *-go* and *-hií* are licensed. I additionally argued

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that the possibility of in situ Wh in *-go* clauses supports the proposal, introduced to explain the exceptional compatibility of 'how' on its sentential reading with focused DP (Section 5.5), that the *-go* licensing projection is hierarchically below WhP. Similarly, the impossibility of in situ Wh in *-hií* clauses suggests the *-hií* licensing projection is above WhP. I additionally argued that the use of *-hií* as nominal modifier/complementizer is derived as an extension of its role in the *-ihií* head of Western Apache relative clauses (Section 6.3.1), and that *-go* as an adverbial element is the same syntactic entity as *-go* as nominal modifier/complementizer (Section 6.3.2).

The diagrams in (2a) and (2b) summarize the proposed structural analysis of the Western Apache clause. The presence and function of the modal projection ModalP associated with the particle *-shi* is discussed in Section 3.5. The presence and function of the negative focus projection NegP associated with the particle *doo* is discussed in Section 3.2. The obligatory status of WhP as a matrix projection in direct Wh questions is argued in Section 3.4. RefP and FocusP are argued to be matrix projections in Section 5.3.

(2a) Matrix Complementizer Projections

RefP _____ Clausal and nominal arguments marked by *-hií* are licensed in Spec RefP at LF.

WhP _____ Includes the +Wh operator in Wh questions. Interrogative *ha-* words licensed within cc domain of the +Wh operator. Sentential Wh adjuncts generated directly in Spec WhP.

FocusP _____ Clausal, nominal, and adverbial constituents marked by *-go* are licensed in Spec RefP at LF. Focused DP licensing requires operator-variable binding.

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(2b) Clausal Projections below the Complementizer System

ModalP_____*ha-* words and event variables bound by the *-shi* uncertainty operator licensed within the domain of ModalP and/or possibly via movement to/through Spec ModalP.

XP

SubjAgrP____Case/Agreement positions, specific identity not at issue.

XP _____Focused DP overtly occupy and Wh phrases raise to/through Spec XP.

IObjAgrP

VP adverbial Wh adjuncts_____YP* generated in YP* projections.

Objects structurally distinguished from other arguments with respect to negation.

NegP___

XP

ObjAgrP

Arguments generated internal to VP shell structure. _____VP*

I concluded this dissertation with discussion of the possibility of a Pronominal Argument Hypothesis (Jelinek 1984, Baker 1996: Polysynthesis Parameter) analysis of the Western Apache clause. Such an analysis has been argued extensively for Navajo (cf. Willie 1989, 1991, Sandoval & Jelinek 1989), and Western Apache exhibits several properties argued to be characteristic of Pronominal Argument languages (Section 8.2). Nevertheless, I demonstrated that a Pronominal Argument approach to Western Apache, given the facts of *ha-* syntax presented in this dissertation, is untenable. Such an approach requires significant and otherwise unmotivated complications to the general Pronominal Argument analysis, essentially requiring that the clausal architecture summarized in (2) be replicated within the PAH adjunct structure (Section 8.3). The

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rejection of a PAH analysis of Western Apache, however, necessarily entails that the apparent Pronominal Argument properties of Western Apache are not diagnostic of Pronominal Argument status. To the extent that PAH analyses for other languages are motivated on the basis of similar properties, this conclusion challenges the existence of Pronominal Argument languages in general.

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