

## The syntax of Thai Wh-adjuncts

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### บทคัดย่อ

ผู้วิจัยพบว่า คำแสดงคำถามส่วนขยายรวม เกิดในตำแหน่งที่ตายตัว สามารถคาดการณ์ตำแหน่งที่ปรากฏได้ และมีหลักฐานสนับสนุนว่า คำแสดงคำถามส่วนขยายรวมในภาษาไทยแบ่งออกเป็น 2 ประเภท คือ ประเภทที่ 1 ครอบคลุมวงลักษณกริยาวลี ประเภทที่ 2 ครอบคลุมวงลักษณกาลวลี จึงสามารถอธิบายได้ว่า คำแสดงคำถามส่วนขยายรวมสองประเภทนี้เลือกวิธีการย้ายเพื่อการเน้นย้ำแตกต่างกัน คำแสดงคำถามส่วนขยายรวมครอบคลุมวงลักษณกริยาวลีเลือกวิธีย้ายแบบท้องถิ่น ในขณะที่คำถามส่วนขยายรวมครอบคลุมวงลักษณกาลวลีเลือกวิธีย้ายไปตำแหน่งที่ไม่ใช่อาร์กิวเมนต์

### Abstract

In this paper, I argue that Thai wh-adjuncts occur in a predictable order relative to one another though non wh-adjuncts have been traditionally described as not occurring in a rigid order with respect to one another (Hoonchamlong 1991, Sornlertlamvanich, Charoenporn, and Isahara 1997). Also, I establish a further claim that there are two distinct classes of wh-adjuncts: VP wh-adjuncts and IP wh-adjuncts. This distinction can explain why there are asymmetries within the class of wh-adjuncts with respect to focus movement. VP wh-adjuncts are only locally re-ordered (short scrambling), while IP wh-adjuncts undergo A' movement. This is attributable to the fact that they both choose different strategies for focus displacement.

**Keywords:** VP wh-adjuncts, IP wh-adjuncts, focus, scrambling, A' movement

## 1. Introduction

In this paper, I focus on Thai wh-adjuncts which choose different operations for focus displacement from wh-arguments. Focus is derived by short scrambling for the VP wh-adjuncts, while IP wh-adjuncts focus is mediated by A' movement. The question that arises is 'why do VP wh-adjuncts and IP wh-adjuncts use different operations to mark focus?'. The asymmetries between these two can be accounted for by their distinct positions; VP wh-adjuncts are introduced in VP scope, whereas IP wh-adjuncts are introduced in IP scope.

## 2. The position of Thai wh-adjuncts

There are asymmetries within the class of wh-adjuncts in Thai. Temporal and rationale adjuncts show a systematic pattern of occurrence in that they appear in multiple positions (i.e. sentence-initially, in-situ) in a clause. Manner and locative adjuncts, however, only appears in-situ. I propose that Thai wh-adjuncts are analyzed as right-adjoined (Ernst 2002) in which they are base-generated in their surface position. I show that manner is introduced in a relatively low position (i.e. close to V), while rationale adjuncts occur in a relatively high position.

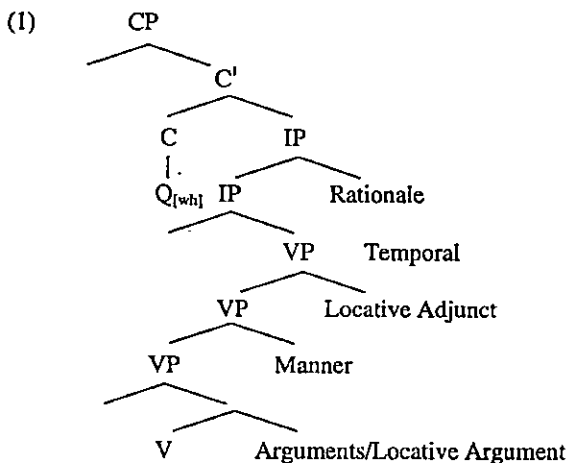


Table in (2) shows a fixed ordering of wh-manner and wh-rationale, while wh-locative and wh-temporal permute freely in general. Wh-manner is found very low close to the verb, while wh-rationale is found very high, further away from the verb. As shown in table (2), 'how' can appear before 'where', 'when' and 'why'. 'where', on the other hand, cannot

appear before 'how'. The order of 'where' and 'when' can be reversed. 'why' cannot appear before 'how', 'where' and 'when'.

(2) Wh-adjuncts (vertical = 1<sup>st</sup> element, horizontal = 2<sup>nd</sup> element)

Wh-adjuncts	How	Where	When	why
How	x	√	√	√
Where	x	x	√	√
When	x	√	x	√
Why	x	x	x	x

Table (3) shows the word order of a declarative adjunct which does not differ from its wh-question counterpart. It however suggests that locative must precede temporal in terms of position. Manner behaves in a parallel fashion to its wh-adjuncts counterpart, in that manner must precede locative, temporal and rationale. Rationale must be preceded by all other adjuncts.

(3) Non-wh-adjuncts

Adjuncts	Manner	Locative	Temporal	Rationale
Manner	x	√	√	√
Locative	*	x	√	√
Temporal	*	x	x	√
Rationale	*	*	*	x

2.1 Wh-manner

Manner can be followed by locative, temporal and rationale (Manner >> Locative, Temporal, Rationale). The answers given confirm the order of wh-adjuncts to be well-formed.

(4) a. Q: k<sup>h</sup>áw do:n mɔ:ŋ yaŋŋay t<sup>h</sup>i:nǎy

he pass stare how where

He was stared at how where?

A: k<sup>h</sup>áw do:n mɔ:ŋ yà:ŋdu:t<sup>h</sup>ù:k t<sup>h</sup>i: talà:t

he pass stare offensively at market

He was stared at offensively at the market.

b. Q: k<sup>h</sup>áw do:n mɔ:ŋ yaŋŋay mɛ̀:arà̀y  
*he pass stare how when*

He was stared at how when?

A: k<sup>h</sup>áw do:n mɔ:ŋ yà:ŋdu:thù:k mɛ̀:awa:nní:  
*he pass stare offensively yesterday*

He was stared at offensively yesterday.

c. Q: k<sup>h</sup>áw do:n mɔ:ŋ yaŋŋay t<sup>h</sup>ammay  
*he pass stare how why*

He was stared at how why?

A: k<sup>h</sup>áw do:n mɔ:ŋ yà:ŋdu:thù:k p<sup>h</sup>rɔ̀?wá: pay t<sup>h</sup>alɔ̀? kàp k<sup>h</sup>onk<sup>h</sup>ǎ:yk<sup>h</sup>ɔ̀:ŋ  
*He pass stare offensively because go argue with vendor*

He was stared at offensively because (he) argued with the vendors.

The ordering of locative preceding manner, on the other hand, causes the ungrammaticality in the corresponding answer (\*Locative >> Manner). This suggests that manner is introduced closer to V than locative.

(5) a. Q: k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>i:nǎy yaŋŋay  
*he pass stare where how*

He was stared at where how?

A: \*k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>i: talà:t yà:ŋdu:thù:k  
*he pass stare at market offensively*

He was stared at at the market offensively.

A: k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>i: talà:t do:n mɔ:ŋ yà:ŋdu:thù:k  
*he pass stare at market pass stare offensively*

He was stared at at the market. (He) was stared at offensively.

When locative precedes temporal and rationale, it shows the same pattern as manner in that it can be followed by them.

- b. Q: k<sup>h</sup>áw do:n mɔ:n t<sup>h</sup>i:nǎy mɛ:arày  
*he pass stare where when*  
 He was stared at where when?
- A: k<sup>h</sup>áw do:n mɔ:n t<sup>h</sup>i: talà:t mɛ:awa:nní:  
*He pass stare at market yesterday*  
 He was stared at at the market yesterday.
- c. Q: k<sup>h</sup>áw do:n mɔ:n t<sup>h</sup>i:nǎy t<sup>h</sup>ammay  
*he pass stare where why*  
 He was stared at where why?
- A: k<sup>h</sup>áw do:n mɔ:n t<sup>h</sup>i: talà:t p<sup>h</sup>rɔʔwá: pay t<sup>h</sup>alɔʔ kàp k<sup>h</sup>onk<sup>h</sup>ǎ:yk<sup>h</sup>ɔʔ:  
*he pass stare at market because go argue with vendor*  
 He was stared at at the market because (he) argued with the vendors.

The ungrammaticality of temporal preceding manner gives us additional evidence that manner is closer to V than the other wh-adjuncts (V >> manner).

- (6) a. Q: k<sup>h</sup>áw do:n mɔ:n mɛ:arày yaŋŋay  
*he pass stare when how*  
 He was stared at when how?
- A: \*k<sup>h</sup>áw do:n mɔ:n mɛ:awa:nní: yà:ŋdu:thù:k  
*he pass stare yesterday offensively*  
 He was stared at yesterday offensively.
- A: k<sup>h</sup>áw do:n mɔ:n mɛ:awa:nní: do:n mɔ:n yà:ŋdu:thù:k  
*he pass stare yesterday pass stare offensively*  
 He was stared at yesterday. (He) was stared at offensively.
- b. Q: k<sup>h</sup>áw do:n mɔ:n mɛ:arày t<sup>h</sup>i:nǎy  
*he pass stare when where*  
 He was stared at when where?
- A: \*k<sup>h</sup>áw do:n mɔ:n mɛ:awa:nní: t<sup>h</sup>i: talà:t  
*he pass stare yesterday at market*  
 He was stared at yesterday at the market.

c. Q: k<sup>h</sup>áw do:n mɔ:ŋ mɛ:arày t<sup>h</sup>ammay

*he pass stare when why*

He was stared at when why?

A: k<sup>h</sup>áw do:n mɔ:ŋ mɛ:awa:nní: p<sup>h</sup>rɔʔwâ: pay t<sup>h</sup>alɔʔ kâp k<sup>h</sup>onk<sup>h</sup>ǎ:yk<sup>h</sup>ǎ:ŋ

*He pass stare yesterday because go argue with vendor*

He was stared at yesterday because (he) argued with the vendors.

## 2.2 Wh-rationale

Empirical evidence for my claim that rationale sits higher in the tree comes from the inability of rationale to precede other wh-adjuncts. All the examples in (7) are ungrammatical when rationale is closer to V.

(7) a. Q: \*k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>ammay yanŋay

*he pass stare why how*

He was stared at why how?

A: \*k<sup>h</sup>áw do:n mɔ:ŋ p<sup>h</sup>rɔʔwâ: pay t<sup>h</sup>alɔʔ kâp k<sup>h</sup>onk<sup>h</sup>ǎ:yk<sup>h</sup>ǎ:ŋ yà:ŋdu:thù:k

*he pass stare because go argue with vendor offensively*

He was stared at because (he) argued with the vendors offensively.

In (7b) and (7c), the only available reading provides for this ordering is that ‘he was stared because he argued with the vendors who were at the market’. The locative and temporal PP (e.g. at a market, yesterday) do not take scope over the entire proposition, rather the predicate in the rationale clause. Therefore, the PPs do not answer the questions of the rationale wh-question that modify the root predicate. From this data, we can establish that rationale occupies positions above locative and temporal.

b. Q: \*k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>ammay t<sup>h</sup>i:nǎy

*he pass stare why where*

He was stared at why where?

A: k<sup>h</sup>áw do:n mɔ:ŋ p<sup>h</sup>rɔʔwâ: pay t<sup>h</sup>alɔʔ kâp k<sup>h</sup>onk<sup>h</sup>ǎ:yk<sup>h</sup>ǎ:ŋ t<sup>h</sup>i: talà:t

*he pass stare because go argue with vendor at market*

= (i) He was stared at because (he) argued with the vendors *at the market*.

≠ (ii) He was stared *at at the market* because (he) argued with the vendors.

- c. Q: \*k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>ammay mɛ̃:aràɣ  
*he pass stare why when*  
 He was stared why when?
- A: k<sup>h</sup>áw do:n mɔ:ŋ p<sup>h</sup>rɔ́wá: pay t<sup>h</sup>alɔ́? kàp k<sup>h</sup>onk<sup>h</sup>á:yk<sup>h</sup>ɔ́:ŋ mɛ̃:awa:nní:  
*he pass stare because go argue with vendor yesterday*  
 = (i) He was stared at because (he) argued with the vendors *yesterday*.  
 ≠ (ii) He was stared at *yesterday* because (he) argued with the vendors.

In this section, I have shown that manner occupies a very low position, occurring before all others while rationale occupies a very high position, occurring after all others. This gives us the order in (8). And in the next section, I determine relative order of the middle two, wh-locative and wh-temporal.

- (8) V >> manner >> rationale

### 2.3 Wh-locative >> wh-temporal

I argue that wh-locative adjuncts are generated lower than wh-temporal. The evidence comes from their non-wh adjunct counterparts. The grammaticality contrast in the answers given in (9a) and (9b) shows that the order time before place is found to be less acceptable than that of place before time.

- (9) a. Q: k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>i:nǎy mɛ̃:aràɣ  
*he pass stare where when*  
 He was stared at where when?
- A: k<sup>h</sup>áw do:n mɔ:ŋ t<sup>h</sup>i: talà:t mɛ̃:awa:nní:  
*he pass stare at market yesterday*  
 He was stared at at the market yesterday.
- b. Q: k<sup>h</sup>áw do:n mɔ:ŋ mɛ̃:aràɣ t<sup>h</sup>i:nǎy  
*he pass stare when where*  
 He was stared at when where?
- A: \*k<sup>h</sup>áw do:n mɔ:ŋ mɛ̃:awa:nní: t<sup>h</sup>i: talà:t  
*he pass stare yesterday at market*  
 He was stared at yesterday at the market.

A: mɛ̃:awa:nɲf: do:n mɔ:ŋ tʰi: talà:t  
*yesterday pass stare at market*  
 Yesterday. He was stared at at the market.

There is also evidence from adverbial resumptives. (10b) shows that in the presence of a resumptive locative, locative must appear before temporal. This supports the ordering of locative >> temporal.

- (10) a. \* kʰáw sɛ̃: kʰanǒm mɛ̃:awa:nɲf: tʰi:nàɴ  
*he buy snack yesterday there*  
 He bought some snacks yesterday there.
- b. kʰáw sɛ̃: kʰanǒm tʰi:nàɴ mɛ̃:awa:nɲf:  
*he buy snack there yesterday*  
 He bought some snacks there yesterday.

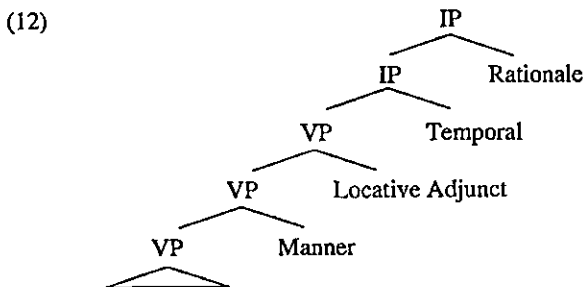
This section concludes my discussion of positions of wh-adjuncts. With regard to relative position and linear ordering, the default order of Thai wh-adjuncts are as follows:

- (11) V >> Manner >> Locative >> Temporal >> Rationale

In the next section, I will distinguish VP wh-adjuncts from IP wh-adjuncts. Since they are different in their attachment sites- adjoining at the edge of VP vs at the edge of IP, yields different construals- this leads me to conclude that only IP wh-adjuncts are allowed to move. VP wh-adjuncts use short scrambles similar to wh-arguments when it comes to VP focus.

### 3. VP wh-adjuncts vs. IP wh-adjuncts

The scopal behavior of wh-adjuncts suggests a split within the class of wh-adjuncts. I argue that wh-adjuncts fall in two different kinds.





### 3.1 Wh-manner and wh-locative as VP wh-adjuncts

Wh-manner strictly appears only in-situ and with a narrow scope. Wide scope ‘how’ is not possible in Thai. Further, the only construal that ‘how’ can have is a manner or a method construal<sup>1</sup>.

- (13) a. Nít            sǒŋsǎy            wâ:    k<sup>h</sup>áw    k<sup>h</sup>àp    rót    [yaŋŋay]  
                   wonder            comp    he        drive    car        how

≠ (i) What was the manner x such that Nit wondered?

= (ii) Nit wondered what was the manner x such that he drove a car?

It is ungrammatical when ‘how’ is in medial position in the clause over which it has scope.

- b. \* Nít            sǒŋsǎy    wâ:    [yaŋŋay]            k<sup>h</sup>áw    k<sup>h</sup>àp    rót  
                   wonder    comp    how                    he        drive    car

≠ (i) What was the manner x such that Nit wondered?

= (ii) Nit wondered what was the manner x such that he drove a car?

It is also ungrammatical when it is in sentential initial position because it cannot have scope over the matrix clause.

- c. \* [yaŋŋay] Nít    sǒŋsǎy    wâ:    k<sup>h</sup>áw    k<sup>h</sup>àp    rót  
                   how            wonder    comp    he        drive    car

≠ (i) What was the manner x such that Nit wondered?

= (ii) Nit wondered what was the manner x such that he drove a car?

This is unlike Chinese where Tsai (1999) notes that ‘how’ has several interpretations: a method/manner reading, a causal reading, and a degree reading with attachment sites corresponding to different interpretation; adjoining VP, adjoining IP and within VP respectively. In Thai, locative adjuncts behave in a parallel fashion to ‘how’.

- (14) a. Nít            sǒŋsǎy    wâ:    k<sup>h</sup>áw    sǎi:    mámu:ŋ    [t<sup>h</sup>i:nǎy]  
                   wonder    comp    he        buy    mango        where

≠ (i) Where was the place x such that Nit wondered?

= (ii) Nit wondered where was the place x such that he bought mangoes?

- b. \* Nít            sǒŋsǎy wâ:    [tʰi:nǎy]    kʰáw    sǎ:    mǎmû:aŋ  
                          wonder comp    where            he            buy    mango
- c. \* [tʰi:nǎy] Nít            sǒŋsǎy wâ:    kʰáw    sǎ:    mǎmû:aŋ  
                          where            wonder comp    he            buy            mango

### 3.2 Wh-temporal and wh-rationale as IP wh-adjuncts

In the following data, I compare Thai ‘how’ and ‘where’ – ‘when’ and ‘why’ with respect to their abilities to take scope. The data shows that ‘how’ and ‘where’ can only be construed as questioning the embedded clause when in-situ. ‘when’ and ‘why’ on the other hand are able to question both matrix and embedded clauses. This scope restriction suggests that VP wh-adjuncts are restricted to the VP domain, whereas IP wh-adjuncts are restricted to the IP domain.

- (15) a. Nít            sǒŋsǎy wâ:    kʰáw    kʰàp    rôt    [yaŋŋay]  
                          wonder comp    he            drive    car            how
- ≠ (i) What was the manner x such that Nit wondered?  
 = (ii) Nit wondered what was the manner x such that he drove a car?
- b. Nít            sǒŋsǎy wâ:    kʰáw    sǎ:    mǎmû:aŋ    [tʰi:nǎy]  
                          wonder comp    he            buy            mango            where
- ≠ (i) Where was the place x such that Nit wondered?  
 = (ii) Nit wondered where was the place x such that he bought mangoes?

(16) is ambiguous in that ‘when’ and ‘why’ are both able to have scope over the matrix clause.

- (16) a. Nít            sǒŋsǎy wâ:    kʰáw    pay    talà:t    [mǎ:arày]  
                          wonder comp    he            go            market            when
- = (i) When was the time x such that Nit wondered?  
 = (ii) Nit wondered when was the time x such that he went to a market?
- b. Nít            sǒŋsǎy wâ:    kʰáw    tʰamrá:y    tuaʔe:ŋ    [tʰammay]  
                          wonder comp    he            hurt            self            why
- = (i) What was the reason x such that Nit wondered?  
 = (ii) Nit wondered what was the reason x such that he hurt himself?

It is not only in the scope restriction that they show their differing behavior but also in island sensitivity. IP wh-adjuncts are island sensitive while VP wh-adjuncts show apparent island, suggesting that they are base-generated.

- (17) a. k<sup>h</sup>un cə: [DP krapǎw [CP t<sup>h</sup>i: Nít t<sup>h</sup>amhǎ:y ] yaŋŋay  
*you find purse comp lose how*

How did you find the purse that Nit lost?

Answer: accidentally

- b. k<sup>h</sup>un cə: [DP krapǎw [CP t<sup>h</sup>i: Nít t<sup>h</sup>amhǎ:y ] t<sup>h</sup>i:nǎy]  
*you find purse comp lose where*

Where did you find the purse that Nit lost?

Answer: in the ladies' room

IP wh-adjuncts on the other hand are sensitive to island effects. Note that the way in which wh-temporal and wh-rationale interact with island constraints is the same as IP wh-adjuncts as opposed to VP wh-adjuncts.

- (18) a. ? k<sup>h</sup>un cə: [DP krapǎw [CP t<sup>h</sup>i: Nít t<sup>h</sup>amhǎ:y mǎ:arǎy]]  
*you find purse comp lose when*

When did Nit lose her purse?

- b. \* k<sup>h</sup>un c<sup>h</sup>ô:p [DP nǎŋsǎ: [CP t<sup>h</sup>i: Nít k<sup>h</sup>i:an t<sup>h</sup>ammay]]  
*you like book comp write why*

Why did you like the book that Nit wrote?

#### 4. Focus displacement strategies

The contrast between VP wh-adjuncts and IP wh-adjuncts appears to demonstrate different focus displacement strategies. While wh-arguments and VP wh-adjuncts exhibit short scrambling, IP wh-adjuncts undergo A' movement for focus displacement in Thai.

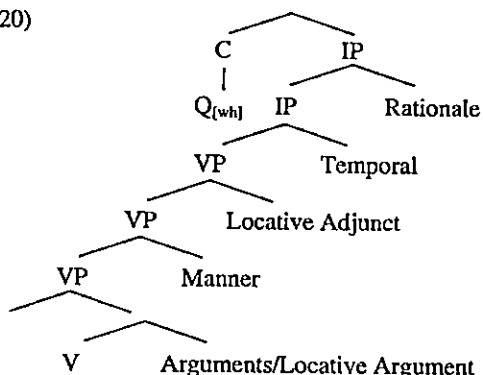
(19)

	VP wh-adjuncts		IP wh-adjuncts	
	Wh-manner	Wh-locative	Wh-temporal	Wh-rationale
A' movement	×	×	√	√
short scrambling	√	√	√?	×
Wh in-situ	√	√	√	√

#### 4.1 Short scrambling of VP wh-adjuncts

As discussed by Miyagawa (1997), there is a scope restriction between short scrambling and long-distance scrambling. Short scrambling is local and restricted to the VP domain, while long-distance scrambling can cross a clause boundary. This difference corresponds to a difference in the adjunction site of wh-adjuncts in Thai.

(20)



In-situ VP wh-adjuncts can be locally re-ordered but declarative adjuncts do not exhibit short scrambling. It is more common to scramble at most two wh-words than three or four of them<sup>2</sup>. When an XP is focused, it must be scrambled to the rightmost position, where it is adjacent to the verb. Empirical evidence of how VP wh-adjuncts can be scrambled but IP wh-adjunct cannot has been shown on the position of wh-adjuncts (see section 2). Although I will not explore this in great detail, I think it is related to the fact that the closer VP adjuncts are to the VP, the more restricted they are with respect to the movement.

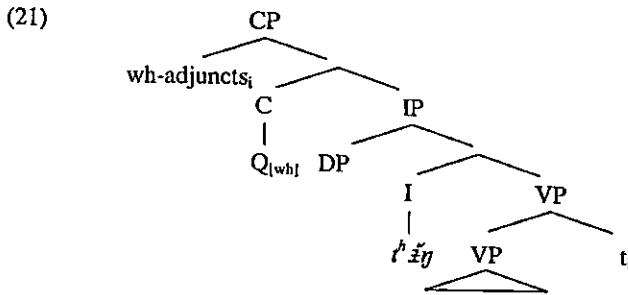
#### 4.2 Deriving wh-focus adjuncts as A' movement

I will look at temporal 'when' and rationale 'why' wh-adjuncts and argue that wh-focus temporal and wh-focus rationale are derived by A' movement. Wh-and focus movement have been argued to target the same projection across a range of languages (e.g. Italian (Rizzi 1995), Hungarian (É. Kiss 1988)). This section will show that Thai focus-fronted wh-adjuncts land in a wh-projection (Spec CP). There is no need to project a separate functional category such as a focus projection (FocP). This supports the claim that 'focus is not a primitive of UG; focus-marking is the by-product of more basic operation' (cf. Hagstrom 1998, Déchaine 2002).

I claim that for the wh-focus adjuncts, sentence-initial position is attributable to wh-movement, rather than wh-focus words moving to SpecFocP. What triggers wh-focus

movement in wh-adjuncts is the [+foc] marker that occupies a preverbal position higher than I, but lower than the subject. Based on the data we have seen so far, it appears that focus in Thai shows an obligatory left edge effect to Spec CP.

Schematically:



#### 4.2.1 Focus morpheme $t^h_{xi}$

$t^h_{xi}$  is inherently associated with focus, generally appears preverbally (22a), and can only co-occur with root modals (23).

Context: Nit is having a final exam tomorrow.

- (22) a. Nít       $t^h_{xi}$       ?à:n      nǎŋsǎ:  
                  even    read    book

lit = This is why Nit read the book (which is unusual for Nit).

Nit is even reading the book.

Context: Nit has been beaten up for some time.

- b. Nít       $t^h_{xi}$       tōŋ      yà:  
                  even                    must    divorce

lit = (This is the reason) why Nit needs to get divorced.

$t^h_{xi}$  cannot co-occur with the root modal that expresses weak obligation (23a) or epistemic modals (possibility) as shown in (23b).

- (23) a. \* Nít       $t^h_{xi}$       k^h\_u:an cà?      ?à:n      nǎŋsǎ:  
                  even    should will    read    book

\* Nit should even read the book.

b. \* Nít tʰɛ̃ŋ ʔà:t cà? ʔà:n nǎŋsɛ̃:  
*even may will read book*

Nít may even read the books.

This indicates that the morpheme *tʰɛ̃ŋ* is associated with volitional and obligational modals which are agent-oriented.

(24) Co-occurrence of *tʰɛ̃ŋ* with volitional and obligational modals

	<i>tʰɛ̃ŋ</i> allowed
weak obligation and epistemic modals	*
volitional and obligational modals	√

Interestingly, when the focus morpheme *tʰɛ̃ŋ* is used and associated with the wh-temporal and wh-rationale, only A' movement is possible (not wh in-situ). The next section demonstrates the relation of *tʰɛ̃ŋ* 'even' and wh-adjuncts how they both tie to the focus phenomenon.

4.2.2 Interaction between *tʰɛ̃ŋ* 'even' and wh-focus adjuncts

In the case of wh-adjuncts, it appears that *tʰɛ̃ŋ* behaves as a focus marker that attracts wh-adjuncts to the leftmost projection (Spec CP), triggering wh-movement.

4.2.2.1 Wh-temporal vs. wh-rational

(25) is a simple wh-question requesting information. (26) in which the wh-adjunct is moved, has a different interpretation from the sentence where it remains in-situ.

(25) Q: Lék cà? ri:ancòp [mɛ̃:arày]  
*will graduate when*

When will Lek graduate?

Wh in-situ

A: pi: nâ:

*year next*

Next year

- (26) Q: [mɛ̃:arəy] Lék cà? ri:ancòp  
*when will graduate*  
 When is it exactly that Lek will graduate? Wh-movement
- A: hě̃n wā: cà? sò:p kla:ŋ dɛ̃:an nā:  
*see comp will defend middle month next*  
 She told me that she will be defending in the middle of next month.

Both (25) and (26) involve a contextual presupposition that Lek has been studying for a degree her Ph.D in Canada for more than six years). The speaker in (25) wants to know when Lek will graduate. On the other hand, (26) is emphatic in that the speaker expects a specific answer as to the particular time of Lek's graduation.

Wh-focus movement cannot occur in a past time event, as shown in (27b), because we cannot focus the sub-interval time event that already took place. Hence, when wh-temporal is focused, only a future reading is possible.

- (27) a. Nít yà: [mɛ̃:arəy]  
*divorce when*  
 When did Nit divorce? Wh in-situ
- b. \* [mɛ̃:arəy] Nít yà:  
*when divorce*  
 When was it exactly that Nit divorced? Wh-movement

Wh-rationale, on the other hand, allows focus-fronting in past time events. It is obligatory for wh-rationale to move to the left edge when  $t^h \check{x}ŋ$  appears in preverbal position. Leaving wh-rational in-situ causes an ungrammaticality. This pattern is also found in negation constructions as shown in (28).

- (28) a. \* Nít t<sup>h</sup>ŋ yà: [t<sup>h</sup>ammay]  
*even divorce why*  
 Why was it exactly that Nit divorced? Wh in-situ
- b. [t<sup>h</sup>ammay] Nít t<sup>h</sup>ŋ yà:  
*why even divorce*  
 Why was it exactly that Nit divorced? Wh-movement

Negation also induces wh-focus movement in order to have a focus construal.

- (29) a. Nít mây yà: [t<sup>h</sup>ammay]  
*neg divorce why*  
 = (i) Nít did not divorce and why is that so? Wh in-situ  
 ≠ (ii) Why was it exactly that Nít did not divorce?
- b. [t<sup>h</sup>ammay] Nít mây yà:  
*why neg divorce*  
 Why was it exactly that Nít did not divorce? Wh-movement

Wh-focus movement is also forced where a root modal (30b) appears in a wh-question.

- (30) a. \* k<sup>h</sup>áw t<sup>h</sup>ǎŋ tōŋ ʔà:n nǎŋsǎ: [t<sup>h</sup>ammay]  
*he even mod read book why*  
 Why must he even read a book? Wh in-situ
- b. [t<sup>h</sup>ammay] k<sup>h</sup>áw t<sup>h</sup>ǎŋ tōŋ ʔà:n nǎŋsǎ:  
*why he even mod read book*  
 Why is it exactly that he must read a book? Wh-movement

Wh-focus movement is obligatory when the focus morpheme t<sup>h</sup>ǎŋ, root modals or negation appear in the clause.

(31)

	Wh-focus temporal	Wh-focus rationale
cà? obligatory	√	
cà? optional	*	
t <sup>h</sup> ǎŋ obligatory		√
t <sup>h</sup> ǎŋ optional		*

The questions that arise are ‘can focus movement target the same projection as wh-movement?’ and ‘What position does this focus marker occupy in the syntactic structure?’

#### 4.2.3 Wh-adjuncts as A' movement

I begin the discussion by accounting for Wh-adjuncts as A' movement. I now compare Thai and English and show that movement of wh-focus adjuncts in Thai has the properties of wh-movement.



Wh-focus adjunct movement is unbounded similar to that of wh-movement.

- (32) a. mɛ̃:arày<sub>i</sub> k<sup>h</sup>un k<sup>h</sup>ít wâ: t<sub>i</sub> Nít cà? ri:ancòp t<sub>i</sub>  
*when you think comp fut graduate*  
 When do you think that Nit will graduate?
- b. t<sup>h</sup>ammay k<sup>h</sup>un k<sup>h</sup>ít wâ: t<sub>i</sub> Rɔ:n rú:càk Nít t<sub>i</sub>  
*why you think comp know*  
 Why do you think that Ron knew Nit?

Wh-focus adjunct movement is also sensitive to island effects. When rationale ‘why’ and temporal ‘when’ are inside the islands (e.g relative clause and adjunct island), they are ungrammatical, unlike in-situ wh-arguments (Ruangjaroon 2007). These two adjuncts cannot occur freely in islands nor can they be extracted out of the islands. This indicates that overt wh-focus adjuncts show the usual island properties associated with movement.

Ungrammaticality in relative clause islands<sup>3</sup>

- (33) a. ?k<sup>h</sup>un c<sup>h</sup>ô:p [D<sub>P</sub> nǎŋsɛ̃: [C<sub>P</sub> t<sup>h</sup>í: Nít k<sup>h</sup>í:a:n t<sup>h</sup>ammay]]  
*you like book comp write why*  
 lit = You liked the book that Nit wrote for what reason.  
 = Why did you like the book that Nit wrote? Wh-rationale
- b. \*k<sup>h</sup>un c<sup>h</sup>ô:p t<sup>h</sup>ammay<sub>i</sub> [D<sub>P</sub> nǎŋsɛ̃: [C<sub>P</sub> t<sup>h</sup>í: Nít k<sup>h</sup>í:a:n t<sub>i</sub>]]  
*you like why book comp write*  
 lit = You liked the book that Nit wrote for what reason.  
 = Why did you like the book that Nit wrote? Wh-rationale

Note that the rationale adjunct is only interpreted as modifying the matrix clause.

- c. t<sup>h</sup>ammay<sub>i</sub> k<sup>h</sup>un c<sup>h</sup>ô:p t<sub>i</sub> [D<sub>P</sub> nǎŋsɛ̃: [C<sub>P</sub> t<sup>h</sup>í: Nít k<sup>h</sup>í:a:n t<sub>i</sub>]]  
*why you like book comp write*  
 = (i) What was the reason that you like the book?  
 ≠ (ii) You liked the book that Nit wrote for what reason. Wh-rationale

Ungrammaticality in Adjunct island<sup>4</sup>

- (34) a. \*k<sup>h</sup>áw krò:t [p<sup>h</sup>ró?wâ: Nít klàp t<sup>h</sup>ɛ̃ŋ bân mɛ̃:arày]  
*he angry because come arrive home when*  
 When were you angry because Nit got home? Wh-temporal

- b.\*k<sup>h</sup>áw krò:t m̄:arày [p<sup>h</sup>ró?wá: Nít klàp t<sup>h</sup>ǎŋ bâ:n t<sub>i</sub>]  
*he angry when because come arrive home*  
 When were you angry because Nit got home? Wh-temporal
- c.\* m̄:arày<sub>i</sub> k<sup>h</sup>áw krò:t t<sub>i</sub> [p<sup>h</sup>ró?wá: Nít klàp t<sup>h</sup>ǎŋ bâ:n t<sub>i</sub>]  
*when he angry because come arrive home*  
 When were you angry because Nit got home? Wh-temporal

Having discussed how wh-adjuncts involve A' movement in their structural focus, now I turn to the bigger question of how topicalization and wh-movement interact and why we do not need a focus phrase projection.

#### 4.2.4 The interaction between topicalization and wh-movement

Topicalization in Thai is characterized by the fronting of an NP to the beginning of the clause and the presence of a resumptive pronoun related to the fronted NP (Hoonchamlong 1991). The speaker has an emphatic assertive force about the question.

Context: Kayono's best friend back in Japan has been waiting for her every year to come home and she is anxious to know when is it exactly that Kayono will be back in Japan.

- (35) a. Ka:yonó<sub>j</sub> [m̄:arày]<sub>i</sub> k<sup>h</sup>áw<sub>j</sub> t<sup>h</sup>ǎŋ cà? klàp yí:pùn t<sub>i</sub>  
*when she even fut return Japan*

Kayono<sub>j</sub>, when is it exactly that she<sub>i</sub> will return to Japan?

- b.\*Ka:yonó<sub>j</sub> k<sup>h</sup>áw<sub>j</sub> t<sup>h</sup>ǎŋ cà? klàp yí:pùn [m̄:arày]  
*she even fut return Japan when*

When is it exactly that Kayono will return to Japan?

Context: The speaker has a strong presupposition that Vancouver is a nice place to live and she wonders why is it that Kayono would want to return to Japan.

In (36), the wh-focus word appears between a topicalized argument and its subject resumptive pronoun.

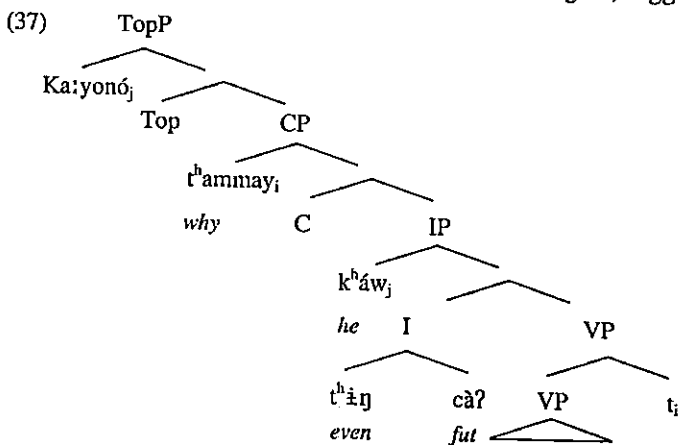
- (36) a. Ka:yonó<sub>j</sub> [t<sup>h</sup>ammay]<sub>i</sub> k<sup>h</sup>áw<sub>j</sub> t<sup>h</sup>ǎŋ cà? klàp yí:pùn t<sub>i</sub>  
*why she even fut return Japan*

Kayono<sub>j</sub>, why is it exactly that she<sub>i</sub> will return to Japan?

- b.\*Ka:yonó<sub>j</sub> k<sup>h</sup>áw<sub>j</sub> t<sup>h</sup>ǎŋ cà? klàp yí:pùn [t<sup>h</sup>ammay]  
*she even fut return Japan why*

Why is it exactly that Kayono will return to Japan?

The fact that topicalization and wh-movement co-occur in (35) and (36) suggests the presence of separate categories for each. And the fact that topicalization precedes wh-focused adjuncts suggests that a topic projection (TopP) targets a higher projection than wh-focused adjuncts. The subject co-indexed resumptive pronoun, on the other hand, targets Spec IP. CP is the only remaining projection above IP. Thus, there is no need to have additional projection between TopP and IP. Wh- and focus are licensed in the same projection: Spec CP. In order to account for cases of focus displacement of wh-adjuncts, I use the notion of probe-goal relation with agree to keep it in the line of Ruangjaroon’s analysis (2007). In terms of probe-goal relation, an element *tʰǎŋ* ‘even’ has a [+foc] feature and in this case it is a probe P. *tʰǎŋ* and wh-adjuncts share a [+foc] feature as a match relation. Agree establishes the feature checking relation between the probe and its goal, triggering movement.



Within the system of probe-goal relation, wh-adjuncts are associated with focus via Agree. This is captured quite elegantly within the present framework.

#### 4.2.5 Wh-focus adjuncts as topicalization?

In this section, I will extend consideration to topicalization and cleft and argue that wh-focus adjuncts undergo a kind of A' movement. At first glance, the absence of the complementizer when wh-adjuncts (i.e. temporal and rationale) are fronted can be evidenced for a topicalization analysis. However, Thai wh-adjuncts do not have properties with respect to topicalization. I provide three arguments to support the claim that wh-focus adjuncts would have to be analyzed as an instance of A' movement. The first argument comes from the

inability of wh-focus adjuncts to occur recursively while topicalization can as shown in (38). There is a parallel between adjunct wh-fronting and topicalization in Thai. In Thai, a topicalized constituent is moved to a sentence-initial position which does not require the presence of the complementizer.

(38) a. m̂:arày Ka:yonó cà? klàp yî:pùn  
*when fut return Japan*  
 When is it exactly that Kayono will return to Japan?

b. t<sup>h</sup>ammay Ka:yonó cà? klàp yî:pùn  
*why fut return Japan*  
 Why is it exactly that Kayono will return to Japan?

When a wh-adjunct is topicalized, the resultant structure is identical to topic strategy.

(39) a. p<sup>h</sup>rûgní: Ka:yonó cà? klàp yî:pùn  
*tomorrow fut return Japan*  
 Tomorrow, Kayono will return to Japan.

b. p<sup>h</sup>ró? Ka:yonó ri:ancòp lé:w lə:y cà? klàp yî:pùn  
*because graduate already then fut return Japan*  
 Because Kayono has already graduated, (she) will return to Japan.

However, Rizzi (1997) argues that one of the characteristics of topic construction is that it is recursive. The data in (39) show that both wh-adjuncts and temporal adverbial and rationale clauses do not appear to be recursive in Thai.

(40) Q: \* m̂:arày t<sup>h</sup>ammay Ka:yonó cà? klàp yî:pùn  
*when why fut return Japan*  
 \*When, why will Kayono return to Japan?

A: \* p<sup>h</sup>rûgní: p<sup>h</sup>ró? Ka:yonó ri:ancòp lé:w lə:y cà? klàp yî:pùn  
*tomorrow because graduate already then fut return Japan*  
 Tomorrow, because Kayono has already graduated, (she) will return to Japan.

The second point is that only arguments are left-dislocated topics in Thai (Hoonchamlong 1991). Topicalized arguments are co-indexed with optional resumptive pronouns, while adjuncts have no corresponding resumptive pronouns that link to true adjuncts when they appear in initial position (41).

- (41) a. Ka:yónó<sub>i</sub> t<sup>h</sup>ammay (k<sup>h</sup>áw<sub>i</sub>) cà? klàp yî:pùn  
           why she fut return Japan  
       Kayono, why will she return to Japan?
- b. \*ʔa:t<sup>h</sup>ít<sup>h</sup>í:lé:w k<sup>h</sup>áw há:y pay nǎy ma: c<sup>h</sup>û:aj we:la: nán  
       week-last he disappear go where come interval time dem  
       \*Last week<sub>i</sub>, where did he go that time<sub>i</sub>?

Finally, as Hoonchamlong (1991) points out, topicalized constructions in Thai wh-movement are not subject to island constraints as my third argument.

- (42) a. c<sup>h</sup>án dāyyin k<sup>h</sup>à:w wā: Su:mi tètɲa:n  
           I hear news comp marry  
       I heard the news that Soomii married.
- b. Su:mi<sub>i</sub> c<sup>h</sup>án dāyyin k<sup>h</sup>à w wā: (k<sup>h</sup>áw<sub>i</sub>) tètɲa:n  
           I hear news comp she marry  
       Soomii, I heard the news that she married.

Temporal adjuncts, on the other hand, are constrained by islands. In (43a), the adjunct is inside a relative clause having an embedded scope interpretation. When it is moved out of the island, it no longer has an embedded interpretation as shown in (43b).

- (43) a. c<sup>h</sup>án dāyyin k<sup>h</sup>à:w wā: Su:mi tètɲa:n ʔa:t<sup>h</sup>ít<sup>h</sup>í:lé:w  
           I hear news comp marry week-last  
       I heard the news that Soomii married last week.
- b. ʔa:t<sup>h</sup>ít<sup>h</sup>í:lé:w<sub>i</sub> c<sup>h</sup>án dāyyin k<sup>h</sup>à:w wā: Su:mi tètɲa:n t<sub>i</sub>  
       week-last I hear news comp marry  
       Last week, I heard the news that Soomii married.

As mentioned in section 4.2.3, the fact that wh-adjuncts movement is sensitive to islands suggests that they are not topics because topicalization in Thai does not involve movement and is not subject to island constraints (Hoonchamlong 1991). These three pieces of evidence show that topicalization is not an appropriate analysis for wh-adjunct movement.

#### 4.2.6 Wh-focus adjuncts as cleft?

Fronting of Thai wh-adjuncts can also be argued for cleft structure. The only difference between the fronting of wh-adjuncts and wh-arguments is that the complementizer is deleted in the former, while the absence of this complementizer yields an ungrammatical

structure for the latter. This can provide a unified analysis for both fronting of wh-adjuncts and wh-arguments. Temporal and rationale adjuncts can be clefted but the complementizer cannot be deleted. So the absence of complementizer of wh-focus adjuncts does not follow from cleft structure.

(44) a. wan<sup>h</sup>út k<sup>h</sup>ǐ: wan \*(t<sup>h</sup>ǐ:) Nǐk pay talà:t  
*day-Wed be day comp go market*  
 Wednesday is the day that Nick goes to the market.

b. k<sup>h</sup>wa:m bǐ:a k<sup>h</sup>ǐ: sǎ:hè:t \*(t<sup>h</sup>ǐ:) t<sup>h</sup>am hây k<sup>h</sup>áw lǝ:k ri:an  
*nom boredom be cause comp make give him quit study*  
 Boredom was a cause of him quitting his study.

The purpose of this section has been to explore the idea of wh-adjuncts (i.e. temporal and rationale) undergoing A' movement to SpecCP for focus fronting. The focus sensitive operator occupies a preverbal position, triggering overt wh-movement to the Spec CP at PF level. I have shown that focus position in Thai is dedicated to a left edge position for both wh-arguments and wh-adjuncts, and the difference between them is the way they mark focus structurally. While wh-focus argument properties are attributable to cleft structure, wh-focus adjuncts are marked through A' movement.

(45)

	VP-Internal		VP-External	
	Wh-arguments	Wh-argument locative	Wh-temporal	Wh-rationale
focus-marked through cleft strategy	√	√	×	×
focus-marked through A' movement	×	×	√	√

## 5. Conclusion and typological implications

I have argued in this paper that focus is not a lexical primitive, but rather 'focus-marking is the by-product of more basic operation' identified by Dechaine (2002). Thai structurally marks focus via cleft structure in the case of wh-arguments whereas wh-adjuncts do so through A' movement. To close, I will address some typological claims about wh-questions and suggest how Thai wh-questions fit into the typology of wh-questions. Thai is a

language which marks focus structurally. The properties of Thai focus-displacement derive from different operations.

- (i) Wh-argument focus is mediated by cleft (argument scope).
- (ii) Wh-argument focus also participates in short scrambling.
- (iii) VP wh-adjunct focus is via short scrambling (VP scope).
- (iv) IP wh-adjunct focus is attributable to A' movement (CP scope).

I have investigated the syntactic structure of Thai polarity items and shown that unselective binding of  $Q_{[wh]}$  operator is the correct analysis for wh in-situ languages like Thai. We have seen in this paper that wh-arguments can occur inside islands without any observable effects. This insensitivity to island constraints is not only restricted to in-situ wh-arguments but also wh-cleftings. In general, this tells us that the movement of  $Q_{[wh]}$  operator is not required in this language. Even in contexts where movement is required in other languages, such as focus movement operation, wh-movement is still not required in Thai to derive the syntax of focus. In wh-focus constructions, Thai polarity items are base-generated in subject position at the left edge of predicates via wh-cleft.

However, Thai adjunct wh in-situ are split into three separate domains where wh-argument locative and wh-argument temporal are introduced in the VP-internal domain because they can be bound by non wh-operators the same way as argument wh in-situ are introduced; a VP-external domain where wh-manner, wh-adjunct locative are introduced and higher than the VP-external domain where wh-adjunct temporal and wh-rational are introduced. The use of wh-words as wh-variables for wh-adjuncts are split according to their distinct syntactic structures. This is not surprising because crosslinguistically argument wh in-situ and adjunct wh in-situ do not behave similarly (Huang 1982, Aoun and Li 1993, Rizzi 1997, Cinque 1990). The different properties between the two are normally addressed as an objectual vs. non-objectual distinction (Huang 1982), a referential vs. non-referential distinction (Aoun and Li 1993), individual vs. proposition with respect to scope (Denham 2000) or VP-internal vs. VP-external (Cook 2004).

We see here that Thai exhibits some apparent wh-argument and wh-adjuncts asymmetries. The question that needs to be addressed is how the syntax of Thai polarity items and Thai wh-adjuncts fit into typological claims of wh-questions. Typological claims proposed by Cole and Hermon (1998) and show how their analysis accounts for Thai. Following Cheng (1991), Aoun and Li (1993), and Tsai (2002), they too claim that wh-

questions consist of a question operator OP and a variable. For them, languages differ on whether the operator-variable are combined in a single lexical item.

Their typological claims are applicable to English in that when operator and variable are combined as a single lexical item, they together move at the PF level. Chinese on the other hand operator and variable are not joined as a single item, rather the operator is generated separately from the variable as two items bound by OP.

- (46) a. Q [OP+VAR ] English  
 b. Q [OP... VAR ] Chinese

Cole and Hermon argue for Malay that it allows both options because it shows not only wh-movement but also wh-words as polarity items. As a result, Malay combines operator and variable as a lexical item on the one hand, on the other hand the variable is bound by a separate phonologically null operator. Cole and Hermon's analysis of Malay (1998) is shown in (47) although I leave their mention of the co-occurrence of the morpheme *meng* which is used as one of the diagnostics for wh-movement.

(47) Cole and Hermon's analysis of Malay (1998)

	Types of wh-questions	Feature on Matrix Q	Types of wh-words	Consequences
1. Wh NPs	Full movement	Strong Q	[OP+VAR]	Overt movement Obey wh-islands
	In si-tu	Strong Q [OP...]	...VAR]	Unselective binding No island effects
2. Wh NPs	Partial movement	Strong Q Null wh-expletive inserted	[OP+VAR]	Overt movement of [OP+VAR] to intermediate Spec CP Then, LF OP movement Obey wh-islands
3. Wh Adverbs	Full movement	Strong Q	[OP+VAR]	Overt movement Obey wh-islands

Adopting these typological claims by Cole and Hermon, Thai only exhibits one option with regard to the combination of the operator and variable as two separate items in that the variable can be bound by either null Q operator or non wh-operators.



(48) The syntax of Thai's wh-questions

	Types of wh-questions	Feature on Matrix Q	Types of wh-words	Consequences
1. Wh-arguments	In si-tu	Strong Q [OP...]	...VAR]	Unselective binding No island effects
2. VP wh-adjuncts	Short scrambling	Strong Q	...VAR]	
3. IP wh-adjuncts	Full movement	Strong Q	[OP+VAR]	Overt movement Obey wh-islands

Notes

<sup>1</sup> (i) has a construal of “by what form of transportation will he arrive?”

(i) k<sup>h</sup>áw ma: [yaŋŋay]

he come how

By what means did he arrive?

<sup>2</sup> In such cases, it is contextually restricted (i.e. in an investigation scene) which includes wh-arguments as shown in the following examples.

(i) k<sup>h</sup>áw pay t<sup>h</sup>amrá:y k<sup>h</sup>ray yaŋŋay t<sup>h</sup>i:nǎy m̄i:arày  
he go hurt who how where when

He hurt who how where when?

<sup>3</sup> Ungrammaticality in relative clause island

(i) a.\*k<sup>h</sup>un cə: [DP krapǎw [CP t<sup>h</sup>i: Nit t<sup>h</sup>amhá:y m̄i:arày]]  
you find purse comp lose when  
When did you find the purse that Nit lost?

b.\*k<sup>h</sup>un cə: m̄i:arày<sub>i</sub> [DP krapǎw [CP t<sup>h</sup>i: Nit t<sup>h</sup>amhá:y t<sub>i</sub>]]  
you find when purse comp lose  
When did you find the purse that Nit lost?

c.\*m̄i:arày<sub>i</sub> k<sup>h</sup>un cə: [DP krapǎw [CP t<sup>h</sup>i: Nit t<sup>h</sup>amhá:y t<sub>i</sub>]]  
when you find purse comp lose  
When did you find the purse that Nit lost?

<sup>4</sup> Ungrammaticality in adjunct island

(i) a.?Nit krò:t [p<sup>h</sup>rǒ? Rɔ:n sôm rôt t<sup>h</sup>ammay]  
angry because fix car why  
Nit was angry that Ron fixed the car for what reason.

b.\*Nit krò:t t<sup>h</sup>ammay<sub>i</sub> [p<sup>h</sup>rǒ? Rɔ:n sôm rôt t<sub>i</sub>]  
angry why because fix car  
Nit was angry that Ron fixed the car for what reason.

c. t<sup>h</sup>ammay<sub>i</sub> Nit krò:t [p<sup>h</sup>rǒ? Rɔ:n sôm rôt t<sub>i</sub>]  
why angry because fix car

= (i) What was the reason that Nit was angry

≠ (ii) Nit was angry that Ron fixed the car for what reason.

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