Wh-Dependency in Vietnamese and the Syntax of *Wh*-in-Situ

by

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Abstract

This thesis investigates into the syntax of *wh*-questions in Vietnamese, a language that has rarely been studied in the field of formal syntax.

Vietnamese has a relatively rich inventory of *wh*-elements, each of which carries distinctive syntax and semantics properties. Three syntactic tests, island conditions, intervention effects and indefinite *wh* construals are offered, and we observe that *wh*-nominals do not exhibit island violation effects or intervention effects, and *wh*-phrases have indefinite uses under certain licensing environments. On the other hand, *wh*-adverbs are sensitive to locality constraints, and cannot be *wh*-indefinites.

The results suggest that *wh*-nominals in Vietnamese should be regarded as in-situ *wh*-variables that are unselectively bound by the Q-operator in CP, but *wh*-adverbs are compelled to undergo movement (i.e., QR) because they are inherently quantifiers. Meanwhile, Vietnamese *wh*-questions use a sentence-final particle to signify various semantic/pragmatic effects like realis mood, strengthening/mitigation of illocutionary force, and presupposition. This particle, nonetheless, has no correlation with syntactic locality effects because of its optional occurrence in *wh*-questions which contain island or intervention conditions. This finding poses a challenge to Bruening & Tran's (2006) claims that (a) locality is violated in the absence of the sentence-final particle, and that (b) the particle serves as a key in determining whether unselective binding can work in Vietnamese *wh*-questions.

From a typological perspective, it is argued that Vietnamese and Chinese are grouped together as languages of the unselective binding type, whereas Japanese may be of the Agree type as proposed in Watanabe (2004a). The *wh*-typology is reshaped with respect to what kinds of syntactic features are involved in the *wh*-dependency, though the spirit does not go beyond previous studies.

This thesis also addresses the issue of "*how-why* alternations" in Vietnamese. It is shown that the *wh*-adjunct *làm-sao* (more often used in the southern dialect) displays such effect: When *làm-sao* has scope over a full clause, it is interpreted as causal; when it scopes over VP, only the instrumental reading is obtained. Such behavior substantiates Tsai's (2008) theory as crosslinguistic evidence.

Several differences between Vietnamese and Chinese *wh*-questions have also been presented in this thesis. Vietnamese has two types of "for what", one *reason* and the other *purposive*, each of which corresponds to a specific syntactic position. Finally, considering polarity-*wh* construals, Vietnamese lacks bare-conditionals but possesses a special phrasal construction [one-*wh*-that] as a polarity-*wh* licensing condition.

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Chapter 1

Prelude

1.1 Introduction

This thesis concerns a number of issues of the syntax of Vietnamese *wh*-questions. In essence, Vietnamese is a *wh*-in-situ language.

Wh-in-situ, a subtype of *wh*-dependency relations, has invoked enormous debates and arguments in the research agenda of generative syntax since Huang's (1982b) classic dissertation on Chinese *wh*-in-situ and its consequences to the architecture of grammar in general. Most discussions on this topic centered on the following three questions:

(i)   Do *wh*-words in these languages ever move?
(ii) How and why are these languages different from *wh*-movement languages?
(iii) What are the mechanisms of *wh*-question formations in these languages?

Though hypotheses and proposals vary with respect to different theories (GB or Minimalism), all should agree that in all types of languages, *something must happen in CP* in order to form a *wh*-question; or conversely, a *wh*-question is legitimate only when *something happens in CP*. Semantically, this is conceivable as well since an interrogation-related element must take the widest scope (i.e. CP) in a question, so that the interrogative meaning can be correctly and properly interpreted. It remains to be answered what this *something* is, and *what happens in CP*.

For *wh*-movement languages like English, overt fronting of *wh*-words is explained by the generally acknowledged hypothesis that *wh*-words contain some sort of [+wh] feature and that this feature must appear in (thus move to) Comp to fulfill the *wh*-dependency (see Pesetsky 1982, May 1985, Lasnik & Saito 1992). In the Minimalist Program (Chomsky 2000 and much subsequent work), an EPP feature is responsible for the overt displacement of *wh*-elements. But what about *wh*-words in *wh*-in-situ languages that do *not* front overtly? Additional modifications have to be

made in order to maintain the explanatory power of whatever theory we wish to adopt.

Huang (1982b) initiates an insightful account that recourses to covert movement at Logical Form (LF) which keeps standard assumptions about *wh*-movement intact, even for Chinese *wh*-in-situ, but delimits the effect of Subjacency (Chomsky 1981) to S-Structure only. As a result, languages differ not in whether *wh*-movement occurs or not, but in at which level of representation it takes place. Later during the 80's and 90's, a variety of theories bloomed to account for many other *wh*-in-situ languages previously undiscovered: Quechua (Cole & Hermon 1994), Malay (Cole & Hermon 1998), Sinhala (Hagstrom 1998, Kishomoto 2005), Korean (Choe 1987, Kim 1991). Meanwhile, novel approaches have also been integrated into explaining some familiar *wh*-in-situ languages like Chinese and Japanese (Nishigauchi 1990, Cheng 1991, Watanabe 1992a, b, Aoun & Li 1993b, c, Tsai 1994a, b etc.). As new throretical templates (the Minimalist Progam in Chomsky 1995 and subsequent versions) came into being, the phenomenon of *wh*-in-situ, it seems, no longer receives a unified explanation; syntactic "parameters" are considered to play important parts here (Tsai 1994a, Cole & Hermon 1998, Cheng & Rooryck 2000, 2002), though how parameters are defined may still open for debates.

Two critical factors that have led to further exlporation in this campaign are (a) locality effects and (b) the overt "Q" morpheme in certain languages (e.g. Sinhala). Locality constraints in *wh*-questions are quite typical in *wh*-movement languages like English, given that syntactic displacements are involved during the derivations of *wh*-questions. They do not have any independent Q-morpheme, and what overtly undergo fronting are *wh*-phrases themselves. The characteristics in (1) are attested in *wh*-questions of such languages (cf. Chomsky 1977):

(1)　a.　There is a gap in the *wh*-position.
　　　b.　Locality effects surface.
　　　c.　Moved *wh*-phrases appear at clause-initial positions.

On the other hand, some *wh*-in-situ languages display very different patterns with regard to locality effects, and it has also been reported that some kind of overt Q-element (associated with *wh*-phrases) exists in these languages. (2a-d) list the properties of languages of this type:

(2)　a.　There is no gap in the *wh*-position.
　　　b.　*Wh*-words possess no/parital locality effects.
　　　c.　There is an overt Q-morpheme related to *wh*-interrogatives.
　　　d.　The distribution of the Q-morpheme may be relevant to locality.

If the existence of such Q-morpheme is a crosslinguistic phenomenon (see Cable 2007 for a claim that this is true even for *wh*-movement languages), it turns out that moving *wh* may not be the only way to construct *wh*-dependencies, especially for *wh*-in-situ languages in which *wh*-words do not move on the surface. In other words, the Q-morpheme, separated from *wh*-items, is the *something* that is related to CP.

1.2 Logically Possible *Wh*-Dependencies of *Wh*-Questions in *Wh*-in-Situ Languages

Once we adopt the Q-based analysis, there are several logically possible mechanisms to be derived. They are demonstrated below in Figure 1 (cf. Soare 2007).

Figure 1: Possible types of *wh*-in-situ
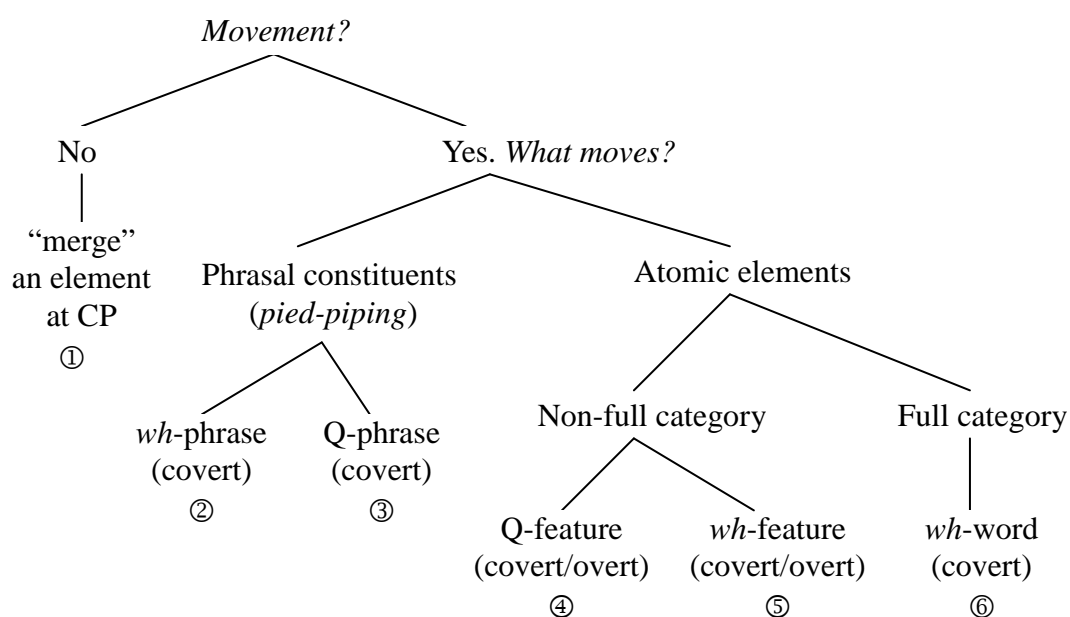
Type ①: *Wh*-dependency of this type does not practice movement; to achieve scopal requirement, some element related to *wh*-scope appears at CP solely via the operation Merge.

Type ②: *Wh*-dependency of this type is built by moving a (large-scale) phrasal chunk containing the *wh*-item to [Spec, CP], where [+wh] feature percolation is needed as a technical device.

Type ③: *Wh*-dependency of this type is built by moving a (large-scale) phrasal chunk headed by the Q-head to [Spec, CP] (viz. Cable's 2007 "Q-projection"). If the Q is null, such movements will be (phonologically) indistinguishable from those of Type ②.

Type ④: *Wh*-dependency of this type overtly or covertly moves just the "Q-feature" to [Spec, CP], with *wh*-words unaffected.

Type ⑤: *Wh*-dependency of this type employs movements of just the "*wh*-feature", assuming feature movement is part of syntactic derivation.

Type ⑥: *Wh*-dependency of this type covertly moves the *wh*-phrase to [Spec, CP] at LF.

Empirical facts prove that one language may involve more than one type of dependency. Sinhala, for example, generally moves its Q-particle overtly/covertly to a scopal position, and when this option is unavailable (in limited cases), a null operator is inserted (Hagstrom 1998, Kishimoto 2005) for that purpose. Thus, Sinhala is a *wh*-in-situ language that incorporates operations illustrated in type ① and ④.

I will aruge in what follows that Vietnamese combines ① and ⑥, the former for *wh*-nominals and the latter *wh*-adverbs.[1]

1.3 **Primary Task and Central Claims**

The research reported in this thesis investigates the syntax of *wh*-interrogatives in Vietnamese, a language of the Austro-Asiatic family spoken by the population of around 70 million, and the official language of Vietnam.[2]

Wh-questions in Vietnamese reveal several properties:

First, *wh*-arguments (*who*, *what*, *which*, etc.) uniformly behave as syntactic variables subject to (unselective) binding by a null Q-operator at the matrix CP. This observation is confirmed by three diagnostics of movement: island effects, intervention effects, and the construal of indefinite-*wh*s.

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[1] Though *wh*-feature movement (à la Chomsky 1995) is technically a possible device, it will not be addressed in this thesis, since for the language we are currently investigating this approach may be theoretically indiscriminate from the one of *wh*-phrasal movement (when it is needed for *wh*-adverbs; see upcoming chapters). See Cheng (2000) for some applications of *wh*-feature movement.

[2] Roughly, Vietnamese has three dialects: the northern, the southern and the central, and they are considered to be different only to a minor degree. The primary informant of this study, a 28-year-old female, speaks the southern dialect.

Second, several *wh*-adjuncts appear to be sensitive to the above constraints, and in this way they should be analyzed as inherent operators, as opposite to *wh*-arguments. I will show, however, that the "adjunct-argument asymmetry" (Lasnik & Saito 1984, 1992) does not cover all phenomena in Vietnamese *wh*-questions, but instead an "adverb-nominal" distinction (Huang 1982b, Aoun & Li 1993b, Tsai 1994a) serves better in this respect.

Third, *wh*-questions in Vietnamese occasionally require the occurrence of a clause-peripheral particle, which only appears at a matrix scope position. Such particle has correlation with Realis mood and certain kind of pragmatic presupposition (Bruening & Tran 2006) as well as the force of calling for attention from the hearer(s). These are typical features associated with the particle, yet from time to time it is still optional under these conditions. In other discourse contexts such as self-murmuring, however, it need not (and can not) take place. The most important is that when it occurs, the clause in question must be a *wh*-question. Consequently, the best hypothesis is that the clause-final particle is an item that marks a sentence as a *wh*-clause; and in addition to that, it also contributes other semantic and pragmatic functions. When it does not appear, I assume that an equivalent C^0 head is present. No matter this particle is overt or not, a Q-feature at this position must be at work for binding in-situ *wh*-words, and no Q-movement (in e.g. Watanabe 1992, Aoun & Li 1993b, c, Hagstrom 1998, Kishimoto 2005 and many others) needs to be introduced into the *wh*-dependency in Vietnamese.

1.4 Thesis Organization

This thesis is organized as follows.

Chapter 2 provides an overview of the basic syntactic properties and of *wh*-questions in Vietnamese.

Chapter 3 demonstrates that argumental *wh*-phrases in Vietnamese do not display sensitivity to island constraints and intervention effects, and furthermore they obtain indefinite readings in some licensing environments.

Chapter 4 discusses various proposals regarding *wh*-in-situ in the literature, and argues for unselective binding as the most fitting one in explaining Vietnamese *wh*-in-situ.

Chapter 5 aims to develop a typology of *wh*-in-situ along with the analysis launched in Chapter 4 and some literature works.

Chapter 6 presents a relevant study on the crosslinguistic phenomenon of *how-why* alternations (Tsai 2008).

Chapter 7 looks into non-syntactic conditions on the existence of the *wh*-particle in Vietnamese.

Finally, I close the thesis in **Chapter 8**.

Chapter 2

Vietnamese Clausal Structure: A Preliminary Sketch

2.1. Aspects of Clausal Structure

This section presents several important aspects of the clausal syntax of Vietnamese, including the distribution of adverbials, relative clauses, and some tense/aspect-related functional categories. These materials should help understand more easily the syntax of Vietnamese *wh*-questions in the chapters to come.

2.1.1. Adverbial positions

Vietnamese is an SVO language, with most phrasal structures sticking to a head-initial configuration (see Duffield 2001 for some head-final phenomena). In a transitive clause, the main verb precedes its complement, and the subject precedes the verb. The indirect object settles between the subject and the direct object in the ditransitive case.

(3) Nam   đi   Hà-Nôi   rồi.   *Transitive*
     Nam   go   Ha Noi   PFV.
     'Nam has gone to Ha Noi.'

(4) Nam   cho   Lam   hai-quyển-sách.   *Ditransitive*
     Nam   give Lam   two-CL-book
     'Nam gave Lam two books.'

Adverbial elements occupy various clausal positions, depending upon their types. Speaker-oriented adverbs such as *không-ngờ* 'unexpectedly' and *thú-thật* 'frankly' precede the subject, as shown in (5):

(5) a. <u>Không-ngờ</u> Nam lại quên đến.
    unexpectedly Nam MOD forget come
    'Unexpectedly Nam would forget to come.'

    b. * Nam <u>không-ngờ</u> lại quên đến.
       Nam unexpectedly MOD forget come

(6) <u>Thú-thật</u> tôi không biết trả-lời.
    frankly I NEG know answer
    'Frankly, I don't know the answer.'

Some subject-oriented adverbial phrases in Vietmanese can be realized in two forms: a lexical adverb, and a consituent containing an adverb and a nominal element *một-cách* 'one-way'. The former appears to the right of the main predicate, while the latter to the left side of it. They are exemplified in (7) and (8).

(7) Nam đang nói-chuyện (với chúng-tôi) <u>một-cách-vui-vẻ</u> (với chúng-tôi)
    Nam PRG speak with us one-way-happily with us
    'Nam is speaking with us happily.'

(8) Nam <u>vui-vẻ</u> nhận-lời đọc truyện cho chúng-tôi nghe.
    Nam happily agree read story for us listen
    'Nam happily agrees to read the story for us.'

VP-level adverbials share a similar pattern with subject-oriented adverbials, as shown in (9)-(10):

(9) a. Nam tra-cứu dữ-liệu <u>một-cách-cẩn-thận</u>.
    Nam search data one-way-carefully
    'Nam searched the data carefully.'

    b. Nam <u>cẩn-thận</u> tra-cứu từng dữ-liệu một.
      Nam carefully search each data one
      'Nam search the data one by one carefully'

(10) a. Nam <u>chầm-chậm</u> bò đến cái-bàn-kia.
     Nam slowly crawl toward CL-table-that
     'Nam crawled to that desk slowly.'

b. * Nam   bò   đến   cái-bàn-kia   <u>chầm-chậm</u>.
   Nam   crawl   toward   CL-table-that   slowly

c.   Nam   bò   đến   cái-bàn-kia   <u>một-cách-chậm-rãi</u>.
     Nam   crawl   toward   CL-table-that   one-way-slow
     'Nam crawled to that desk slowly.'

d. * Nam   <u>một-cách-chậm-rãi</u>   bò   đến   cái-bàn-kia
     Nam   one-way-slow   crawl   toward   CL-table-that

(10a-d) once again confirm that there exists a complementarily distributional relation between the "bare-adverb" and the combinatory constituent [*one-way-adv.*]: The former tends to precede the verb, while the latter follows the whole predicate.

Unfortunately, it is far from obvious whether these two adverbial expressions are semantically distinguishable or not. One informant notes to me that they are almost equivalent, but the formation of the [*one-way-adv.*] adverbial obeys one restriction: only "disyllabic" adverbs are allowed to combine with *one-way*; monosyllabic ones must be ruled out.

Finally, the post-predicate position can also host a resultative phrase, which denotes the resultative state following from the action.

(11) Nam   chạy   <u>mệt-đứt-cả-hơi</u>.[3]
      Nam   run   tired-break-all-breathe
      'Nam ran (herself) tired.'

Summarizing, the three possible merging sites for adverbial phrases in Vietnamese can be represented in (12).

(12)   __1__   Subj   __2__   VP   __3__
       clausal-adv   clausal-/VP-adv   VP-/resultative-adv
                               (bare-adverb)   (phrasal *one-way-adverb*)

2.1.2. Relative clauses

Relative clauses in Vietnamese consist of a nominal head followed by its modifying clause, quite resembling those in English. See (13)-(14) for illustration.

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[3] *Mệt-đứt-cả-hơi* is an idiom chunk meaning "extremely tired".

(13) Tôi thích [cái-cuốn-sách [RC mà anh cho-mượn]].
     I   like   CL-CL-book   that you give-borrow
     'I like the book that you lent me.'   (Nguyen 2004:49)

(14) Tôi thích   [cái-dầm-mới [RC mà cô ấy chọn]].
     I   like   CL-dress-new   that aunt that choose
     'I like the new dress that she chose.'   (Nguyen 2004:59)

In (13), the relative clause *mà anh cho mượn* 'that you lent me' occurs to the right of the head noun phrase *cái-cuốn-sách* 'the book', and a similar structure is also seen in (14). To my knowledge, Vietnamese does not possess headless relative clauses (see Nguyen 2004 for more).

2.1.3. *Some functional categories*

Below in Table 1 are three tense/aspect-related functional elements in Vietnamese that are not easily categorized as modals/auxiliaries or aspect markers (also see Duffield 2007:775).

Table 1: Three tense/aspect-related elements in Vietnamese

	Auxiliary representation	Aspect/Tense representation
đã	have/has	perfect/past (PFV/PST)
sẽ	will	future (FUT)
đang	being	progressive (PROG)

In this thesis I follow Trinh (2005) and adopt the aspect-tense representation to gloss these three items, but not to the exclusion of the possibility that they bear a modal/auxiliary status in this language.[4] Relevant examples are provided in (15)-(17).

(15) Nó **sẽ** đọc   sách.
     he   FUT   read   book
     'He will read books.'   (Trinh 2005)

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[4] See Trinh (2005, fn 3 & 6) for some notes on this matter. He also suggests that *đã* is a phonological realization of both past tense and perfect aspect in Vietnamese. In other words, *đã* may denote either past tense or perfect aspect. I shall not make distinction between the two in glossing, and this will not affect my argumentation here. They both pertain to realis mood, one of the primary issues in this thesis.

(16) Nó **đã** đọc sách.
    he PFV read book
    'He has read books.' (Trinh 2005)

(17) Nam **đang** đọc tiểu-thuyết.
    Nam PROG read novel
    'Nam is reading a novel.'

2.2. *Wh*-Questions: An Overview

Now let's turn to some facts about *wh*-questions (one of the core topics in this study), starting with a descriptive survey of *wh*-words.

2.2.1. Wh-words

A full list of *wh*-words in Vietnamese that I have collected from my own fieldwork is shown in the next page.

Table 2: *Wh*-words in Vietnamese

Wh-words	Vietnamese	Notes
who	*ai*	
what	*(cái-)gì*	*cái* is a classifier/focus marker (Nguyen 2004)
which	*nào*	
where	*đâu*	directional (≈ 'to where')
	ở-đâu	locational (≈ 'at where')
when	*khi-nào*	Lit. 'time-which'
	lúc-nào	Lit, 'moment-which'
	vào-lúc-nào	Lit, 'into-moment-which'
	vào-thời-gian-nào	
	bao-giờ	
how	*làm-sao*	Lit. 'do-why'
	ra-sao	Lit. 'out-why '
	như-thế-nào	Lit. 'like-so-which', used with static predicates
	bằng-cách-nào	Lit. 'by-way-which' used with dynamic predicates
why	*tại-vì-sao*	Lit. 'because-for-why', colloquial usage
	tại-làm-sao	Lit. 'because-do-why', rarely used
	tại-sao	Lit. 'because-why', written usage
	vì-sao	Lit. 'for-why', written usage
	làm-sao	Lit. 'do-why', colloquial usage
	sao	Lit. 'why, colloquial usage
for what	*vì-lẽ-gì*	Lit. 'for-reason-what'
	để-làm-gì	Lit. 'to-do-what'
how long	*bao-lâu*	
how many/ how much	*bao-nhiêu*	

One may have noticed that the last four subtypes of *why* are morphologically subparts of the first two. Specifically, *tai-sao*, *vì-sao*, *làm-sao*, and *sao* are sub-constituents of *tai-vì-sao* or *tai-làm-sao*. All the *why*-forms are likely historically related (i.e., shorter forms are derived from longer forms), though their grammatical functions and modes of use (e.g., colloquial or written) may differ at the present time. Moreover, *làm-sao* (more often used in the southern dialect) is grouped as both "how" and "why". I will show later that this is because *làm-sao* exhibits *how-why* alternations (Tsai 1999b, 2008), whereas other *how*/*why*-terms do not, possibly owing to their morphological nature.

2.2.2. *Wh-clauses*

Vietnamese is virtually a *wh*-in-situ language. All *wh*-phrases remain in their base-generated positions. (18)-(20) list simplex clauses containing *wh*-arguments.

(18) Lam ăn **gì**?
Lam eat what
'What did Lam eat?'

(19) Nam thấy **gì**?
Nam see what
'Who did Nam see?'

(20) Anh gửi **gì** cho Tan?
you give what to Tan
'What did you send to Tan?'

Wh-fronting may occur as a process of contrastive focus movement, with the *wh*-word phonologically stressed, as in (21).

(21) **CÁI-GÌ**$_i$ Lam thích t$_i$ nhưng An không thích t$_i$?
what Lam like but An NEG like
'WHAT is the thing that Lam likes but An does not like?

Wh-adjuncts land in adverbial positions discussed earlier. Typically, *how*-forms appear at the VP-level adverbial position. Moving it to the preverbal area is illegal.

(22) a. Anh cảm-thấy **như-thế-nào**?   [V > *how*]
you feel-see how
'How do you feel?'   (Bruening & Tran 2006:322)

   b. * Anh **như-thế-nào** cảm-thấy   [**how* > V]
you how   feel-see

(23) a. Anh giúp cô-ta **bằng-cách-nào**? [V > *how*]
you help she how
'How do you help her?'   (Bruening & Tran 2006:322)

   b. * Anh **bằng-cách-nào** giúp cô-ta [**how* > V]
you how   help she

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Occasionally, a *wh*-adjunct may appear preverbally. Such cases are licensed by the modality expressing ability.

(24) Canh   mặn quá   tôi **làm-sao** ăn   (được)?
     Soup   salty extremely I   how   eat can
     'The soup is so salty; how can I eat it?'

The temporal *wh*-adverb *bao giờ* 'when' also has two legal positions, one preceding and the other following the (main) predicate. Interestingly, these two sites have to do with tense interpretations (Cao 2007, Duffield 2007). When *bao giờ* precedes the predicate, the sentence obtains a future reading, and otherwise it gets a past reading. The dialogues in (25)-(26) presents the contrast (due to Cao 2007):

(25) A: **Bao-giờ** anh đi?   [when > V: *future*]
         when   you go
         'When will you go?'

     B: Mai   tôi đi.
         Tomorrow   I   go
         'I will go tomorrow'.

(26) A: Anh về   nhà   **bao-giờ**?   [V > when: *past*]
         you back home   when
         'When did you return home?'

     B: Tôi về   nhà   hôm-qua.
         I   back home yesterday.
         'I returned home yesterday?'

In this case, Vietnamese seems to make use of word order or structural hierarchy to maintain tense relation in such *wh*-questions (also see Duffield 2007).

On the other hand, the reason adverb *vì-sao* 'why' consistently resides in the clause-initial position because it scopes over the whole clause. For cases where it follows the subject, the subject is assumed to have undergone topicalization to some Topic projection (à la Rizzi 1997) from its original position [Spec, TP].[5] See (27) and

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[5] This is a natural assumption given that Vietnamese, like Japanese, also has syntactic topicalization with the Topic marker *thì* which marks its preceding constituent as a Topic (Duffield 1999):
(i) (Còn)   tôi (thì), (tôi) hoàn-toàn   tán-thành.
     (as for)   I   TOP   I   completely approve
     'As for me, I fully approve of it.'   (Duffield 1999)

(28) below.

(27) **Vì-sao**   Nam   có-thể   đi   Đài-Bắc?
     why   Nam   can   go   Taipei
     'Why can Nam go to Taipei?'

(28) Nam$_i$ **vì-sao**   t$_i$ có-thể   đi   Đài-Bắc?   *Topicalization*
     Nam   why   can   go   Taipei
     'Why can Nam go to Taipei?'

In (27), the subject *Nam* is to the right of *vì-sao*, and in (28) it undergoes topicalization, moving to the left of *vì-sao* and stops at a Topic projection (within a multiple CP structure). Lastly, the reason adverb *vì-sao* is forbidden to be preceded by the predicate:

(29) *Nam   có-thể   đi   Đài-Bắc   **vì-sao**
     Nam   can   go   Taipei   why

2.2.3. Two types of "for what"

Two *wh*-terms of more complex morphological content, *vì-lẽ-gì* 'for-reason-what' and *để-làm-gì* 'to-do-what', both meaning *for what*, have interesting complementary distribution: The former is allowed only at the pre-VP position, while the latter only the post-VP:[6]

(30) a.   Kẻ-cướp-này   **vì-lẽ-gì**/*để-làm-gì   đi   cướp   ngân-hàng?
       robber-this   for.what/for.what   go   rob   bank
       'For what did this robber rob the bank?'

    b.   Kẻ-cướp-này   đi cướp   ngân-hàng   *vì-lẽ-gì/**để-làm-gì**?
       robber-this   go rob   bank   for.what/for.what
       'For what did this robber rob the bank?'

    c. ?? Vì-lẽ-gì/để-làm-gì   kẻ-cướp-này   đi cướp   ngân-hàng?
       for.what/for.what   robber-this   go rob   bank

Nonetheless, the occurrence of such Topic marker is optional (unlike Japanese), and it is not frequently used, either, according to my informant.
[6] (30c) is felicitous only as a construal of focus.

(31) [Subj [… (*vì-lẽ-gì*) VP (*để-làm-gì*)]]

As is lucid from the glossary, *vì-lẽ-gì* 'for-reason-what' denotes the inquiry for the "reason" of why an individual did something, whereas *để-làm-gì* 'to-do-what' requests the "purpose" of someone's doing something.[7] Specifically, the two *for-what* forms represent two causal relations: (30a) is a question about what the "causes" the robber's robbing the bank, whereas (30b) is about what "enables" the same event.

Let the object in request be X and the robbing episode be Y. The relations between X and Y in these two cases (represented by *vì-lẽ-gì* and *để-làm-gì*) are given as (32a-b):

(32) a.   *vì-lẽ-gì*: X is a *sufficient* condition for Y   ↔   X = the *reason* of Y
     b.   *để-làm-gì*: X is a *necessary* condition for Y ↔   X = the *purpose* of Y

A likely candidate answer for (30a) is "…because he owes an underground bank one million dollars"; the state of owing is a sufficient condition for the robbing, but the reverse does not hold: the robbing does not cause the state of owing. On the other hand, a possible answer for (30b) is "…in order to save his daughter in expensive surgery". This answer, a necessary condition for the robbing, cannot be a "reason" for the latter since the robbing must precede the success of saving.

The "*because*-clause" and "*in order to*-clause" distinction (Higginbotham 1993) in relation to *for-what*-questions is reminiscent of the responses for *why*-questions depicted by the "cause" and "enable" relations in Reinhart (2003) and others:

Enable: The relation **enable** holds when one event is perceived as a **necessary** condition for the occurrence of the second.
        Ex: [*Max entered the pool*] **enables** [*he drowned*]

Cause: The relation **cause** holds when the first event is conceived as a **sufficient** condition for the second.
        Ex: [*a glass falls*] **causes** [*it breaks*]

Note that questions of *for what*, which must be agent-oriented, do not fall into these two relations in Reinhart's system. Rather, such case belongs to the third relation "Motivate", which has to do with mental states (see also Tsai 2008):

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[7] Chinese *wei-le-shenme* 'for what' does not seem to possess the reason reading; it can only be construed as a purposive *wh*-question (Tsai 1999b, 2008).

Motivate: The relation **motivate** holds when either **enable** or **cause** holds, and in addition, a mental state mediates the events.

Ex: [*Max wanted to eat*] **motivates** [*he started to cook*]

According this categorization, "motivate" only differs from "enable" or "cause" in the inclusion of a mental state. That is, "motivate" is either "enable + a mental state" or "cause + a mental state", and this is overtly manifested by *vì-lẽ-gì* and *để-làm-gì*. In this view, Vietnamese discriminates the two kinds of "motivate" relations not only on the morphological level, but also on the syntactic level (viz., by preceding or following VP). This claim, in turn, substantiates Reinhart's semantic treatment of causal relations.[8]

2.2.4. Selectional restriction on CP-complements

One more thing to note. Embedded *wh*-questions in Vietnamese meet selectional restrictions from the verb that governs them (Katz & Postal 1964, Baker 1970). For example, the verb *say* only selects non-interrogative clauses as its CP-complement, and therefore embedding an interrogative clause to such verb will destroy the sentence. On the other hand, a verb like *wonder* selects only an interrogative clause, and we will ruin the sentence if attaching to it a non-interrogative one. Lastly, a verb like *know* has no restrictions on its governed complement clause, so either one will survive. All these are borne out in Vietnamese, as suggested by (33)-(35), due to Bruening & Tran (2006:323-324).[9]

(33) Tân biết   **ai**   đi New-York
     Tan know   who   go New York
     'Tan knows for which person x, x went to New York.'   [know > *wh*]
     'For which person x, Tan knows that x went to New York?'   [*wh* > know]

(34) a. * Tân nói Thơ có   gặp   Lan hay không   [*interrgative]
         Tan say Tho CO meet   Lan or   PRT
         'Tan said whether Tho met Lan.'

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[8] It would be even more interesting to see if the *why*s in Vietnamese demonstrate a similar pattern, since there are also more than one *why*-forms. I leave this question open.

[9] The existence of selectional restrictions posed on complement types in Chinese is one of the reasons that made Huang (1982) propose an LF movement hypothesis for the *wh*-in-situ in Chinese. Nevertheless, since in the current syntactic theory moving *wh* to [Spec, CP] is not the only way to satisfy the scope requirement in forming a *wh*-question, that embedded *wh*-questions in Vietnamese obey such restrictions does not amount to an LF *wh*-movement approach per se. See later discussions.

b.   Tân nói Thơ đã   gặp   **ai**?
     Tan say Tho ASP meet   who
     'For which person x, Tan says Tho met x?'   [*wh* > say]
     *'Tan says for which person x Tho met x'.   [*say > *wh*]

(35) a. Tân muốn   biết   Thơ đã gặp   **ai**[10]
         Tan want   know   Tho ASP meet   who
         'Tan wants to know for which person x Tho met x.'   [wonder > *wh*]
         *'For which person x, Tan wants to know Tho met x?' [*wh* > wonder]

     b. * Tân muốn   biết   Thơ đã gặp Tiên   [*non-interrgative]
          Tan want   know   Tho ASP meet Tien
          'Tan wants to know for which person x Tho met x.'

2.3. Conclusion

I have shown in this section that there is no overt *wh*-movement observed with respect to either *wh*-arguments or *wh*-adjuncts. *Wh*-arguments stay cool in their theta places, and *wh*-adjuncts appear in ordinary adverbial positions in accordance with their scope requirements. If so, how do *wh*-words in this language reach their scope positions (i.e., matrix CP) in *wh*-questions?

    The first hypothesis would be arguing for an LF movement strategy: *wh*-words (or their *wh*-features) do not undergo *wh*-movement in Narrow Syntax, but they do in LF. Alternatively, there could be a covert Q-operator in association with *wh*-elements, in the sense of Watanabe (1992b) for Japanese and Kishimoto (2005) for Sinhala, which binds the in-situ *wh*-words and raises to [Spec, CP] either before Spell-Out or in LF. If such LF process exists, it is expected that the LF movement of the *wh*-words (or Q) should give rise to locality/minimality effects (Rizzi 1990) under certain environments. This sort of proposal is appealing in assimilating *wh*-in-situ of Vietnamese to that of several other *wh*-in-situ languages like Japanese, Korean and Sinhala.

    The second hypothesis states that *wh*-words in Vietnamese should be analyzed as variables, with their binding Q-operator directly merged in CP, along the lines of Cheng (1991), Aoun & Li (1993a, b, c) and Tsai (1994a) for Chinese. This approach (i.e., unselective binding) predicts that *wh*-words are blind to locality/minimality effects, and that *wh*-words themselves can be bound by an existential quantifier (since

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[10] However, the second, wide-scope, reading in (35a) is possible for my informant, although the judgment is somewhat subtle.

they are intrinsic variables) and thus can be construed as indefinites, without resort to morphological makeup (unlike English). Further, such theory still leaves space for very limited LF movement, provided the unavoidable syntactic/semantic distinctions between adverbs and nominals (Tsai 1994a, b, Reinhart 1998).

In the next section, I examine three locality/minimality structures as diagnostics for movement: island effects, intervention effects (Beck 1996) and the construal of indefinite-*wh*s. The results argue in support of **the second hypothesis**, i.e., the unselective binding approach, contra Bruening & Tran (2006).

Chapter 3

Wh-Dependency in Vietnamese I:
Island, Intervention, and *Wh*-Indefinites

3.1. Nonexistence of Island Effects

Island-sensitivity has long been deemed as typically symptomatic of the existence of movement. Movement out of an island yields ungrammaticality, as shown in (36):

(36) [… X $_i$…[$_{island}$… t_i…]…]

      ↑____×____| (*movement blocked*)

In this section, we will examine six island conditions in Vietnamese: Complex NP Island, Sentential Subject Island, *Wh*-Island, Adjunct Island, Coordination Island, and Negative Island (Ross 1967, 1983, Chomsky 1977, 1981, and many others).

    Bruening & Tran (2006) claim that whether Vietnamese *wh*-questions display island effects depends solely on the existence of the clause-final particle. When the particle is present, it licenses the Q-operator at matrix CP so that island effects can be voided by unselective binding. On the other hand, when the particle does not appear, LF *wh*-fronting is compelled to take place, hence the island and intervention effects.

    If Bruening & Tran's finding is correct that unselective binding is possible only when the particle appears (in the matrix clause), we expect to observe trespasses on these island constraints without the particle showing up. To the contrary, the following instances do not concur with this claim: Sentences containing these islands are perfect in the lack of this particle.

3.1.1. Adjunct Island

(37) Anh-ta   [$_{adjunct}$ vì   mua   **cái-gì**]   mà   bị   sa-thải   (vậy)?
    he   because buy   what   CONJ PASS   fired   PRT
    'What is the thing x such that he got fired because (he) bought x?'

(38) Tân vui   [adjunct khi   Lam mặc áo   **gì**]   (vậy)?
     Tan happy   when   Lam dress   clothes   what   PRT
     'What is the clothes type x such that Tan is happy when Lam is dressed in the clothes of x?'

(39) Nam rời-khỏi trường [adjunct sau giờ tan học **bao-nhiêu** phút] (vậy)?
     Nam leave   school   after time close study   how.many   minute PRT
     'What is x such that Nam left school x minutes after the school was over?'

As is previously mentioned, an adjunct phrase in Vietnamese may occur to either the left or the right of the main predicate in a sentence, with a preference to the latter in general. In (37), the adjunct clause including a *wh*-word *vì mua cái-gì* 'because (he) bought what' is in a pre-predicate position, while it is located at the end of the clause in (38) and (39). The matrix mood in (37)-(39) is realis, but the particle *vậy* is optional. The legitimacy of these examples indicates that a *wh*-word does not move out of the adjunct island, either in Narrow Syntax or LF, and the particle *vậy* plays no role in this respect.

3.1.2. Complex NP Island

(40) Tân thích [Complex NP người_i   [CP   t_i   làm nghề   **gì**]] ?
     Tan like   person   do   work   what
     'What is x such that Tan likes the person who does the work of x?'

(41) [Complex NP Người_i   [CP   t_i   đã   làm qua những-điều   **gì**]]
              person   PFV   do   EXP   PL-matter   what
     thì   được   moi-người   goi là   anh-hùng?
     then   PASS   all-person   call is   hero
     'What is x such that the person who did x is called a hero by everyone?'

(42) [Complex NP Người_i   [CP   t_i   mặc   trang-phục   màu   **gì**]]   sẽ
              person   dress   gown   color   what   FUT
     trở-thành   Quốc-Vương?
     become   king
     'What is the color x such that the person dressed in the gown of x will be the King?'

(43) Giáo-viên thích [Complex NP luận-văn$_i$ [CP được sinh-viên viết t$_i$ **làm-sao**]]?
    teacher   like   thesis   PASS student   write   how
    'What is x such that the teacher likes the theses written by students with x?'

In (40), the complex NP [*người làm nghề gì*] contains a *wh*-argument "what". The similar is in (41)-(42). (43) shows that an adjunct *wh*-phrase such as *làm-sao* 'how' is also fine inside a Complex NP Island. Yet, this is not always the case for *wh*-adjuncts: Placing the reason *wh*-adverb *vì-sao* 'why' inside the island results in ungrammaticality, indicating that LF movement is somehow involved here. See the contrast below.

(44) a. * Nam thích   [Complex NP đồ-ăn$_i$ [CP mẹ   **vì-sao** nấu t$_i$]] ?
        Nam like   food   mother why   cook
        Intended: 'What is the method x such that Nam likes the books written by Tan because of x?'

    b. Nam thích   [Complex NP đồ-ăn$_i$ [CP mẹ   nấu **làm-sao** t$_i$]] ?
        Nam like   food   mother cook how
        'What is x such that Nam likes the food (his) mother cooks with x?'

This is reminiscent of the contrast of a "nominal adjunct" *zenme(-yang)* 'how' and an "adverbial adjunct" *weishenme* 'why' in Mandarin Chinese (Aoun & Li 1993b, Tsai 1994a, b). The former has an adjunct-style distribution but can escape from island constraints, whereas the latter still observes them:

(45) Mandarin Chinese *zenmeyang* 'how'
    ni   zui xihuan [[ta **zenmeyang** duen t$_i$] de   niurou$_i$]?
    you most like   she how   stew   PNM   beef
    'What is the means x such that you like best [beef [which she stewed by x]]?'
                                                                        (Tsai 1994a)

(46) Mandarin Chinese *weishenme* 'why'
    *ni   zui   xihuan [[**weishenme** gongzuo] de   ren]?
     you   most like   why   work   PNM   people
    Intended: 'What is the reason x such that you like best [people [who work for x]]?'   (Tsai 1994a)

In this connection, Vietnamese displays an "adverb-nominal asymmetry", where genuine adverbs are not allowed in islands, but nominals are. As Tsai (1994a) has pointed out, such asymmetry is intrinsically distinct from the "adjunct-argument

asymmetry" (Lasnik & Saito 1992) which fails to capture the contrast between (43) and (44) in Vietnamese, as well as (45) and (46) in Mandarin Chinese.

In addition, there is no *vậy* in (40)-(44), which implies that *wh*-in-situ in Vietnamese does not reply on the manifestation of the particle. We shall see more similar examples in the sections to come.

3.1.3. Coordination Island

(47) Nam   đã đi [Hà-Nôi và những-**đâu**] vậy?
      Nam   PFV go Hà Nôi and PL-where   PRT
      'What is the place x such that Nam went to Hà Nôi and x?'

(48) Sau-khi bạn đến Hà-Nôi, bạn đã gập [Nam và những-**ai**] vậy?
      after   you go Hà Nôi you PFV meet Nam and PL-who   PRT
      'Who are x such that after you went to Hà Nôi, you met Nam and x?'

Coordination Island (a.k.a. Coordination Structure Constraint) in (47)-(48) shows the same situation, in which an in-situ *wh*-word is allowed in the island.

3.1.4. Negative Island

(49) Tân   cho-rằng Lam không thích **cái-gì** (vậy)?
      Tan   think   Lam NEG   like   what PRT
      'What is the thing x such that Tam does not think Lam likes x?'

(50) *Tan   cho-rằng Lam không **vì-sao** bị   sa-thải (vậy)
      Tan   think   Lam NEG why   PASS fired PRT
      Intended: 'What is the reason x such that Tan does not think Lam got fired because of x?'

Negative Island (Ross 1983) also tolerates *wh*-in-situ. (49) can be construed as a *wh*-question with *vậy*. If the particle is taken away, this sentence is intended as a non-interrogatve. (50) is completely out since *vì-sao* does not survive in islands.

In the next chapter, we will discuss Negative Island in terms of intervention effect (Beck 1996, Beck & Kim 1997). Here I simply follow Cole & Hermon (1998) in adopting this phenomenon as one instance of island constraints.

3.1.5. Sentential Subject Island

(51) [Subject Tân đã làm chuyện **gì**] khiến anh-ấy bị nhốt vào
        Tan PFV do matter what cause he PASS confine into

nhà-lao vậy?
prison PRT

'What is the matter x such that that Tan did x caused him to be sent to prison?'

(52) a. [Subject Tân cưới **ai**] mà làm Lan đau-lòng vậy?
        Tan marry who PRT make Lan grieve PRT

'Who is x such that that Tan married x made Lan grieved?'

b. * [Subject Tân **vì-sao/tại-vì-sao** cưới] làm Lan đau-lòng (vậy)?
        Tan why/why marry make Lan grieve PRT

c. [Subject Tân nói **ra-sao/làm-sao**] làm Lan đau-lòng (vậy)?
        Tan say how/how make Lan grieve PRT

'What is the way x such that that Tan said with x made Lan grieved?'

d. [Subject Tân kết-hôn **vì-lẽ-gì**] làm Lan đau-lòng (vậy)?
        Tan marry for.what make Lan grieve PRT

'What is x such that that Tan got married for x made Lan grieved?'

(53) [Subject Học **như-thế-nào/làm-sao**] mới có-thể giúp mình thi
        study how/how so.that can help oneself take.test

tốt (vậy)?
good PRT

'What is x such that studying by x can help oneself get good test results?'

The Sentential Subject Island in (51) once again confirms previous observations that a *wh*-word is insensitive to islands in this language. (52a-b) evidence the contrast between *wh*-adverbs and *wh*-nominals: *vì-sao/tại-vì-sao* 'why' cannot appear in the island, but *ai* 'who' is devoid of this problem. (52c-d) show that *wh*-adjuncts *ra-sao* 'how', *làm-sao* 'how' and *vì-lẽ-gì* 'for what' ought to be classified as *wh*-nominals due to their ineffectiveness in island conditions. (53) depicts the same picture.

3.1.6. Wh-Island

(54) Nam muốn biết [liệu **ai** đã đến rồi] vậy?
    Nam want know whether who PFV come PFV PRT

'Who is x such that Nam wonders whether x has come or nor?'

(55) Nam muốn biết [**ai** đã xử lý việc-này **như-thế-nào**]?

Nam want know who PFV judge reason matter-this how

'Who is x and what is y such that Nam wonders whether x handles this matter by way of y?'

(56) Nam hỏi mọi-người là [**ai** muốn bỏ đi **đâu**] vậy?

Nam ask everyone COMP who want leave where PRT

'Who is x and where is y such that Nam asked everyone x wanted to leave y?'

Finally, *wh*-elements can stay intact within *wh*-islands, and no Subjacency violation is attested. Note that this is true even for the adjunct *như-thế-nào* 'how' in (55), in which both a *wh*-argument and a *wh*-adjunct coexist. However, considering cases with the occurrence of *vậy*, a somewhat more complicated picture arises. In (54), *vậy* is obligatory; but in (55) it is forbidden. I do not have a satisfactory explanation to why this is the case by now, but what is indeed crucial here is that *vậy* is not allowed even when the main predicate is realis. Seeming counterexamples await further research.

3.1.7. Interim summary

The presence of the particle *vậy* is not, and can not be, a prerequisite to *wh*-in-situ in Vietnamese. We will see in later chapters that *vậy* contributes subtle semantic and pragmatic functions to a clause, some of which have been correctly suggested in Bruening & Tran (2006), but a clause containing *wh*-words inside an island does *not* need overt realization of this particle. For the six types of islands we have examined, there is clearly no correlation between licit *wh*-in-situ and the overt appearance of *vậy*.

Another important thing that follows from above observations is that the *wh*-adjunct *làm-sao* 'how' is a homophone of adverbial manner-*how*, adverbial causal-*how*, and nominal instrumental-*how*. As the first two, it is subject to island constraints; as the third, it is not. I have also shown that *ra-sao*, *như-thế-nào* and *bằng-cách-nào* are nominal *how*s, *tại-vì-sao*, *vì-sao* and *tại-sao* are adverbial *why*s, whereas *vì-lẽ-gì* and *để-làm-gì* are nominal *why*s/*for-what*s. I summarize them below in Table 3.

Table 3: Syntactic properties of Vietnamese *how*s and *why*s

	*how*s	*why*s
adverbial	*làm-sao*	*tại-vì-sao*, *vì-sao*, *tại-sao*
nominal	*làm-sao*, *ra-sao*, *như-thế-nào*, *bằng-cách-nào*	*vì-lẽ-gì*, *để-làm-gì*

Finally, I end up this section with the following schemas which demonstrate the absence of island constraints of *wh*-phrases in Vietnamese.

(57) a. Adjunct Island: $^{ok}[_{CP} …[_{adjunct} …wh…]…]$
     b. Complex NP Island: $^{ok}[_{CP} …[_{complex\ NP}\ NP\ [_{CP} …wh…]]…]$
     c. Coordination Island: $^{ok}[_{CP} …[_{coordination} …\ wh…]…]$
     d. Negative Island: $^{ok}[_{CP} …[Neg…[…wh…]…]]$
     e. Sentential Subject Island: $^{ok}[_{CP} [_{subject} …wh…]…]$
     f. *Wh*-Island: $^{ok}[_{CP} …[_{CP} …wh_i…wh_j…]…]$

We should bear in mind that only *wh*-nominals are included in (57). As signaled in (44) above, an adverbial *wh*-phrase like *vì-sao* 'why' still obeys island constraints. We will be convinced by more empirical evidence that the "adverb-nominal" discrepancy indeed subsists in Vietnamese *wh*-dependency as the discussion proceeds.

3.2. **Nonexistence of Intervention Effects**

3.2.1. Intervention Effects

Intervention effects (Beck 1996, 2006, Beck & Kim 1997) can be represented as (58) where the LF movement of X over the quantifier Q is blocked.

(58) * [… X_i … [Q … [… t_i^{LF} …]]]

For illustration, look at the German sentence (59). In this example, the *wh*-word *wen* 'whom' precedes and c-commands the negative quantifier *niemand* 'nobody'.

(59) **Wen**   glaubt   niemand daß Karl gesehen hat?
     whom   believes nobody   that Karl seen   has
     'Who does nobody believe that Karl saw?'   (Beck 1996:5)

However, when the order of *wen* and *niemand* is reversed, i.e., when the negative quantifier precedes the *wh*-phrase, the sentence becomes incomprehensible, as in (60).

(60) ??Was   glaubt   niemand **wen**   Karl gesehen hat?
      what   believes nobody   whom   Karl seen   has
     'Who does nobody believe that Karl saw?'   (Beck 1996:3)

For concreteness, note that it is not the structure per se that fails, but rather the negative quantifier *niemand* is at work here, since replacing it with a proper name improves the grammaticality, shown in (61).

(61) Was   glaubt   Luise   **wen**   Karl   gesehen hat?
      what   believes   Luise   whom   Karl   seen   has
      'Who does Luise believe that Karl saw?'   (Beck 1996:4)

According Beck, what rules out (60) is the movement of *wen* which moves across the negative quantifier *niemand* in LF. The same can be seen when the "Q" element in (58) is a universal quantifier such as *jede* 'every' in German, exemplified in the contrast between (62a) and (62b) below.

(62) a.   Wer hat   **warm**   jede   Aufgabe gel&t?
        who has   when   every   problem   solved
        'Who solved every problem when?'   (Beck 1996:26)

     b. ?? Wer hat   jede   Aufgabe **wann**   gel&t?
        who has   every   problem   when   solved
        'Who solved every problem when?'   (Beck 1996:26)

Since the quantifier *jede* c-commands the *wh*-word *wann* in (62b), the raising of the latter at LF necessarily induces ungrammaticality, due to the principle of intervention discussed above. Beck (1996:39) designates "Quantifier-Induced Barrier (QUIB)" and "Minimal Quantified Structure Constraint (MQSC)" as two theorems of intervention:

(63) *Quantifier-Induced Barrier (QUIB)* (Beck 1996:39)
     The first node that dominates a quantifier, its restriction, and its nuclear scope is a Quantifier-Induced Barrier.

(64) *Minimal Quantified Structure Constraint (MQSC)* (Beck 1996:39)
     If an LF trace β is dominated by a QUIB α, then the binder of β must also be dominated by α.

The negative quantifier in (59) and the universal quantifier in (62) serve as the elements that create the QUIB described in (63), and the breakdown of interpretability in (60) and (62b) follows from the infringement on MQSC in (64), because the binder of its trace on the surface structure is not dominated by the QUIB in LF in these two cases. Beck's Intervention hence offers a useful detector for LF movement.

3.2.2. Intervention Effects in Vietnamese

Recall that the sensitivity of *wh*-items to intervention signifies the presence of covert movement. In this section, I will show that in-situ *wh*-phrases (more precisely, *wh*-nominals) in Vietnamese, however, do not display such effects, unlike German.

That Vietnamese *wh*-nominals lack intervention effects is evidenced by (65a-d), where the *wh*-word *ai* 'who' is interpreted as with matrix scope (viz., as *wh*-questions), and such interpretation is not blocked by the quantifiers (negation markers, universally quantified DPs, *only*-focus and adverbs of quantification) that precede it.[11]

(65) a.　tất-cả　　các-sinh-viên　đã　　gặp　　**ai**?　　　[who > all]
　　　　　all　　　PL-student　　PFV　meet　　who
　　　　　'Who have all the students met?'

　　　b.　Nam　đã　　không　gặp　　**ai**?　　　[who > Neg]
　　　　　Nam　PFV　NEG　　meet　　who
　　　　　'Who did Nam not met?'

　　　c.　Nam　thường　gặp　　**ai**?　　　　　[who > often]
　　　　　Nam　often　　meet　　who
　　　　　'Who does Nam often like?'

　　　d.　Nam　chỉ　　gặp　　**ai**?　　　　　　[who > only]
　　　　　Nam　only　　meet　　who
　　　　　'Who did Nam only see?'

A parallel paradigm can be found in *wh*-questions containing the *wh*-adjunct *vào-lúc-nào* 'when':

(66) a.　tất-cả　　các-sinh-viên　học　　**vào-lúc-nào**?　　[when > all]
　　　　　all　　　PL-student　　study　when
　　　　　'When do all the students study?'

　　　b.　Anh-ấy　không　muốn　làm-việc　**vào-lúc-nào**?　　[when > Neg]
　　　　　he　　　NEG　　want　　work　　　when
　　　　　'When did he not want to work?'

---

[11] Tancredi (1990) formalizes the restrictive force of *only* as the Principle of Lexical Association:
(i)　　*Principle of Lexical Association*
　　　An operator like *only* must be associated with a lexical constituent in its c-command domain.
If an in-situ *wh*-word moves at LF out of the c-command domain of *only*, the principle will be violated. Since in Vietnamese sentences like (65d) are grammatical, it plainly follows that no LF movement occurs in this case. See Aoun & Li (1993) for related discussions on Chinese.

c.   Anh-ấy   thường   làm-việc **vào-lúc-nào**?   [when > often]

     he   often   work   when

     'When does he often work?'

d.   Nam chỉ   làm-việc **vào-lúc-nào**?   [when > only]

     Nam only   work   when

     'When does Nam only work?'

Furthermore, another type of scope-bearing unit, modals, does not induce intervention as well in Vietnamese:

(67) a.   Anh-ấy   có-thể   gặp   **ai**?   [who > can]

     he   can   meet   who

     'Who can he meet?'

b.   Anh-ấy   có-thể   làm-việc **vào-lúc-nào**? [when > can]

     he   can   work   when

     'When can he work?'

Assuming an LF *wh*-movement mechanism for Vietnamese *wh*-questions will be unable to explain why there is no intervention effect detected in sentences like (65)-(67). That is, if the *wh*-phrase is obliged to raise to [Spec, CP] in LF, this movement must cross the quantifier that c-commands it, and intervention is invoked. But as (65)-(67) indicate, we do not observe such effect, and therefore resorting to LF movement to accommodate *wh*-in-situ in Vietnamese would be problematic.

     However, limited intervention effects do show up for *wh*-adverbs like *vì-sao* 'why' and *như-thế-nào* 'manner-how' in Vietnamese.[12] When they are c-commanded by a quantifier, the sentence falls out of place, as we can see in (68a-d).

(68) a. *   tất-cả các-sinh-viên **vì-sao**   (đang)   học   [*every > why]

      all   PL-student   why   PROG   study

b. *   Nam không   **vì-sao**   học   [*Neg > why]

     Nam NEG   why   study

c. *   Nam mới   **vì-sao**   học   [*only > why]

     Nam only   why   study

---

[12] *Như-thế-nào* 'how' can be either manner- or method-associated, i.e., it has ambiguous interpretations which cannot be identified by overt morphology. As the former, it is inherently an adverb, in opposite to the latter, a "nominal" adjunct.

d. * Nam   học   **như-thế-nào**?   [*every > how^{manner}]
     Nam   study   how-manner
     Intended: 'With what manner does Nam study?'

The same applies when they are preceded (thus c-commanded) by such adverbs of quantification as *thường-thường* 'usually' and quantificational DPs as *ít người* 'few people'.

(69) a. * Nam thường-thường   **vì-sao**   học   [*usually > why]
       Nam usually   why   study

    b. * Ít   người   **vì-sao**   làm-việc   [*few people > why]
       few person   why   work

This is not surprising if we recall from the discussion on island effects that such *wh*-adverb somehow has to do with LF movement, and is therefore required to be differentiated from other adverbial *wh*-phrases such as *khi-nào* 'when' in (66). If this is the case, the crashing of (68)-(69) follows immediately. I postpone the discussion on LF-related movement of *vì-sao* to Chapter 4.

     Note that intervention aroused by the *even*-focus construction seems to exist in Vietnamese, as revealed by (70) where the subject is focused by *ngay cả…cũng*:

(70) *Ngay-cả Tân cũng ăn   **cái-gì**?   [*what > even]
     even   Tan also   eat   what
     Intended: 'What did even Tan ate?'

(70) may not constitute a real counterexample to the pattern in (65) if we adopt the "Competition Effect" entertained in Yang (2008). On the basis of the Competition Effect, illustrated in (71) below, the deviance in (70) is induced by the principle of "one-slot-per-Comp", i.e., the Focus operator and the Q-operator compete for a single position (here, Comp), resulting in the failure of proper interpretation.

(71) *Competition Effect* (Yang 2008:11)
     The derivation crashes if X and Y compete for the same slot in Comp.

Since such kind of intervention only has connection with the merging site of the operator, rather than the moving path, (70) per se does not argue against the regularity in (65).

3.2.3. Interim summary

We by now arrive at the conclusion that (nominal) *wh*-words in Vietnamese can not be analyzed as quantifiers that undergo *wh*-movement, due essentially to the poverty of intervention effects. Only some *wh*-adverbs of the *vì-sao* 'why' type exhibit sensitivity to intervention.

In the coming section, I launch the third criterion of LF movement—the indefinite *wh*-construal—to examine how *wh*-words in Vietnamese behave in this case. We shall see that Vietnamese *wh*-words are like polarity items which do not possess inherent quantificational force, because they can be interpreted as with either existential or universal quantification, depending on the licensing conditions (in the sense of Kamp 1981 and Heim 1982). Meanwhile, they bear existential force in conditionals much the same as their counterparts in Mandarin Chinese do (see Cheng & Huang 1996).

3.3. *Wh*-Words in Vietnamese as Polarity Items

A polarity item can occur only under proper licensing conditions (Ladusaw 1980, Progovac 1994, Giannakidou 1998, among many others). *Any* in English, for instance, is a classic case of negative polarity item for it is not sanctioned in declarative clauses, but it is in interrogative, negative or conditional contexts:

(72) a. * I saw anything.   [*declarative]
     b.   I did not see anything.   [negation]
     c.   Did you see anything?   [interrogative]
     d.   If there is anything you like, take it.   [conditional]

Semantically, such polarity item behaves like a bound variable that takes an existential quantifier as its operator. This operator-variable chain obtains when appropriate semantic conditions are met. Syntactically, the variable-like polarity item must appear in the c-command domain of the existential operator. If it is merged too high, the licensing collapses:

(73) *Anything did not belong to me.   [*any > not]

Therefore, polarity items are correctly construed when they are c-commanded by their licensers. The licensers, like their syntactic binders, must be hierarchically higher than the polarity items:

(74) [licenser … [binder$_i$ … [polarity item]$_i$ …] …]

        | |_____↑ *(binding)*

        |_____↑ *(licensing)*
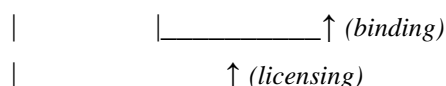
Wh-phrases in some *wh*-in-situ languages have been noted to assimilate polarity items (Kuroda 1965, Huang 1982b, Nishigauchi 1990, Cheng 1991, A. Li 1992, Lin 1998, Jayaseelan 2001, inter alia) in that their indefinite (or indeterminate) readings are secured by certain morphemes. In Japanese, attaching *-mo* and *-ka* to *wh*-phrases yields polarity and existential interpretation, respectively (from Watanabe 1992b):

(75) *Japanese*

<u>Polarity reading</u>		<u>Existential reading</u>	
dare-mo	doko-mo	dare-ka	doko-ka
who-MO	where-MO	who-KA	where-KA
'anyone'	'anywhere'	'someone'	'somewhere'

In Malayalam, the two readings are achieved with two coordination markers: conjunctive *-um* and disjunctive *-oo* (Madhavan 1988, Jayaseelan 2001):[13]

(76) *Malayalam*

<u>Polarity reading</u>		<u>Existential reading</u>	
aar-um	ent-um	aar-oo	ent-oo
who-CONJ	what-CONJ	who-DISJ	what-DISJ
'anybody'	'anything'	'somebody'	'something'

In a radically inflectionless language like Chinese, however, such morphemes are represented by sentential elements like modal/negation/conditional operators. A parametric difference across languages thus lies in where the operator-variable dependency of polarity *wh*-construction is established: the lexical, the phrasal, or the sentential domain.

    What follows will show that Vietnamese indefinite-*wh* construals mainly belong to the Chinese-type: for most cases of *wh*-as-PI, the licenser is a sentential element. A possibly exceptional construction will also be discussed.

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[13] The conjunctive marker *–um* can also adjoin to a clausal periphery, suggesting a distinction between *–um* and Japanese *–mo*:

(i)   aarə paRann-aal-*(**um**),   naan   pook-illa
     who say-if-**CONJ**   I   go-NEG
     'No matter who tells me to go, I will not go.'   (Jayaseelan 2001:77)

3.3.1. Conditional constructions

A typical conditional structure in Vietnamese is introduced by the item *nếu* 'if' in the initial position of the antecedent clause. Under the licensing of *nếu*, *wh*-words have a non-interrogative polarity reading.

(77) Nếu **ai** ăn-hiếp bạn thì cứ báo tôi biết.
     if who bully you then keep tell me know.
     'If anyone bullies you, just tell me.'

(78) Nếu bạn muốn ăn **gì** thì cứ tự mua mà ăn.
     if you want eat what then keep self buy come eat
     'If you want to eat anything, just go and buy it by yourself.'

(79) Nếu bạn muốn đi **đâu** thì tự đi đi.
     if you want go where then self go PRT
     'If you want to go anywhere, just go by yourself.'

3.3.2. Modality constructions

Modal operators are also found to license an existential reading to *wh*-words. (80)-(85) demonstrate examples of this type of *wh*-indefinites with various c-commanding modality-related items.

(80) Chắc Nam ăn phải **cái-gì** nên mới bị đau-bụng.
     surely Nam eat obtain what so recently PASS ache-stomach
     'He must have eaten something, so his stomach is aching.'

(81) Hình-như Nam đi **đâu** rồi nên cửa mới để mở.
     seem Nam go where PFV so door recently let open
     'Nam seems to have gone somewhere, so the door is open.'

(82) Hình-như có **ai** đó không đến (thì-phải).
     seem EXI who that NEG come perhaps
     'There seems to be someone who has not come.'

(83) Nam chắc bị **sao** rồi, nên mặt-mũi bị xị.
     Nam must PASS how PFV so face-nose PASS sad
     'There must be something happened to Nam, so he looks sad.'

(84) E-rằng   có   chuyện **gì**   sắp   xảy   đến,
     afraid   EXI   matter what forthcoming happen arrive
     nét   mặt của mọi-người   đều   rất   nghiêm trang.
     shape   face of   everyone   all   very   serious
     '(I am) afraid that there is something going to happen, so everyone's face looks
     very serious.'

(85) Có-thể   **ai**   đó   lại   đánh   Nam   rồi.
     maybe   who that again   hit   Nam   PFV
     'Maybe someone hit Dam again.'

(86) *Có-thể Nam   **vì-sao**   ra   khỏi   nhà   rồi,
      maybe Nam   why   out   of   house   PFV
     nên trong   nhà   không   có   người.
     so   in   house   NEG   EXI   person
     Intended: 'Maybe Nam went out for some reason, so that no one is in the house.'

In (80), the modal adverb *chắc* 'surely' occurs at a scope position over the *wh*-element
cải gì 'what'. This adverb licenses an existential reading to the *wh*-element, which in
turn allows it to obtain existential closure. Worth noting is the contrast between (83)
and (86): *sao* 'why' can be a *wh*-indefinite, but *vì-sao* 'why' cannot.

3.3.3. Negation constructions

Negation is virtually another representative type of polarity *wh* licenser (also see
Duffield 2007). *Không* and *chẳng* are both negation items in Vietnamese, whose
differences shall not concern us here.

(87) Nam không   mua   **gì**   cả.
     Nam NEG   buy   what   at.all
     'Nam did not buy anything at all.'

(88) Không **ai**   chịu   giúp-đỡ   anh-ấy.
     NEG   who   willing help   him
     'No one is willing to help him.'

(89) Không   có   chỗ   **nào**   là   nơi   Nam   muốn   đến cả.
      NEG   EXI   place   which   is   place   Nam   want   go   at.all
      'Nam wants to go nowhere' (Lit. 'There is no place to which Nam wants to go')

(90) Nam   đi   đâu   rồi?   Anh-ấy   chẳng   đi   **đâu**   cả.
      Nam   go   where   PFV   he   NEG   go   where   at.all
      'Where did Nam go?'   'He did not go anywhere.'

3.3.4. Future environments

Certain future environments allow existential *wh*-phrases as well, as in the case of imperative clause (91) and irrealis clause (92):

(91) Các-em,   **ai**   giúp   cô   rót   ly   trà   với!
      you   who   help   sister   pour   cup   tea   with
      'You (all), someone make me (sister) a cup of tea!'

(92) mai   tôi   sẽ   mua   **cái-gì**   đó   đến   ăn   (anh   đừng   lo)
      tomorrow   I   will   buy   what   that   come   eat   you   do.not   worry
      'Tomorrow I will buy something to eat (so don't worry about me).'

3.3.5. Yes/No-questions

Similar to (72c) where a yes/no-question anchors polarity *any*, it does the same for polarity *wh*-words. Thus in (93)-(95), only yes/no-questions but not *wh*-questions can be interpreted:

(93) Anh muốn   ăn   **cái-gì**   không?
      you want   eat   what   NEG
      'Do you want to eat anything?'

(94) Có   phải   Nam   nhìn   thấy   **gì**   rồi   không?
      EXI   must   Nam   see   find   what   PFV   NEG
      'Did Nam see anything?'

(95) Có   phải   Nam   cho-rằng   **ai**   đó   đã   đến   đây   rồi   không?
      EXI   must   Nam   think   who   that   PFV   come   here   PFV   NEG
      'Does Nam think anyone had been here?'

3.3.6. Cũng-*Construction*

In the preceding sections, *wh*-PIs are licensed with either the polarity reading (*any-wh*) or the existential reading (*some-wh*). The universal reading is also available when the element *cũng* 'also' is present, shown in (96)-(98) below (also in Duffield 2007):

(96) **Ai**   cũng   đến   rồi.
     who   also   come   PFV
     'Everyone has come.'

(97) Anh   đi   **đâu**   cũng   được.
     you   go   where   also   can
     'You can go everywhere.'

(98) Anh muốn   xử-lý   việc   này   **bang-cách-nào/làm-sao**   cũng   được.
     you want   deal   matter   this   how/how   also   can
     'However you want to deal with this matter, it is allowed.'

Typically, *cũng* follows the *wh*-word to which it licenses universal quantification, and the constituent [*wh-cũng*] forms a phrase of this reading. But this is not necessarily the case as *cũng* need not be adjacent to the *wh*-item:

(99) **Ai**   vào   cũng được
     who   enter   also   can
     'Everyone is allowed to enter.'

(100) Nam   mua   **gì**   về   nhà   mẹ   cũng không   thích
      Nam   buy   what   return   home   mother   also   NEG   like
      'Whatever Nam buys home, (his) mother is unhappy.'

In (99), *cũng* and *ai* 'who' is separated by the verb *vào* 'enter'. In (100), *cũng* and *gì* 'what' are even farther from each other. These two examples therefore argue for an analysis that takes *cũng* as a clausal/sentential modifier, not a phrasal one. Since the *wh*-word is inside the scope of *cũng*, the universal reading emerges.

As an additional note, *cũng* is unable to license more than one *wh*-phrase. This is evidenced by (101)-(102), where only one—the one adjacent to *cũng*—can obtain the universal quantification; the other one maintains the *wh*-interrogative interpretation. To define the licensing restriction of *cũng* on *wh*-words, both adjacency and c-command are to be included as requirements. I will not elaborate this point here.

(101) **Ai**   **cái-gì**   cũng   ăn
     who   what   also   eat
     a.   'Who eats everything?'   [who: interrogative; what: universal]
     b. *'Everyone eats everything.'   [*who: universal; what: universal]

(102) **Ai**   cũng   hôn **ai**
     who_1 also   kiss who_2
     a.   'Who did everyone kiss?'   [who_1: universal; who_2: interrogative]
     b. *'Everyone kissed everyone.'   [*who_1: universal; $what_2$: universal]

3.3.7. Một-Wh-đó *Construction*

Finally, there is one construction that turns a *wh*-word into an existential quantifier: *một-wh-đó* 'one-*wh*-that'. The item *đó* is normally a demonstrative "that", but when it is combined with a *wh*-phrase here, it looks more like a particle of some other kind.

(103) Nam   thấy   **một-ai-đó**   rồi.
     Nam   see   one-who-that   PFV
     'Nam has seen someone.'

(104) Nam   ở   **một-nơi-nào-đó**   rồi.
     Nam   live one-place-which-that   PFV
     'Nam lives somewhere.'

(105) Nam   ăn   **một-cái-gì-đó**   rồi.
     Nam   eat one-CL-what-that   PFV
     'Nam has eaten something.'

See Tran (2009: Chap 4) for a choice funtion account for this construction.

3.3.8. *Interim summary*

The licensing conditions for indefinite-*wh*s in Vietnamese discussed above are summarized in Table 4:

Table 4: Licensing conditions for indefinite-*wh*s in Vietnamese

Licensing condition	Licenser	Binder	Reading
Conditionals	*nếu* 'if'	∃-operator	polarity
Modality construction	modal operator	∃-operator	existential
Negation construction	negation operator	∃-operator	polarity
Future environments	future operator	∃-operator	existential
Yes/no-questions	*có…không*	∃-operator	polarity
cũng-Construction	*cũng* 'also'	∀-operator	universal
Một-Wh-đó -Construction	*đó* 'that'	∃-operator	existential

Note that the licensers in Table 4 are only responsible for "licensing" either existential or universal readings for *wh*-words; "binding" the *wh*-polarity items is a matter for the existential and the universal quantifiers.

By observing such paradigm, we are led to believe that *wh*-words in this language are variables in nature. The next chapter discusses why this should be so.

Chapter 4

Wh-Dependency in Vietnamese II:
An Explanation

In previous sections, several characteristics of *wh*-in-situ in Vietnamese have been explored: island and intervention effects and the construals of *wh*-indefinites. It remains to be unfolded how *wh*-dependency in this language is constructed, based upon our inspections up to now.

As is well known, phenomena concerning *wh*-in-situ in natural languages have received vigorous debates and invoked various explanations within the generative syntax tradition. I will not struggle to review all the relevant literature works in this thesis (nor is this ever attainable), but instead will only focus on several critical theories that shall be relevant to the one accounting for Vietnamese *wh*-in-situ.

4.1. *Wh*-in-Situ in the Literature

4.1.1. LF movement

As was mentioned in the beginning of Chapter 1, Huang (1982a, b) resolves the asymmetry of Chinese and English *wh*-questions by taking the LF representations of *wh*-questions in both languages to be mostly the same, the difference only lying in where ECP and Subjacency should apply. In particular, ECP affects both S-Structure and LF, but Subjacency observes only the former (see also Lasnik & Saito 1984, 1992).

One of the arguments set forth by Huang concerns the selectional restriction of certain verbs on their clausal complements. In English, verbs like *think* select a non-interrogative CP complement, but verbs like *wonder* select an interrogative one. Verbs of the *remember* kind, unlike the other two, poses no selection on its CP complement. The mismatch between the verb and its clausal complement gives rise to violation of selection, thus ungrammaticality. This is exemplified by (106)-(108).

(106) a. **What** does John think Mary bought t?   [what > think]

  b. *John thinks **what** Mary bought t.   [*think > what]

(107) a. ***What** does John wonder Mary bought t?   [*what > wonder]

  b. John wonders **what** Mary bought t.   [wonder > what]

(108) a. **What** does John remember Mary bought t? [what > remember]

  b. John remembers **what** Mary bought t.   [remember > what]

Chinese displays the same pattern of selection: *wen* 'ask' only takes a [+wh] CP as complement, *xiangxin* 'wonder' takes a [-wh] one, while *zhidao* 'know' is compatible with both types of verbs (Huang 1982a:371).

(109) Zhangsan   wen   wo **shei** mai-le   shu.

    Zhangsan   ask   I   who buy-ASP   book

    'Zhangsan asked me who bought books.'   [ask > who]

(110) Zhangsan   xiangxin **shei** mai-le   shu?

    Zhangsan   believe   who buy-ASP   book

    'Who does Zhangsan believe bought books?'   [who > believe]

(111) Zhangsan   zhidao   **shei** mai-le   shu (?)

    Zhangsan   know   who buy-ASP   book

    a. 'Who does Zhangsan know bought books?'   [who > know]

    b. 'Zhangsan knows who bought books.'   [know > who]

The striking similarity of selection in Chinese and English above directs to a unified analysis for *wh*-constructions in both languages. In this sense, Chinese *wh*-phrases should undergo covert *wh*-movement in LF, no less than what they do overtly in English. (109)-(111) then receive the following LF interpretations:

(112) *ask*:   a. * [wh_i [$_{CP}$ … ask [$_{CP}$ … t_i …]]]?

      b.   [$_{CP}$ … ask [wh_i [$_{CP}$ … t_i …]]].

(113) *believe*: a.   [wh_i [$_{CP}$ … believe [$_{CP}$ … t_i …]]]?

      b. * [$_{CP}$ … believe [wh_i [$_{CP}$ … t_i …]]].

(114) *know*:   a.   [wh_i [$_{CP}$ … know [$_{CP}$ … t_i …]]]?

      b.   [$_{CP}$ … know [wh_i [$_{CP}$ … t_i …]]].

Huang's another argument is based upon *wh*-adjuncts. In English, extraction of adjunct *wh*-words from islands are prohibited, as shown in (115)-(117):

(115) *Ban on wh-extraction from Complex NP Island*:
     ***How$_i$** do you like [the cook who made the dish **t$_i$**]?

(116) *Ban on wh-extraction from Adjunct Island*:
     ***How$_i$** did you regret [after the cook made the dish **t$_i$**]?

(117) *Ban on wh-extraction from Sentential Subject Island*:
     ***How$_i$** would [for the cook to make the dish **t$_i$**] be nice?

In Chinese, the reason *wh*-adverb *weishenme* 'why' exhibits a parallel situation in which extraction of such item from syntactic islands is banned, shown in (118)-(120) below:

(118) *ni   zui xihuan [**weishenme** mai shu   de   ren]?   [Complex NP Island]
       you most like   why   buy book DE   person
      *'Why$_i$ do you like [the person who bought the books t$_i$]?'

(119) *ta [zai Lisi **weishenme**   mai shu yihou]   shengqi   le? [Adjunct Island]
       he at Lisi why   buy book after   angry   ASP
      *'Why$_i$ did he get angry [after Lisi bought the books t$_i$]?'

(120) *[wo   **weishenme**   mai shu] zui   hao?   [Sentential Subject Island]
       I   why   buy book most good
      *'Why$_i$ is [that I buy the books t$_i$] best?'

While there are still several other empirical facts related to this observation, (115)-(120) suffice to call for a unifying solution. Huang suggests that the Empty Category Principle (ECP) of Chomsky (1981), which demands a trace be properly governed, captures this difference: If the *wh*-adverb is moved out from an island, its trace fails to be antecedent-governed because the movement crosses the boundary of an island. This is another instance in support of LF movement in Chinese *wh*-in-situ.

Nonetheless, *wh*-arguments behave in an opposite way: There is no island violation found for argumental *wh*-phrases in Chinese as well as in English multiple *wh*-questions (where only one *wh*-phrase is required to move):

(121) ni zui xihuan [mai **shenme** de ren]?   [Complex NP Island]
       you most like   buy   what   DE person
       'What do you like [the person who bought t]?'

(122) Who bought the books that criticized **who**?   [Complex NP Island]

Accordingly, Huang proposes that overt movement is constrained by both Subjacency and ECP, whereas covert movement at LF only observes the latter. This approach nicely accounts for why Chinese *wh*-elements are immune to Subjacency (assuming that they undergo movement in LF): Since only ECP applies at LF, Subjacency is irrelevant at this level of representation.

Huang et al. (2009) point out that although this "selective application" of Subjacency on S-Structure and LF can elegantly deal with certain facts, it remains mysterious why this should be so. In addition, given that S-Structure has been eliminated from the Minimalist Program (Chomsky 1995), this solution becomes inapplicable. Moreover, later literature works, based upon quite a few different languages, have casted doubt on the claim that Subjacency does not affect LF (Barss et al 1991, Bergvall 1983, Cole & Hermon 1994, Ito 1986, Longobardi 1991, Nishigauchi 1990, Pesetsky 1987, Reinhart 1991). It then seems that further modifications or alternatives are necessary for the theory established in Huang (1982a, b). (Cf. Pesetsky 2000 for related discussions on covert movements.)

4.1.2. *LF pied-piping*

Another widely adopted analysis for *wh*-in-situ is LF pied-piping (Choe 1987, Pesetsky 1987, Longobardi 1987, Nishigauchi 1990, Richards 2000, among others). According to suchlike theory, a *wh*-item escapes from island constraints not because it does not move, but because the whole island which contains it has undergone movement at LF.

(123) [… [$_{island}$ …*wh*…]$_i$ [… t$_i$ …]]

        ↑_____|

The LF pied-piping hypothesis is advantageous in being able to account for a variety of phenomena including the absence of Complex NP Constraint and the overt/covert phrasal movement (i.e., movement of a phrasal chunk) in some languages.

And yet, it still suffers from some defects. Theoretically, it requires stipulation of extra apparatus like feature percolation (Nishigauchi 1990). Empirically, there are

languages such as Japanese that are callous about Complex NP Island but susceptible to *Wh*-Island, as shown in (124)-(125):

(124) John-wa   [DP[CP[DP[CP **dare-o**   hihansita]   ronbun]-ga   notta]
       John-TOP   who-ACC   criticized   article-NOM   appeared
       zassi]-o   sagasiteiru   no?
       journal-ACC looking-for   Q
       Lit: 'John is looking for the journal where an article that criticized who
       appeared?'   (Watanabe 1992b:59)

(125) ??John-wa   [Mary-ga **nani-o**   katta   [ka dookaa]] Tom-ni   tazuneta no?
        John-TOP   Mary-NOM what-ACC bought   whether   Tom-DAT   asked   Q
        'What did John ask Tom whether Mary bought t?'   (Watanabe 1992b:13)

The contrast above needs an explanation as to why large-scale pied-piping is available only for a subset of island conditions, but not for all.

　　Fiengo et al. (1988) discuss a number of problems the approach runs into, one of which is why in Japanese large-scale pied-piping only takes place at LF, but not in overt Syntax. This poses as a conceptual inadequacy quite similar to Huang's division of where ECP and Subjacency apply.

　　Another concerns the prediction made by this approach: Answers as responses to *wh*-questions with an island must be constituents no smaller than the island. This excludes elliptical answers which are only subparts of the island. However, such elliptical answers are completely permitted in *wh*-questions involving a Sentential Subject Island or an Adjunct Island, at least in Chinese:

(126) [**shei**   kan zheben   shu]   zui   heshi?   [Sentential Subject Island]
       who   read this   book   most   appropriate
       '*That who read this book is most appropriate?'
       a. *Zhangsan kan zheben shu. 'That Zhangsan read this book'
       b. Zhangsan.   (Fiengo et al. 1988:85)

(127) zhejian   shi   [gen **shei**   lai-bu-lai]   zui   you   guanxi?   [Adjunct Island]
       this   thing   with who come-or-not   most have   relation
       'This thing is most related to whether who will come or not?'
       a. *gen Lisi lai-bu-lai. 'With whether or not Lisi will come'
       b. Lisi.   (Fiengo et al. 1988:85)

As shown in (126) and (127), elliptical phrases which are single items can also be licit answers to island-containing *wh*-questions. Responding with the whole island even results in an infelicitous answer, as in the (a) examples. It follows that pied-piping can not be a universal operation for all types of islands in principle, echoing the contrast between (124) and (125). Still more problems related to this approach are discussed critically in von Stechow (1996), which I shall not continue to take up here.

4.1.3. Q-movement

Recall from (124)-(125) that Japanese demonstrates a pied-piping asymmetry, i.e., Complex NP Condition is observed whereas *Wh*-Island is not. In fact, the former may also be overlooked when *wh*-phrases are "aggressively non-D-linked": *The hell* in English or *ittai* in Japanese forces *wh*-phrases to undergo movement (Pesetsky 1987). In such cases as (128a-b), Japanese as predicted displays complex NP effects because *wh*-items are no longer in-situ, which in turn provides evidence for LF Subjacency.[14]

(128) a.* Mary-wa   John-ni   ittai   **nani-o**   ageta   hito-ni   atta-no?
         Mary-TOP John-DAT   the-hell   what-ACC   gave   man-DAT met-Q

    b.* Mary-wa   John-ga   ittai   **nani-o**   yomu   mae-ni dekaketa-no?
        Mary-TOP John-NOM   the-hell   what-ACC   read   before   left-Q
                                             (Pesetsky 1987:43)

It appears that Japanese does subsume invisible *wh*-movement. However, instead of arguing for an LF *wh*-movement analysis, Watanabe (1992a, b) consider Japanese interrogatives as involving S-Structure movement of an invisible element *Op* from an IP-internal *wh*-phrase to [Spec, CP]. This is schematized as (129):

(129) $[_{CP} [_{IP} \ldots wh\text{-phrase}_i \ldots] [C^0 ka] Op_i]$ (Watanabe 1992a:264)

According to Watanabe, violation of island conditions are attributed to the overt movement of *Op*, triggered by the [+wh] C^0 head, rather than the *wh*-phrase which always remains in-situ, as (129) indicates. When there is only one *wh*-phrase at hand, the *Op* associated with it must move and occupy [Spec, CP] in Narrow Syntax.

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[14] To complete this argument, Pesetsky notes that *ittai* may not be limited as a root phenomenon due to the acceptable sentence (i) (or otherwise *ittai* would be irrelevant to Subjacency):
(i)   Mary-wa   [$_{S'}$ John-ga ittai   **nani-o**   yonda to] itta-no?
     Mary-TOP   John-NOM the-hell   what-ACC read   that said-Q
     'What the hell did Mary say that John read?'   (Pesetsky 1987:112)
Though he also notices that (i) may not be perfect at least for some speakers (ibid.:footnote 18).

Watanabe's Q-movement hypothesis gains crosslinguistic support from Sinhala, an Indo-Aryan language that has an overt morphological identity of the *Op* in Japanese (Hagstrom 1998, Kishimoto 2005). In Sinhala, *wh*-words are generally in-situ, and their interrogative scope in *wh*-questions is specified by a Q-particle *də* or a verbal marking *-e*. A typical *wh*-question in Sinhala is given in (130a), where the Q-particle *də* occurs at a clause-medial position and the verbal marker *-e* is required. Marking the predicate with the neutral marker *-a*, deleting *də*, or placing *də* clause-finally results in ungrammaticality, as in (130b-d) (Kishimoto 2005:3-4):

(130) a.　Chitra　**monəwa də**　gatte?　　　　　　　[V-*e* marking]
　　　　　Chitra　what　　Q　bought-E
　　　　　'What did Chitra buy?'

　　　b.* Chitra　**monəwa** gatta/gatte　　　　　　　[*delete Q]
　　　　　Chitra　what　　bought-A/bought-E

　　　c.* Chitra　**monəwa də**　gatta　　　　　　　[*V-*a* marking]
　　　　　Chitra　what　　Q　bought-A

　　　d.* Chitra　**monəwa** gatta/gatte　　　　**də**　[*clause-final Q]
　　　　　Chitra　what　　bought-A/bought-E　Q

But in (limited) contexts, *də* can take the clause-final position. On such context is the embedded clause of a verb like *know*. Here, the matrix verb can be marked with *-a*, and more importantly, *də* specifies *wh*-scope via surface syntactic position (ibid.:6):

(131) a.　Ranjit　**[kiidenek**　enəwa　kiyəla]　dannəwa **də**?　[*wh* > know]
　　　　　Ranjit　how.many　come-A　that　know-A　Q
　　　　　'How many (people) does Ranjit know will come?'

　　　b.　Ranjit　**[kiidenek**　enəwa　**də** kiyəla]　dannəwa.　[know > *wh*]
　　　　　Ranjit　how.many　come-A　Q　that　know-A
　　　　　'Ranjit knows how many (people) will come.'

Moreover, *də* is found to be sensitive to islands, an indication that it pertains to LF movement. Evidence is offered by the contrast between (132a-b) (ibid.:29):

(132) a. * oyaa　　[Chitra　**kaa-tə**　　**də** dunnə]　potə]　kieuwe
　　　　　you　　Chitra　who-DAT　　Q　gave　book　read-E

b. oyaa   [Chitra **kaa-tə**   dunnə] potə]   **də** kieuwe?
    you   Chitra who- DAT   gave   book   Q   read-E
    'You read the book that Chitra gave to who?'

(132a) says the Q-particle cannot stay inside the Complex NP Island. On the other hand, if it appears outside of the island, the sentence becomes good.

Based on these and many other facts, Kishimoto proposes that *wh*-questions in Sinhala are constructed in the following way (ibid.:2):

"…a Q-particle is first merged in a position to mark a *wh*-constituent and is then moved to clausefinal position as an operator encoding the scope of *wh*-in-situ. This movement occurs either in overt syntax or in LF."

Crucial in his analysis of Sinhala is that *wh*-elements in this language are coherently treated as bound variables, and virtually what is moved for scope in *wh*-questions is the "Q" per se, rather than *wh*-words. The mechanism is formalized in (133a-b).[15]

(133) a. <u>Step 1</u>: Merge *də* at a delimiting position
        [$_{CP}$ [$_{TP}$ … WH *də* …]]

    b. <u>Step 2</u>: Move *də* to scope position
        [$_{CP}$ [$_{TP}$ … WH t$_i$ …] *də*$_i$]   (ibid.:16)

In a nutshell, Sinhala is attested to be a language which makes use of Q-movement to form *wh*-questions, and *wh*-phrases are treated as genuine in-situ variables. Though genetically unrelated, Sinhala looks very much like an "overt-Q" version of Japanese (assuming Watanabe's and Hagstrom-Kishimoto's frameworks) with regard to their *wh*-dependencies.[16]

The (covert) Q-movement analysis is exploited in Aoun & Li (1993b) to account for (restricted) cases of LF movement of *wh*-adjuncts in Chinese. Recall that both Chinese and Vietnamese possess an adverb-nominal asymmetry in respect of island conditions and intervention effects: *wh*-adverbs meet both, whereas *wh*-nominals meet neither. Aoun & Li (1993b:219) proffer the following generalization to explain this asymmetric phenomenon:[17]

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[15] Kishimoto further notes that the Q cannot be directly merged in its scope position.
[16] Hagstrom (2004) also explicitly points out this parallel between Japanese and Sinhala.
[17] More accurately, Aoun & Li (1993) take up the more conventional notion of "argument-adjunct" asymmetry, instead of the "adverb-nominal" asymmetry. But this does not affect my exposition here.

(134) a. A *wh*-in-situ such as *why* in adjunct position must have an antecedent (i.e., must be antecedent-governed) in the minimal clause in which it occurs.

  b. A *wh*-in-situ such as *who* or *what* in argument position need not have a local antecedent in the minimal clause in which it occurs.

Under (134), the violation of island conditions of *why* in Chinese is attributed to the movement of its antecedent—a null Qu-operator—but not *why* itself. The Qu-operator moves to an eligible [Spec, CP] to acquire the scope of *why*. On the other hand, since *wh*-arguments can have their antecedent Qu at a farther [Spec, CP] position, their *wh*-scope can be reached directly by properly merging Qu so that no island violations are detected. (134) can be schematized as (135) below:

(135) a. <u>*Wh*-arguments</u>: $[_{CP1}$ Qu$_i$ $[_{IP1}$ … $[_{CP2}$ $[_{IP2}$ … *wh*$_i$ …]]]]

  b. <u>*Wh*-adjuncts</u>: $[_{CP1}$ ___ $[_{IP1}$ … $[_{CP2}$ Qu$_i$ $[_{IP2}$ … *wh*$_i$ …]]]]
    ↑_____| *(LF movement)*

4.1.4. *Unselective Binding*

The fourth proposal to *wh*-in-situ, unselective binding, has been advocated in Pesetsky (1987), Cheng (1991), Aoun & Li (1993a, b, c), Tsai (1994a, 2008), Cole & Hermon (1998), Cheng & Rooryck (2000), and Reinhart (1998, 2006) with a semantic theorization, each with minor differences from the other. Zavitnevich-Beaulac (2005) offers a study much along the same line.

   The rationale behind unselective binding, dated back to Kamp (1981) and Heim's (1982) treatment of donkey sentences, is that no movement is (and should be) introduced in building *wh*-dependency. Principally, *wh*-elements are analyzed in this framework as "pure" variables without inherent quantification; to form a *wh*-question, a *wh*-variable is bound by a (null) Q-operator that merges at [Spec, CP] to fulfill checking/Agree. Such long-distance dependency between the Q and *wh*-words naturally accommodates the extensive indefinite *wh*-construals and the invalidity of island constraints and intervention effects (see Tsai 1994a, 2008 and Yang 2008).

   Unselective binding, nonetheless, has to tolerate limited exceptions. As we have seen in (118)-(120), the *wh*-adverb *weishenme* 'why' behaves like a *wh*-element in English—it displays island effects. It is also disallowed to have an indefinite use, even under typical licensing environments, as in (136).

(136) *ta hoaxiang **weishenme** likai   le   [*indefinite-*why*]
      he seem   why   leave   PFV
      Intended: 'He seemed to have left due to some reason.'

4.1.5. Summary

   I have shortly reviewed a few influential theories regarding *wh*-in-situ: LF movement, (large-scale) pied-piping, Q-movement and unselective binding. In the next section, I will choose among them the most suitable one for Vietnamese *wh*-in-situ.

4.2. *Wh*-Dependency in Vietnamese: Unselective Binding

Recall that in Vietnamese, *wh*-nominals in *wh*-questions resist island constraints and intervention effects. Any account that employs *wh*-movement (of either *wh*-phrases or merely the Q-operator) at LF will meet difficulty explaining why this is so. On the other hand, an approach like unselective binding eschews the problem because *wh*-words, as variables, do not move at all. It follows that neither island nor intervention effects will be induced. What is in fact correlated with the interrogative scope in *wh*-questions, then, is the Q-operator at CP. Since binding is not blocked by islands or intervening quantifiers (cf. Cheng & Rooryck 2000), island and intervention effects are wiped out accordingly (as long as the Q-operator is located higher than island boundaries or intervening operators).

   Wh-adverbs like *vì-sao*, however, must be exceptional to this approach, provided that they are inherently non-nominal adjuncts which must QR, thereby inapplicable to binding. One line to tackle this anomaly is to follow Aoun (1986), Cinque (1990), Rizzi (1990) and Tsai (1994b) by taking "referentiality" as a key factor: only referential expressions give way to extraction from islands. *Wh*-nominals unambiguously fall into this category. By contrast, *wh*-adverbs are non-referential per se, thus prohibiting extraction. Another line is to pursue with Tsai (1994a) and Reinhart (1998) that *wh*-nominals are considered variables or choice functions, whereas *wh*-adverbs are not. The former can be interpreted as in-situ (both in Syntax and LF), but the latter is obligate to undergo raising due to their quantifier essentiality. I therefore propose that the unselective binding approach (Pesetsky 1987, Cheng 1991, Tsai 1994a, Cole & Hermon 1998) is the most probable syntactic analysis to deal with the *wh*-dependency in Vietnamese. In particular, I argue that Vietnamese *wh*-words (or *wh*-nominals, more precisely) are variables lack of inherent quantificational force, like their Chinese counterparts.

In *wh*-questions, *wh*-nominals do not undergo LF *wh*-movement, because they are not intrinsic existential quantifiers that pertain to QR; rather, they apply to existential closure at VP (Diesing 1992) and get bound by the Q-operator which presumably merges at the CP level.

In intervening environments, *wh*-nominals never shift across the c-commanding quantifier(s) because they are by definition in-situ, so no intervention effects arise. The same holds true for island conditions.

Lastly, in indefinite construals, *wh*-nominals in Vietnamese pattern polarity items in being subject to binding by either a universal or an existential quantifier under proper licensing conditions. Once again, the binders for *wh*-phrases are situated at a clausal domain, and the operator-variable construction is created via long-distance dependency, as much as it is in *wh*-questions.

Schematically, the discussions are represented as follows:

(137) <u>Simple *wh*-questions in Vietnamese</u>:

$$[_{CP} Q_x \ldots [_{IP} \ldots wh(x) \ldots]]$$
|_____↑ (*binding & licensing*)

(138) <u>Island environments in Vietnamese</u>:

$$[_{CP} Q_x \ldots [_{IP} \ldots [_{island} \ldots wh(x) \ldots] \ldots]]$$
|_____↑ (*binding & licensing*)

(139) <u>Intervention environments in Vietnamese</u>:

$$[_{CP} Q_x \ldots [_{IP} \ldots QP \ldots wh(x) \ldots]]$$
|_____↑ (*binding & licensing*)

(140) <u>Indefinite-*wh*s in Vietnamese</u>:

$$[_{CP} Op \ldots [\exists_x / \forall_x \quad [\ldots wh(x) \ldots]]]$$
| |_____↑ (*binding*)
|_____↑ (*licensing*)

Following Cheng (1991), the Q at CP in (137)-(139) is treated as both the binder and the licenser for polarity-item-like *wh*-words. As the binder, it binds the *wh*-variable, composing an operator-variable configuration; it also licenses an interrogative reading by bearing a [+Q] feature. As the licenser, it renders the interrogative interpretation possible. In (140), the licenser is segregated from binder: the former includes such NPI licensers as conditionals, modals, negations, and yes/no-questions, while the latter typically consists of universal and existential quantifiers.

On the other hand, *wh*-adverbs like *vì-sao* 'why' in Vietnamese are internally scope-taking quantifiers, thus the binding mechanics fails to apply. Because they persist to covert movement, island and intervention effects follow, and indefinite construals become absent since *wh*-adverbs cannot provide variables to be bound by the universal/existential quantifier.

4.2.1. *Particle as* wh-*particle and root-scope* wh-*marker*[18]

The legitimacy to argue for unselective binding as the best hypothesis for Vietnamese *wh*-in-situ critically hinges upon the availability of an explicit ingredient in CP which either plays the binder role or marks the matrix *wh*-scope. I claim that the particle *vậy* is the subject in question. Recall that *vậy* is only harmonious with *wh*-questions, but not other types of questions or clauses. This is a strong fact supporting my standpoint: it signifies a clause as a *wh*-interrogative, thence a *wh*-particle in Cheng's (1991) term; further, because it guarantees a clause involving *wh*-words to be a *wh*-question, it fixes the scope (to matrix CP) of *wh*-words in such clause. I provide more examples below to reinforce this argument.

Let me start with my own collected data. First, a general pattern is that the particle *vậy* always appears at the right-end of a *wh*-question, as shown in the matrix *wh*-question (141), the embedded *wh*-question (142), and the *wh*-question (143a) where the *wh*-phrase is contained in an island. Placing *vậy* in a clause-internal position is never possible, as shown by (143b).[19]

(141) Nam   đi   **đâu**   vậy?
      Nam   go   where   PRT
      'Where did Nam go?'

(142) Tân nói   là   Nam   đi   **đâu**   vậy?
      Tan say   COMP Nam   go   where   PRT
      'Where did Tan say that Nam went?'

(143) a. [$_{Subject}$ Tân   cưới   **ai**]   làm   Lan đau-lòng vậy?
               Tan   marry   who   make   Lan grieve   PRT
         'What is the person x, such that that Tan married x made Lan grieved?'

---

[18] I thank Barry Yang for constructive discussions and suggestions on this section.
[19] In this thesis I will not try to justify the assumptions that *vậy* is C[0] and that the word order is due to remnant movement of the large constituent under CP. See Simpson (2001) and Duffield (1999, 2001).

b. * [_Subject_ Tân   cưới   **ai**]   vậy   làm   Lan   đau-lòng?
        Tan   marry   who   PRT   make   Lan   grieve

B&T correctly point out that such particle can only mark *wh*-questions, but never yes/no-questions or non-interrogative clauses (unlike Japanese *ka*). (144a-b) below show that *thế* does not fit non-*wh*-questions.

(144) *Tân   gặp   Lan   **thế**?
     Tan   met   Lan   PRT
    a. Intended: 'Did/Will Tan meet Lan?'   [*yes/no-question]
    b. Intended: 'Tan met Lan.'   [*declarative]

We have already learned that *vậy* is only licit at a clause-edge position. In this way, it is assumed to occupy the matrix Comp, i.e., a matrix C^0 head. Perhaps due to some unclear principle of root constraint, *vậy* is unable to mark an intermediate *wh*-scope. This is shown in the contrast in (145a-b):

(145) a.   Tân muốn   biết   Thơ đã gặp   **ai**.
       Tan want   know   Tho PST meet   who
       'Tan wants to know for which person x Tho met x.'

     b.* Tân muốn   biết   **vậy** Thơ đã gặp   **ai**
       Tan want   know   PRT Tho PST meet   who

For *ai* 'who' in (145a) to obtain a matrix scope, *vậy* is inserted as a clause-final particle. This changes the narrow-scope reading to the wide-scope reading.

(146) Tân muốn   biết   Thơ đã gặp   **ai**   vậy?
    Tan want   know   Tho PST meet   who   PRT
    a. *'Tan wants to know for which person x Tho met x.'   [*wonder > *who*]
    b. 'Who is x such that Tan wants to know Tho met x?'   [*who* > wonder]

As a consequence, *vậy* forces a clause to be a *wh*-interrogative. We may further take (33), repeated here as (147), for instance: the verb *biết* 'know' can select either an interrogative or a non-interrogative clause as its CP-complement, so that when it takes a *wh*-clause, two possible readings emerge:

(147) Tân biết   **ai**   đi New-York
    Tan know   who   go New York

a. 'Tan knows for which person x, x went to New York.'   [know > *who*]

b. 'For which person x, Tan knows that x went to New York?'   [*who* > know]

Now, if we attach *vậy* to the end of (147), the first non-interrogative reading disappears, and only the wide *wh*-scope reading survives:

(148) Tân biết   **ai**   đi New-York   vậy?
      Tan know   who   go New York   PRT

a. '*Tan knows for which person x, x went to New York.'   [*know > *who*]

b. 'For which person x, Tan knows that x went to New York?'   [*who* > know]

(146) and (148) reflect the fact that when a *wh*-word is present, *vậy* always extents its scope to the matrix CP. What is of interest here is that although a wide-scope reading need not be sanctioned by *vậy*, this reading *is* obligatory as long as *vậy* occurs. The formulation (149) visualizes this illustration, where "Q" represents the *wh*-scope:

(149) a.   When *vậy* is absent: $^{\surd}$ [$_{CP1}$ … [$_{CP2}$ Q … *wh* …]]

                                      $^{\surd}$ [$_{CP1}$ Q … [$_{CP2}$ … *wh* …]]

   b.   When *vậy* is present: * [$_{CP1}$ … [$_{CP2}$ Q … *wh* …]]

                                        $^{\surd}$ [$_{CP1}$ Q … [$_{CP2}$ … *wh* …]]

The same holds for Vietnamese indefinite *wh*-phrases. In NPI-licensing environments, the prominent interpretation for the *wh*-word *gì* 'what' is existential, but the interrogative meaning is still possible, as in (150). If *vậy* takes place, as in (151), only the latter reading is left as expected.

(150) Anh-ấy   không   ăn   gì
      he   NEG   eat   what

a. 'He did not eat anything.'   [not > *what*]

b. 'What did he not eat?'   [*what* > not]

(151) Anh-ấy   không   ăn   gì   vậy?
      he   NEG   eat   what   PRT

a. * 'He did not eat anything.'   [*not > *what*]

b. 'What did he not eat?'   [*what* > not]

The reason is that the particle *vậy* not only triggers wide scope, but also constrains the only feasible binder of *wh*-elements to be the Q-operator. By doing so, *vậy* secures the

wide-scope interrogative reading of *wh*-words from others, as discussed.

Because the emergence of *vậy* guarantees a *wh*-question, it is only desirable to hypothesize that it *is* the *wh*-particle in the sense of Cheng (1991). We may formulate the correlation between *vậy* and *wh*-questions in Vietnamese by (152).

(152) The clause-final particle *vậy* types a clause as a *wh*-question in Vietnamese. In Cheng's (1991) system, *vậy* equals to the Comp, which may be phonologically null.[20]

4.2.2. *Q-feature, wh-feature, and lexical integrity*

So far, I have been vague about the correlation between the Q-operator and the *wh*-particle. Are they the same element, or different? From an economical perspective the first option is preferred, as preceding discussions have strongly implied. But this runs into a potential problem, for Vietnamese would have its Q as the C-head, while in some other languages the C-head is independent of Q. For instance, we know that in an English *wh*-question the C^0 with an EPP-feature and an uninterpretable Q-feature probes the *wh*-phrase below CP, which triggers *wh*-movement to [Spec, CP]. To be coherent with this proposal, we must assume that crosslinguistically C^0 is not a quantificational head and what is entangled with the quantificational force is a dinstinct operator, which presumably rests on the Spec of CP. The structure in Figure 2 schematizes this view.

Figure 2: Q in [Spec, CP] (preliminary)
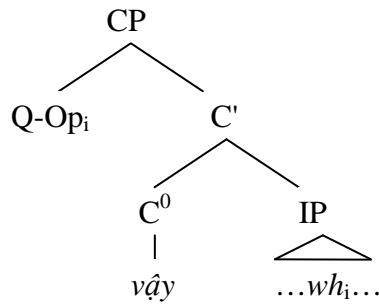
In this way we are able to keep C^0 as a non-quantificational head consistently, by loading the labor of quantification to the operator-related item at its Spec. This is a common position shared in much previous work on unselective binding.

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[20] But a *wh*-question in Vietnamese need not be marked by the particle, as numerous examples have proved. Thus the existence of the particle is only a *sufficient* condition for establishing *wh*-questions in Vietnamese.

I will, however, propose that the first option is more desirable that the Q can be directly merged as the C-head. Thus in unselective bindng, the Q-binder appears at C^0 rather than [Spec, CP] (and in fact, C^0 may simply have no Spec in this speculation). In other words, I will maintain the configuration in Figure 3.

Figure 3: Q in C^0 (proposed)

```
              CP
             /  \
           C⁰    IP
           |     /\
        Q-Op_i  …wh_i…
         (vậy)
```
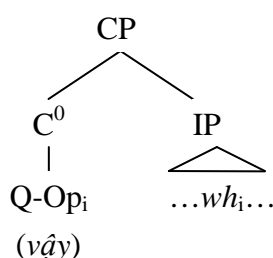
There are much more to say about Figure 3 and its typological status. But before that, we need to face a more fundamental question closely related to this dependency: Why Merge in Vietnamese/Chinese? Why not Move?

If it universally holds true that *something must happen in CP* in order for a *wh*-question to converge during the derivation, the crucial distinction between unselective binding and other mechanisms for *wh*-in-situ is that the former fulfills this requirement through merging a Q-operator in the C-head, while the latter tracks covert or overt movement of some sort in relation to the same position (e.g., Richards 1997, Pesetsky 2000, etc.). So, what is the deterministic "engine" that chooses one in favor of the other?

A crucial assumption in the unselective binding analysis relies on the lexical or featural decomposition of *wh*-phrases (Tsai 1994a, Zavitnevich-Beaulac 2005, inter alia). First, following the minimalist considerations since Chomsky (1995), a lexical item is regarded as a composition of a bundle of features. A *wh*-word may consist of features like [wh], [Q], [focus], and more semantic [human], [location], [thing] and so on, depending on the nature of the language in question. In concern here for Vietnamese (and Chinese) *wh*-words are the first two, [wh] and [Q].[21] The former represents a common morphological "appearance" of *wh*-items (see Chapter 2), whereas the latter signifies the interrogative semantics. The two features do not necessarily collapse into one; I return to this matter shortly.

Second, syntactic displacement is driven by the need to delete uninterpretable

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[21] I have not undertaken any systematic investigation on the focus construction in Vietnamese, and will therefore put [focus] aside. But to my knowledge, focus has no (at least predominant) effects on the *wh*-dependency in Vietnamese. This awaits further justification.

features at the interface and to satisfy the EPP-requirement (Chomsky 2000, 2001). Features that are uninterpretable must be agreed and deleted or else be valued to survive (cf. Pesetsky & Torrego 2007 for technical discussions on the operations of featural agreement/valuation); they serve as the *probe* that probes into a built structure for a *goal* to match interpretable features, and Agree/Delete or Value proceeds.

Now we may make the following statements: In overt *wh*-fronting languages, the interpretable [iWh] feature which signals a *wh*-phrase is lexically incorporated with the interpretable [iQ] feature which encodes interrogation. The two features, together with other elements, constitute a single *wh*-item in the lexicon before they enter into narrow syntax. When the probe C^0 bearing an uninterpretable [uQ] feature seeks a goal to delete/value [uQ], it finds [iQ] in the *wh*-phrase and then Agree proceeds. The EPP-feature on the C^0 motivates overt movement of [iQ]. Since [iQ] is lexically inseparable with other ingredients in this *wh*-phrase, the whole *wh*-phrase undergoes *wh*-movement as a secondary effect of featural movement.

On the other hand, for Chinese-/Vietnamese-type languages, [iQ] is a "free" feature without being married to other featural inventories; it enters into the syntactic derivation all alone.[22] If a clause is to be interpreted as a *wh*-question, an interpretable [iQ] is picked out from the pool of lexicon and merged directly onto C^0. In effect, *wh*-words are merely bound variables of [iQ], which is essentially an operator.[23] On the other hand, the uninterpretable [uQ] plays no role in languages of this type.

It is instructive to note that the *binding* relation has nothing to do with Agree, EPP, and (in turn) movement: Since there is no other stuff than the interpretable Q in C^0 and no EPP is present, and since there are no uninterpretable features in either the *wh*-phrases or the C-head, no Agree/Delete occurs. Binding is therefore more "economical" than Agree plus Move/Remerge in this sense (cf. Tsai 1994a), but the source of being economical stems from whether the Q-feature is a free featural entry or not, and whether there is a C-head bearing [uQ] and [EPP].

I schematize the two kinds of derivations below for a comparison:

---

[22] Throughout the whole thesis, "[Q], Q, Q-feature and Q-operator" all denote the same element and the same concept. They are labeled differently only for expository purposes.
[23] One may notice that placing [uQ] at C and [iQ] in *wh* in English-type languages looks like placing two operators in the derivation, which is problematic. I adopt Watanabe's (2004a) solution that [uQ] is not inherently an operator because it will be eliminated eventually; only [iQ] qualifies a true operator.

Figure 4: English-type   Figure 5: Chinese-/Vietnamese-type
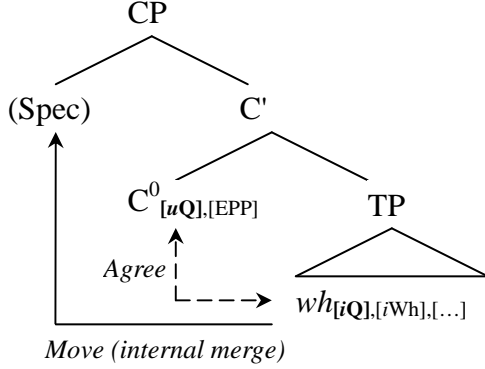
(*wh*-movement)   (unselective binding)

CP

(Spec)   C'

$C^0_{[uQ],[EPP]}$ TP

Agree

$wh_{[iQ],[iWh],[...]}$

Move (internal merge)

CP

$C^0_{[iQ]}$ TP

Binding $wh_{[iWh],[...]}$

*External Merge
(from the lexicon)*
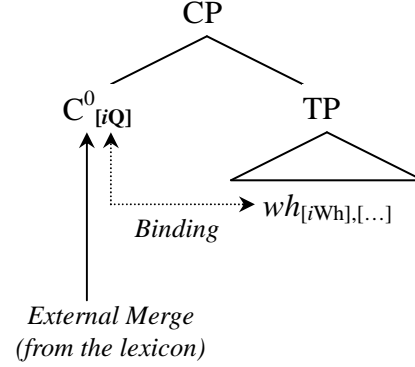
If we hypothesize an independent [*i*Q] to be one part of the syntactic derivation in Chinese-/Vietnamese-type languages, as in Figure 5, External Merge of it becomes not only allowable but also inevitable because [*i*Q] does not reside in the *wh*-phrase, disabling *wh*-movement at the first place. The intrinsic contrast in such "lexical integrity" between the *wh*s in Figure 4 and Figure 5, shown in (153), supposedly explains the different behaviors with regard to locality and minimality effects and indefinite-*wh* construals that we have gone through (see Tsai 1994a for some originals on this typology).

(153) Lexical features in English- and Chinese-/Vietnamese-type *wh*-phrases:

English-type:	$wh_{[iQ],[iWh],[...]}$	→ one syntactic item
Chinese/Vietnamese-type:	$Q_{[iQ]}$, $wh_{[iWh],[...]}$	→ two syntactic items

To recap, that *wh*-movement languages move the whole *wh*-chunk is attributable to the high "agglutinativeness" of morphological (including [*i*Q]) features, whereas in *wh*-in-situ languages the feature [*i*Q] is somewhat more "analytic", being able to participate in the computational system possibly as an ordinary phrasal element (cf. Kishimoto 2005). Consequently, the *wh*-in-situ type resorts to unselective binding, in contrast to the *wh*-movement type which employs Agree and Move (Internal Merge).[24] I shall come back for more in the next chapter.

Before we proceed, a word on the "featural geometry" contained in *wh*-phrases, a somewhat murky issue in recent minimalist frames, is in demand.

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[24] For the analysis I have come up with, the sentence-final particle in Vietnamese or Chinese should probably be dubbed "Q-particle" at best, rather than "*wh*-particle" because it does not carry the *wh*-feature under such analysis.

4.2.3. A note on featural geometry

In quite a few languages, *wh*-elements may share certain morphological forms, which are traditionally called "*wh*-features", but they do not always coincide with interrogation (Haspelmath 1997, Watanabe 2004b). Even in a language like English which does not use a bare-*wh* as an indefinite-*wh*, *wh*-words can still have non-interrogative uses.[25] In this thesis, I basically follow Tsai (1997) who partitions a *wh*-constituent into two independent features, [+wh] and [±Q] (see also Aoun & Li 1993b, Denham 2000). For English-type languages, an interrogative *wh* bears [+Q], and a relative *wh* takes [-Q]. The feature [wh] by definition characterizes a *wh*-phrase, so its value should always be positive. However, I assume here that a C^0 only carries a [*u*Q], excluding [wh]. What triggers (overt) *wh*-movement is [+EPP] or some edge-feature on C^0 (Chomsky 2006), [wh] being irrelevant (cf. Pesetsky & Torrego 2007).[26] For Vietmanese-type languages, *wh*s embrace [+wh] but never [±Q], as discussed.[27,28]

4.3. Conclusion

In this chapter, I have argued at pains that *wh*-interrogatives in Vietnamese are formed by unselective binding. A Q-operator/Q-feature at the C-head binds *wh*-variables. This conclusion is reached with two important pieces of facts we have been examining all the way: (a) the existence of a root-scope marking *wh*-particle, and (b) a vast tendency of *wh*-phrases to disrespect locality constraints.

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[25] See Katz & Postal (1964), Chomsky & Lasnik (1977) for some original concepts.
[26] In a similar fashion, Di Sciullo (2005:115-116) proposes [+Q, -wh] for an interrogative Comp and [-Q, -wh] for a non-interrogative Comp. Positing [-wh] for both Comps is perhaps indistinguishable from my story here, and may not have additional consequences for the present discussion.
[27] Whether indefinite-*wh*s in Chinese/Vietnamese can be taken as [-wh] is an open question.
[28] See den Dikken (2003) and Watanabe (2004a) for other categorizations of featural combination where the focus feature participates, the latter to be discussed in Chapter 5.

Chapter 5

Toward a Typology of *Wh*-in-Situ

I do not intend to develop a new model here; the orientation of setting up a typology of *wh*-in-situ including Vietnamese is only meant to complement foregoing parts, most of which centered on Vietnamese-internal phenomena. Some important insights addressed in this chapter are certainly by no means novel, yet there still seems to be some space for explanations with different apparatus.

5.1. Lexical Merger Parameter: Tsai (1999a)

Incorporating prior studies on English and Japanese with a deep exploration into various *wh*-phenomena in Chinese, Tsai (1994a, 1999a) develop a formal typology of *wh*-dependencies as in (154) and (155):

(154) *Lexical Merger Parameter (LMP)*
     a.   Chinese-type: Merging an operator into CP or IP
     b.   Japanese-type: Merging an operator into PP or DP
     c.   English-type: Merging an operator into D^0

(155) a.   Chinese-type: $[_{CP} Op_{x\,[Q]} [_{IP} \ldots wh(x) \ldots]]$
$$|_____\uparrow \textit{(binding)}$$

     b.   Japanese-type: $[_{CP} Op_{x\,[Q]} [_{IP} \ldots [_{PP/DP} \quad t_x \quad [\ldots wh(x) \ldots]]\ldots]]$
$$\textit{(movement)}\uparrow_____\|_____\uparrow\textit{(binding)}$$

     c.   English-type: $[_{CP} [_{PP/DP} wh(x)\text{-}Op_{x\,[Q]}]_k] [_{IP} \ldots t_k \ldots]]$
$$\textit{(movement)}\uparrow_____|$$

The big picture is that for Chinese-type languages, *wh*-phrases are bound variables without quantificational force. The force comes from the Q-operator ($Op_{x\,[Q]}$), which unselectively binds the *wh*-variable at a clausal level (i.e., CP). For Japanese-type

languages, the Q is merged in between at a phrasal level (PP/DP), which undergoes "halfway" movement to CP. Finally for English-type languages, Q and *wh* are merged in the morphological domain. This is why they undertake *wh*-movement since Q is not extractable; *wh*-fronting is a secondary effect of moving the Q-*wh* chunk.

We have seen previously that Japanese *wh* is not sensitive to Complex NP Island, but it is to *Wh*-Island. English *wh* is sensitive to both, and Chinese *wh* to neither, as summarized in (156).[29] Such pattern is directly linked to where the Q-operator is merged in the syntactic derivation: The lower Q is merged, the longer its moving path will be, and in turn the more island constraints will be trespassed.

(156)

	English	Japanese	Chinese
Wh-Island effect	yes	yes	no
Complex NP Island effect	yes	no	no
Merging site of Q-Op	D^0/N^0	DP/PP	CP/IP

Another major observation made by Tsai (1994a, 1999a) concerns *wh*-indefinites. Chinese *wh*s are well known to behave like polarity items (PIs) whose interpretations are subject to various clausal licensing conditions (Huang 1982b, Cheng 1991, A. Li 1992, Lin 1998). Japanese *wh*s show a similar situation (Kuroda 1965, Nishigauchi 1990, Watanabe 1992a, b), but the licensers seem to be "closer" to the *wh*-indefinites: the "licenser-PI" pair is constructed either as a morphological or as a phrasal constituent. Examples of the former are given in (157) (from Watanabe 1992b:48-49).

(157) a. <u>interrogative construals</u>
   dare 'who'
   nani 'what'
   doko 'where'
   itsu 'when'
   naze 'why'
   dono-N 'which N'

b. <u>universal construals</u>
   dare-mo 'everyone'
   ? nani-mo 'everything'
   doko-mo 'everywhere'
   itsu-mo 'whenever'
   ———
   dono-N-mo 'every N'

c. <u>polarity construals</u>
   dare-mo 'anyone'
   nani-mo 'anything'
   doko-mo 'anywhere'
   ———

d. <u>existential construals</u>
   dare-ka 'someone'
   nani-ka 'something'
   doko-ka 'somewhere'
   itsu-ka 'sometime'

---

[29] Once more, the *wh* here excludes *wh*-adverbs which mimic English *wh* in exhibiting locality effects even in Chinese.

_____	naze-ka 'for some reason'
dono-N-mo 'any N'	dono-N-ka 'some N'

Examples of the latter are shown in (158a-b), where the PI licensing particle *ka* and *mo* appear to a phrasal (PP/DP) edge (due to Tsai 1999:54-55).

(158) a. [dare-kara]-**ka**   henna   tegami-ga   todoi-ta.
     who-from-some   strange   letter-NOM   arrived
     'A strange letter came from god knows who.'

   b. [[dare-ga   kai-ta]   tegami]-ni-**mo** onazi   kota-ga   kai-te-at-ta
     [[who-NOM   wrote   letter-in-all   same   thing-NOM written-was
     'For all x, y, x a person, y a letter x wrote, the same thing was written in y.'

Turning to English, if English creates the Q-*wh* pair in the lexicon, we predict that *wh*-indefinites in this language are built up at the same scale. This is borne out:

(159) a. existential construals   b. free relative construals

     some-where   wher-ever
     some-when   when-ever
     some-what   what-ever
     some-how   how-ever
     _____   which-ever

All in all, the *wh*-typology model of LMP is substantial and empirically justified. Meanwhile, it introduces one important rationale in Chomsky (1995) into the constructions of Ā-dependencies that "Merge preempts Move". If the operation Merge is not blocked, a language would not choose Move or Chain formation, which requires more derivational steps and is thus less economical. Chinese and Vietnamese in this respect are languages spiritually fulfilling this principle because no movement takes place in forming *wh*-questions.

From the view of LMP and much preceding research, the Q-operator of the Japanese-type languages is also "free" to the extent that it undertakes movement, leaving *wh*-variables in-situ. Now, one interesting question is: why do languages of this "intermediate" type between Chinese and English exist?

Indeed, it is not implausible to imagine if the Q in a language can be free, it must always resort to Merge in establishing a *wh*-dependency due to economical purposes. We have seen that this is truly the case in Chinese and Vietnamese, but Japanese apparently poses a challenge because its Q is free but movement still applies. It

follows that either (a) the Japanese-type Q is different from its Chinese cousin, or (b) the Q-movement is in fact a mechanism of some other kind. LMP does not seem to have provided an explanation to this question.

Along with the hypothesis put forth in last chapter, I would like to suggest that (a) and (b) are both influencing factors. By adopting Watanabe's (2004a, 2006) recent approach, I will show that Japanese (and its typological relatives) exclusively recruits Agree to shape *wh*-questions. The final map is summarized as (160):

(160) *Strategies for Wh-Dependencies*
   a. Chinese-type: Binding
   b. Japanese-type: Agree
   c. English-type: Agree + Move

5.2. Eliminating Q-Movement from Japanese: Watanabe (2004a)

Recall from Chapter 4 that Japanese has Q-movement that induces *wh*-island effects. This analysis was firstly advanced in Watanabe (1992a, b) which later became widely acknowledged. Nonetheless, Watanabe himself dispenses with this idea in recent articles (Watanabe 2004a, 2006 and some others). The basic of his new assumption, in tight connection with head-internal relative clause (HIRC) structures, is that *wh*-indeterminates have agreement with the quantificational particles (*mo*, *ka*, etc.), which in turn agree with certain features in the C-head. Crucially, "Move" is removed from *wh*-question formation under this approach, with only "Agree" left.

It is originally proposed in Watanabe (1992a, b) that the morphological structure of *wh*-indeterminates in Japanese can be laid out as Figure 6:

Figure 6: *Wh*-indeterminate structure in Japanese

```
              DP
             /  \
           Op    D'
                /  \
              QP    D⁰
              |      |
       indeterminate  particle (covert in wh-phrases)
```
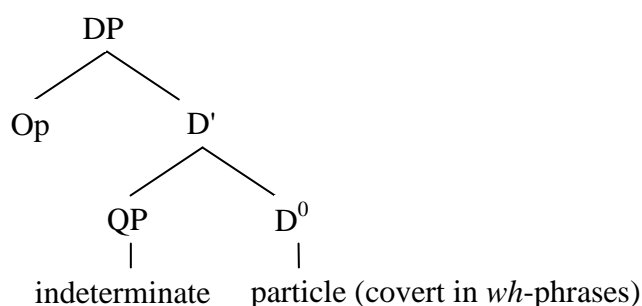
Figure 6 accommodates the paradigm in (157). The D^0 particle is usually overt, but it happenes to be covert in *wh*-interrogatives. The Op at [Spec, DP] is responsible for locality effects in Japanese, as mentioned.

Coached primarily with a crosslinguistic model of HIRC, Watanabe (2004a:70) gets rid of the Op and maintains that the D^0 particle undergoes "checking" with the indeterminate element.[30] The choosiness of (161) confirms this argument.

(161) a. Dare-**ka**-ga   kita.   b. * Otoko-**ka**-ga   kita.
      who-KA-NOM   came   man-KA-NOM   came
      'Someone came.'   'Some man came.'

Assuming the D-head in Figure 6 is occupied by a null ingredient in *wh*-questions, a *wh*-question can be schematized as (162), where there are two checking relations, one *internal* (between QP and D^0) and the other *external* (between D^0 and C^0).

(162) $[_{CP}$ [… $[_{DP}$ QP D^0] …] C^0]   (i): internal checking between QP and D^0
            ⌞__⌟ ⌞_____⌟   (ii): external checking between D^0 and C^0
           (i)   (ii)

If there is something in the C-head that probes a *wh*-phrase for Agree, it must access the "intermediate" D^0 first (i.e., establishing external checking), not the indeterminate *wh*-part. What ensues is that *wh*-phrases will not infringe Complex NP Constraint because both agree relations are in some sense "local" (ibid.:71):[31]

(163) $[_{CP}$ … $[_{DP}$ $[_{Complex\ NP}$ $[_{CP}$ [… QP …] C^0] NP] D^0] … C^0]
      (internal checking) ⌞_____⌟ ⌞____⌟ *(external checking)*

Next, let us ask what exactly are involved in the two checking relations, starting with the external one. Watanabe (2002, 2004a) propose that what renders Japanese *wh*-phrases active in a checking/Agree mechanism is an uninterpretable focus feature interrelated with Imbabura Quechua (Cole & Hermon 1994) and Old Japanese. He notes that Imbabura Quechua has three properties: The existence of HIRC in (164), an in-situ focus construal in (165), and a *wh*-indeterminate system in (166).

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[30] I disregard the difference (if any) between "checking" and "agree", taking them simply as two terminological alternatives, and doing so will not in any rate harm my analysis.

[31] Unavoidably, this analysis still faces a problem that the internal checking/Agree between D^0 and the QP in (166) crosses two projections: CP and NP. Watanabe does not provide an explanation. It seems that such long-distance Agree is allowed in this system so long as no featural intervention occurs, which I discuss right below.

(164) Wambra wagra-ta randishka ali   wagra-mi.   [HIRC]
      boy   cow-ACC bought   good   cow-EVIDENTIAL
      'The cow that the boy bought is a good cow.'   (Cole & Hermon 1994:248)

(165) Kan-paj ushi-wan   Agatu-pi-**mi** tupari-rka-ni.   [in-situ focus]
      you-of daughter-with Agato-in-FOC   meet-PAST-1
      'I met your daughter in Agato.'   (Cole 1982)

(166) a. Pi-**pash**   shamurka.   b. Pi-wan-**taj** Juan parlarka?
      who-even   came   who-with-Q Juan spoke
      'Someone came.'   'Who did Juan speak with?'

But Imbabura Quechua departs from Japanese in having *wh*-fronting:

(167) a. Ima-ta-taj$_i$ ya-ngui [Juan e$_i$ randishka-ta]?   [*wh*-movement]
      what-ACC-Q   think-2PL Juan   bought-ACC
      'What do you think that Juan bought?'

   b.* Ya-ngui [Juan   ima-ta-taj   randishka-ta]
      think-2PL Juan   what-ACC-Q   bought-ACC   (Cole & Hermon 1994:240)

The above pattern becomes significant once we see that Old Japanese is somewhere between Modern Japanese and Imbabura Quechua: It has an indeterminate system, undertakes *wh*-fronting and focus-fronting, but has no HIRC. I shall not illustrate the Old Japanese examples here due to the limit of space, but the summary of these three languages in (168) below suffices for our purpose: HIRC is available as long as either *wh*-in-situ or focus-in-situ exists.[32]

(168)

	indeterminate	HIRC	*wh*-Q	focus
Imbabura Quechua	particle	yes	movement	in-situ
Old Japanese (Nara Period)	particle	no	movement	movement
Modern Japanese	particle	yes	in-situ	(?)

Watanabe concludes that focus-in-situ and *wh*-in-situ must share something, which seems to be a generalization over these languages. This is the main reason for him to endow the D^0 of *wh*-indeterminates in Japanese with a focus feature.

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[32] Watanabe (2004a) blurs over whether focus constructions in Modern Japanese take movement or not. I put a question mark in the summary without endeavor to verify this issue.

As for the matrix C-head in Japanese questions, Watanabe argues that it must contain an interpretable Q-feature, evidence of which originates from the following observation of a contrast between English and Japanese embedded yes/no-questions:

(169) I don't know whether John claimed that Bill left or not.   [ambiguous]
    a. I don't know whether John claimed or did not claim that Bill left.
    b. I don't know whether John claimed that Bill left or did not leave.

(170) [John-ga   [Bill-ga kita to] itta ka dooka]   watashi-wa   shira-nai.
     John-NOM   Bill-NOM came C^0 said whether   I-TOP   know-NEG
    a. 'I don't know whether John said or did not say that Bill left.'
    b.* 'I don't know whether John said that Bill left or did not leave.'   (ibid.:73)

That only the "high" interpretation obtains in (170a) suggests that the matrix C^0 in Japanese interrogatives has an interpretable Q-feature, because it is not to be deleted. Combining this point with the discussion on focus, we get to the conclusion that the external checking relation involves (a) a focus feature [Foc] and (b) a Q-feature [iQ]. And since one of them needs to be uninterpretable (in order to trigger checking), it is the focus feature that carries this load.

Secondly, the violation of *Wh*-Island Condition in Japanese may shed light on what participate in the *internal* relation. For the example below where a *Wh*-Island is embedded to the verb *ask*, its syntactic structure looks like (172).

(171) ??John-wa [Mary-ga **nani-o** katta [ka dookaa]] Tom-ni   tazuneta no?
     John-TOP Mary-NOM what-ACC bought whether Tom-DAT asked Q
     'What did John ask Tom whether Mary bought t?'   (Watanabe 1992b:13)

(172) [$_{CP}$ [$_{vP}$ [$_{CP}$ [$_{IP}$ … *wh* …] … C^0] … v^0] … C^0]
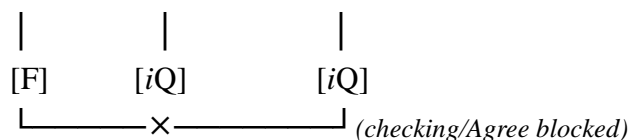
                 | | |
               [F]   [iQ]   [iQ]
              └──────×──────┘ *(checking/Agree blocked)*

Critically, what goes wrong in the construction is featural intervention aroused by the interrupting C^0. By assumption, only features of the same type induce intervention effects, so it is just plausible to hypothesize the feature [F] in *wh* in (172) to be the Q-feature [Q]. Finally, since the *wh*-indetermintate is licensed various interpretations by its dominating D^0, the former is taken to be the holder of an uninterpretable feature, [uQ] in this case.

One may question why in (172), the *wh*-indetermintate does not undergo Agree with the closer C^0 to form an indirect question, since both of them contain [Q]. The answer is that because such C^0 in (171) *ka-dookaa* 'whether' is only legitimate with yes/no-questions but not *wh*-questions (Akira Watanabe, p.c.). Whatever distinguishes the two types of questions should be accountable for this problem.[33]

If Watanabe's recent theory is on the right track, the reason why Japanese runs afoul of *Wh*-Island Constraint can be attributed to featural minimality, rather than operator movement. The failure of the matrix C^0 in (172) to access into the *wh*-indeterminate part has nothing to do with movement; all objects in concern stay in-situ, and only the features in the relevant syntactic heads are playing the game. This is one notably advanced step toward a minimalist design of *wh*-constructions since the more complicated derivation (Move) is boiled down to a simpler one (Agree) without any stipulation beyond the minimalist frame (also cf. Adger & Ramchand 2005).

(173) and (174) below recapitulate what we have been through in this section.

(173) **External relation:**   Probe: [*i*Q] in C^0
    (for *wh*-in-situ)   Goal: [*i*Q] & [*u*Foc] in D^0

(174) **Internal relation:**   Probe: [*i*Q] in D^0
    Goal: [*u*Q] in the indeterminate

So the whole construction of Japanese *wh*-in-situ is realized in the following schema (from Watanabe 2004a:90, with minor modification on symbolization).

(175) [$_{CP}$ [$_{IP}$ … [$_{DP}$ QP D^0]   …] C^0]   *Japanese wh-in-situ*
            [*u*Q]   [*i*Q]
  (internal relation) └────┘
               [*u*Foc]   [*i*Q]
                └────────┘ *(external relation)*

We should bear in mind that Watanabe adopts a "looser" definition for Agree. Chomsky (2001:6) assumes that *both* the probe and the goal in an Agree relation should be active. In other words, both must take an uninterpretable or unvalued feature that renders them active. Under this assumption, (175) becomes problematic

---

[33] There might be something debatable in this proposal, however. Dylan Tsai (p.c.) notes to me that positing intervention for *Wh*-Islands in Japanese as in (172) should yield severe ungrammaticality, but judgements on Japanese *Wh*-Islands reported in the literature (e.g., Watanabe 1992b) do not concur. Akira Watanabe (p.c.) points out that this problem actually applies to *Wh*-Islands in English (cf. Cinque 1990) as well. I do not touch this issue here.

because there is only one uninterpretable feature in each of the two Agree relations ([*u*Q] and [*u*Foc], respectively). Watanabe (2004a:73) thus purports that only the goal must be active, without providing evidence of the otherwise contrary.[34]

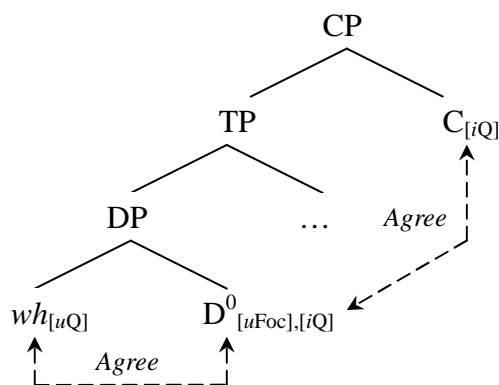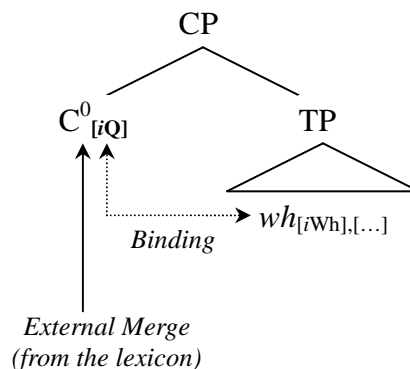## 5.3. Two Types of *Wh*-in-Situ: Japanese vs. Vietnamese/Chinese

I have (painstakingly) spent much space to illustrate Watanabe's new idea on Japanese *wh*-questions which potentially explains *why* Japanese looks like what it is in the LMP-based typology, elaborated below.

Comparing Japanese with Vietnamese/Chinese, we now obtain two types of *wh*-in-situ: one of the Agree type, the other (unselective) binding. The similarities and differences between them are presented below in Table 5 and Figure 7-8.

Table 5: Japenese-type *wh*-in-situ vs. Vietnamese/Chinese-type *wh*-in-situ

	Japenese-type	Vietnamese/Chinese-type
Operation	Two-stage Agree	Unselective binding
Existence of D^0 particle	Yes	No
[Foc] at D^0	Yes	(inapplicable)
Categories involved	(1) *wh*, (2) D^0, (3) C^0	(1) *wh*, (2) C^0
[Q] at matrix C^0	Interpretable	Interpretable
[EPP] at matrix C^0	No	No
Feature in *wh*	Interpretable Q-feature	*Wh*-feature
Wh-Island effects	Yes	No
Complex NP effects	No	No

---

[34] The external checking/Agree relation in (177) may also be challenged by the view that Agree requires "feature-sharing" in the probe-goal pair, as suggested in Pesetsky & Torrego (2007). But this does not affect the overall framework in Watanabe (2004a, 2006).

Figure 7: J-type *wh*-in-situ

Figure 8: V-/C-type *wh*-in-situ

```
        CP
       /  \
      TP    C_{[iQ]}
     /  \      |
    DP   …  Agree (dashed)
   /  \
 wh_{[uQ]}  D^0_{[uFoc],[iQ]}
   ↑    Agree    ↑
   └ ─ ─ ─ ─ ─ ─ ┘
```

```
        CP
       /  \
   C^0_{[iQ]}   TP
    ↑  ↑        /\
    |  Binding  wh_{[iWh],[…]}
    |
 External Merge
 (from the lexicon)
```

Critically, Agree/checking has to be distinguished from unselective binding, as Watanabe (2004a, b, 2006) suggest: If the lexical array contains uninterpretable features, Agree must be invoked to delete them; and once Agree applies, locality or minimality effects follow straightforwardly. This is what happens in Japanese. On the other hand, if all relevant features picked out from the lexicon are interpretable, binding is the default operation (provided that one of the features is inherently an operator feature). This is the case of Vietnamese/Chinese. And above all, neither of the two practices [EPP], so no syntactic displacement occurs (ignoring scrambling).

One thing I have not touched upon is why the *wh*-elements ("QP" in Watanabe's usage) in the two types do not have the same feature, a sensible question since languages of both types have an indeterminate *wh*-system. In the J-type it is [uQ], but in the other, V-/C-type, it is [uWh].

One conceptual solution is to argue that if the V-/C-type *wh*-in-situ also allows a [uQ] in the *wh*, an Agree relation will be forced to take place between it and the matrix C-head of [iQ]; and if this is the case, we would then expect to detect at least some locality/minimality effects, assuming Agree obeys locality/minimality (Adger & Ramchand 2005). But this expectation is never borne out, for Vietnamese and Chinese do not observe those effects (for *wh*-nominals, obviously). Thus there is no motivation to posit [uQ] for *wh*-phrases in languages of this type.

5.4. *Wh*-in-situ in English

It is well known that only one *wh*-phrase undergoes *wh*-fronting in English multiple *wh*-questions. All other *wh*-phrase(s) remain in-situ, even in islands:

(176) a. Who knows [where Mary bought what]?

   b. Who will be offended [if we invite whom]?

   c. Who watched [the movie made by whom]?

This can be accounted for without additional assumption to Figure 4, repeated here:

Figure 9: *Wh*-movement in English single *wh*-questions
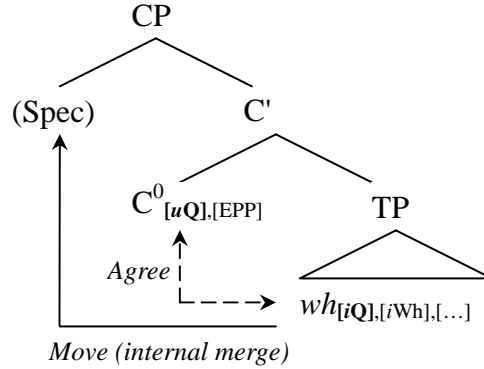
In single *wh*-questions, the *wh*-element raises due to (a) agreement between [uQ] on C^0 and [iQ] inside the *wh*-element, and (b) the [EPP] feature on C^0 that prompts the *wh*-element to move overtly. Once this operation is done, both the [uQ] on C^0 and the [EPP] are deleted, so is the motivation for any further Agree or movement. Since *wh*-phrases in English hold the interpretable Q-feature, they do not require any Agree relation under this analysis. *Wh*-in-situ in multiple *wh*-questions follows accordingly.

   Summing up, that *wh*-in-situ in English requires exactly one instance of *wh*-movement falls within the proposed structure in Figure 9. Therefore, English diverges from Japanese and Vietnamese in the C-head which contains [EPP] and [uQ], in addition to the agglutinative property of *wh*-items (namely, [iQ] and [wh] are fastened morphologically within the *wh*).

5.5. Conclusion

Though various issues and problems remain, I have attempted to depict a rudimentary comparison of the *wh*-dependencies in Vietnamese-/Chinese-type, Japanese-type and English-type langauges, based largely upon Tsai (1994a) and Watanabe (2004a). The following three schemata conclude this chapter.

(177) a. **Vietnamese/Chinese-type: Binding**

$[_{CP}\ C^0_{[iQ]}\ [_{IP}\ \dots\ wh_{[i\text{Wh}]}\ \dots]]$

$\underset{(Binding)}{\underline{\qquad\qquad}\uparrow}$

b. **Japanese-type: Two-stage Agree**

$[_{CP}\ C^0_{[iQ]}\ [_{IP}\ \dots\ [D^0_{[iQ],[u\text{Foc}]}\quad wh_{[uQ]}\ ]\dots]]$

$\underset{(Agree)}{\underline{\qquad\qquad}\ \underline{\qquad\qquad}}$

c. **English-type: Agree + Move**

$[_{CP}\ C^0_{[uQ],[\text{EPP}]}\ [_{IP}\ \dots\ wh_{[iQ],[i\text{Wh}]}\ \dots]]\qquad \rightarrow$

$\underset{(Agree)}{\underline{\qquad\qquad\qquad}}$

$[_{CP}\ [wh_{[iQ],[i\text{Wh}]}]_k\ C^0_{[\text{uQ}],[\text{EPP}]}\ [_{IP}\ \dots\ t_k\ \dots]]$

$\uparrow\underset{(movement)}{\underline{\qquad\qquad\qquad\qquad}|}$

Chapter 6

How-Why Alternations

6.1. Background

I have suggested that unselective binding qualifies as the most eligible approach for Vietnamese *wh*-in-situ. This chapter addresses a highly relevant issue in Vietnamese and two other languages, "*how-why* alternations", developed in Tsai (1999b, 2008). The conclusion is supportive for unselective binding.

The leading idea of *how-why* alternations is that the manner/method *wh*-adverb *how* may receive a "causal" interpretation akin to that of another *wh*-adverb *why*, and this change of meaning may be accompanied by a change of its syntactic positioning, particularly in configurational languages that have relatively rigid scope nature.

By tradition the *wh*-adverb *how* is analyzed as a *v*P-level adverbial modifier, denoting an interrogation of methods, instruments, manners, comitants, or any other concepts closely related to actions. A *how*-question in English like (178) may have one of (179a-c) as a response.

(178) How did you fix that car?

(179) a. With a hammer.   *instrumental*
     b. With ease.   *manner*
     b. With John.   *comitant*

On the other hand, *how* can also explicitly express some sort of "reason" question in at least two situations: (a) co-occuring with *come*, i.e., *how come*, and (b) co-occuring with a modal auxiliary. In this construal *how (come)* becomes a CP/IP-level adverb, taking scope over a whole proposition (cf. Collins 1991).

(180) a. **How come** John has left? (≈ ***Why has John left?***)
     b. How **can** you be so rude to me? (≈ ***Why can you be so rude to me?***)

This phenomenon is usually masked by *wh*-fronting of English, since all types of *wh*-phrases appear at the clause-initial position (in single *wh*-questions). But in a configurational language which hierarchically differentiates *v*P- and CP/IP-level adverbs, the two readings become transparent in syntax. Chinese is one good example (Tsai 1999b, 2008):

(181) a. ta   **zenme**   changchang   xi   na-liang-che?   [causal-*how*]
          he   how   often   wash   that-CL-car
          'How come he often washes that car?'

     b. ta   changchang   **zenme**   xi   na-liang-che?   [method-*how*]
          he   often   how   wash   that-CL-car
          'By what way does he often wash that car?'

When preceding a scope-bearing element like the adverb *often*, *zenme* 'how' is interpreted as the "higher" type, i.e. the causal *how*, as in (181a). On the contrary, when following the adverb, the method reading retains, as in (181b).

      Another *wh*-adverb *why* has two such variants as well. Crosslinguistically, the "higher" *why* occupies CP, whereas the "lower" *why* (usually spelled out in slightly different forms from the former) occupies the *v*P-periphery (Stepanov & Tsai 2008). These two subtypes of *why* behave non-uniformly with respect to syntactic positions, locality constraints, and the (semantic) agenthood requirement, which are all detected in the two *how*s, too.

      The following section, from a Vietnamese point of view, bolsters the theory of *how-why* alternations and its implications. The discussion will focus on *làm-sao*, an adverbial phrase that can be either "high" (at CP) or "low" (at *v*P).

6.2. The *How*s and *Why*s of *Làm-sao*

Recall from Chapter 2 that *v*P-adverbials have two legal sites, one preceding vP and the other following, with a general preference for the second option. The *wh*-adverb *làm-sao* has a method/instrumental reading in these two positions, but as noted the postverbal position is only allowed with ablity-related modality.

(182) a. Chữ-này   viết   **làm-sao**?   [post-*v*P]
          character-this write   how
          'How to write this character?'

b. Canh   mặn quá   tôi **làm-sao** ăn (được)?   [pre-VP]
   Soup   salty extremely   I   how   eat can
   'The soup is so salty; how can I eat it?'

The same item in the CP layer receives a "causal" reading, however.

(183) **Làm-sao**   anh (lại) viết   được   chữ-này?
      how   you MOD   write can   character-this
      'How come you can write this character?'

(182a-b) concern the means of writing a character or going somewhere, but (183) is related to the "cause" of the eventuality as a whole, not just the action. Three criteria are helpful for teasing apart the two types of *làm-sao*: Island effects, interaction with scope-bearing elements, and agentive restriction (Tsai 1999b, 2008).

6.2.1. Criterion I: Island effects

Firstly, the higher, causal *làm-sao* cannot appear inside an island, but the lower, method *làm-sao* can, as shown in the following contrast:

(184) a. *Tân   thích [Complex NP người$_i$ [CP **làm-sao** t$_i$ làm nghề]] ?
         Tan   like   person   how   do work

      b. Tân   thích [Complex NP người$_i$ [CP t$_i$ làm nghề **làm-sao**]] ?
         Tan   like   person   do work how
         'What is x such that Tan likes the person who does the work by x?'

Làm-sao in (184a) parallels *vì-sao* 'why' discussed earlier in that both undergo LF movement, so island violation occurs. *Làm-sao* in (184b), on the other hand, patterns *như-thế-nào* 'how' since they are insensitive to islands. The former *làm-sao* has a causal interpretation whereas the latter bears a method reading.

The *why*-group exhibits a similar paradigm. *Vì-sao* 'why' observes island effects, with which we are familiar by now, but its "lower" counterpart *vì-lẽ-gì* 'for what' does not. The Subject Island in (52b) and (52d), repeated below, exemplifies the case:

(185) a. * [Subject Tân   **vì-sao/tại-vì-sao** cưới] làm   Lan đau-lòng (vậy)?
                  Tan   why/why   marry   make Lan grieve   PRT

b. [_{Subject} Tân   kết-hôn **vì-lẽ-gì**] làm   Lan đau-lòng (vậy)?

          Tan   marry for.what make   Lan grieve   PRT

    'What is x such that that Tan got married for x made Lan grieved?'

Particularly interesting is the morphological content of *vì-lẽ-gì*: it contains a nominal element *gì* 'what' which provides a variable source for binding from outside of the island. On the other hand, *vì-sao/tại-vì-sao* 'why' must be taken as a pure quantifier, which must obtain its scope by covert raising. If we adopt the unselective binding analysis, why (185b) diverges from (185a) can be naturally accounted for. I return to this point shortly.

6.2.2. Criterion II: Interaction with SBEs

Tsai (1999b, 2008) discovered a number of scope-bearing elements that may serve to distinguish CP/IP- and *v*P-domain *wh*-adverbs, including modals, negation, adverbs of quantification, control verbs and A-not-A questions (in Chinese). For *wh*-adverbs scoping over these elements, they are interpreted as in CP/IP-level; for those of a narrow scope, only the *v*P-level reading is relevant.

(186) Modal: *có-thể* 'can'

    a. Nam **làm-sao** có-thể đi   Đài-Bắc?   [*wh* > can: causal-how]

        Nam how   can   go   Taipei

        'How come Nam can go to Taipei?'

    b. Nam có-thể đi   Đài-Bắc **làm-sao**?   [can > *wh*: method-how]

        Nam can   go   Taipei how

        'By what means can Nam go to Taipei?'

(187) Negation: *không* 'not', *chưa* 'not yet'

    a. **Làm-sao** anh không   đi   Đài-Bắc?   [*wh* > not: causal-how]

        how   you not   go   Taipei

        'How come you will/do not go to Taipei?'

    b. **Làm-sao** anh chưa   đi   Đài-Bắc nữa?   [*wh* > not: causal-how]

        how   you not.yet go   Taipei   PRT

        'How come you have not gone to Taipei?'

    c. *Anh không **làm-sao** đi   Đài-Bắc   [*not > *wh*]

        you   not   how   go   Taipei

The ungrammaticality in (187c) is somewhat puzzling. We have learned that *wh*-nominals in Vietnamese escape from intervention effects, but *wh*-adverbs do not. If *làm-sao* is construed as the higher, quantifier-like causal-*how*, it is bound to fail under the scope of negation, as revealed by (187c). But theoretically this sentence need not be interpreted this way; it *could* have a method reading, as in (186b-c), and avoid intervention. Here I do not have a satisfactory solution to why it is illicit.

Last but perhaps not least, the following three also constitute diagnostics:

(188) Adverb of quantification: *thường* 'often'

    a. **Làm-sao** anh thường đi Đài-Bắc vậy?[35]   [*wh* > often: causal-how]
       how   you often   go   Taipei   PRT
       'How come you often go to Taipei?'

    b. Anh thường đi Đài-Bắc **làm-sao**?   [often > *wh*: method-how]
       you often   go   Taipei   how
       'By what means do you often go to Taipei?'

(189) Control verb: *định* 'plan'

    a. **Làm-sao** anh định đi Đài-Bắc?   [*wh* > plan: causal-how]
       how   you plan   go   Taipei
       'How come you plan to go to Taipei?'

    b. Anh định đi Đài-Bắc **làm-sao**?   [plan > *wh*: method-how]
       you plan   go   Taipei   how
       'By what means do you plan to go to Taipei?'

(190) Temporal element: *đã* 'past/perfect marker'

    a. Anh-ta đã ăn cơm **làm-sao**?   [*wh* > *đã*: causal-how]
       he   PFV eat   rice   how
       'How has he eaten rice?'

    b. Anh-ta **làm-sao** đã ăn cơm rồi?   [*đã* > *wh*: method-how]
       he   how   PFV   eat   rice   PRT
       'How come he has eaten rice?

The explcit two-way split of the higher and the lower *làm-sao* is strikingly lucid both

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[35] The informant notes that (188a) is more natural with a modal auxiliary after the subject.

in syntax and in semantics. In other words, what we have is a syntax-semantics mapping of *wh*-adverbs: The structurally higher one is mapped onto the causal reading, while the structurally lower one onto the method (or "comitative") reading, and lying in between are the scope-bearing elements which play the "watershed" role.

6.2.3. Criterion III: Agentivity restriction

The third criterion has to do with semantic agentivity. Since a method/instrumental interpretation is connected with an agent role (Reinhart 2003), it is expected that in an agentless clause, the method/instrumental reading of *làm-sao* should be blocked, and the causal reading can remain because causation modifies eventuality, not just actions, therefore devoid of agentive restriction. This is partially borne out, as shown below in (191a-c):

(191) Agentless construction: Passive

    a. **Làm-sao** cái-chén bị   vỡ?
       how   CL-bowl PASS   break
       'How come the bowl was broken?'   [causal]
       *'By what means was the bowl broken?'   [*method]

    b. Cái-chén   **làm-sao** bị   vỡ?
       CL-bowl   how   PASS   break
       'How come the bowl was broken?'   [causal]
       *'By what means was the bowl broken?'   [*method]

    c. Cái-chén   bị   vỡ   **làm-sao**?
       CL-bowl   PASS   break   how
       'By what means was the break broken?   [method]
       'To what result was the break broken?'   [resultative]

The causal reading in (191a) is predicted since it has the highest scope. (191b) is a case in effect of (non-)agentivity discussed here, because the method reading of *làm-sao* is prohibited even though it occupies a *v*P-peripheral position. Finally, (191c) shows that placing *làm-sao* at the clause-final position may still render a method reading, in addition to a resultative one. Specifically, syntactic hierarchy overrides semantic restriction in the case of clause-final *how*; a *wh*-adverb is "forced" to modify *v*P at such position. A potential explanation is that passive sentences in Vietnamese (at least the type in discussion) involve an invisible agent role, ensuing the proposal for English passives in Baker et al. (1989), thus licensing the method reading.

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It is possible, however, to eliminate the method reading of *làm-sao* in a stronger non-agentive context: a clause with an (unergative) sentient verb such as *cry*. To ask about the "method" of crying is semantically odd, and therefore only the "manner" interpretation is available, as in (192b).

(192) Agentless construction: Unergative sentient verb

    a. **Làm-sao** cô-ấy   khóc?
       how   she   cry
       'How come she cried?'   [causal]
       *'By what means did she cry?'   [*method]

    b. Cô-ấy   khóc **làm-sao**?
       she   cry   how
       'With what manner did she cry?'   [manner]
       *'By what means did she cry?'   [*method]

6.3. The *Why*-Family

The *why*s in Vietnamese also have a two-level divide, one above IP/CP, the other *v*P. In Chapter 3 we encountered numerous examples of *wh*-questions with islands, and found that *vì-sao/tại-vì-sao* acts as (raising) quantifiers, while *vì-lẽ-gì/để-làm-gì* does not. By mapping this pattern onto the model of *how-why* alternations, *vì-sao/tại-vì-sao* is categorized as an IP/CP-domain adverbial, whereas *vì-lẽ-gì/để-làm-gì* belongs to *v*P-domain adverbials. Two syntactic tests are given below in (193)-(194).

(193) *Complex NP Island*

    a. *Nam thích   [Complex NP đồ-ăn$_i$ [CP mẹ   **vì-sao**   nấu   t$_i$]] ?
       Nam like   food   mother why   cook

    b. Nam thích   [Complex NP đồ-ăn$_i$ [CP mẹ   nấu **để-làm-gì**   t$_i$]] ?
       Nam like   food   mother cook for.what
       'What is x such that Nam likes the food (his) mother cooks for x?'

(194) *Interaction with SBE*

    a. Nam   **vì-sao**   thường   về   nhà?   [*wh* > often: causal]
       Nam   why   often   return   home
       'Why does Nam often go home?'

b.   Nam   thường   **để-làm-gì**   về   nhà?   [often > *wh*: purposive]

      Nam   often   for.what   return   home

      'What does Nam often go home for?'

As for the agentivitiy restriction test, we predict that the lower *why*s should be ruled out in non-agentive contexts in accordance with the *how-why* alternations hypothesis. Interestingly, this is not always correct: In certain non-agentive conditions, one lower *why*/*for what* can still occur. The informant points out that 'for what' can appear (preverbally) in such passive as "*What was he blamed by Nam for?*", which is trivially impossible in other languages like Chinese and Taiwanese. The availability may be due to the semantics of *vì-lẽ-gì* which associates with "causation", not "purpose", so agentivity is not required.

6.4. Saisiyat and Taiwanese: A Comparative Perspective

In this section I lay out a short comparative study of two *wh*-in-situ languages on the same topic discussed above. One is Saisiyat, an Austronesian language spoken in northern Taiwan, and the other Taiwanese (or Taiwanese Southern Min), a southern dialect of Chinese spoken by the second largest population in Taiwan.

6.4.1. Saisiyat

Due to the lack of sufficient materials, I will only address two related phenomena in Saisiyat whose word order is SVO (but some have made different claims).[36]

     The first is that the *wh*-adjunct *nak'ino'* 'how' has (at least) three interpretations in correspondence with syntactic positions. When it precedes a negation marker or coexists with perfect aspect, the proper reading is "causal":

(195) a.   'oebay   **nak'ino'**   'okay   rima'   kilapa:?   [causal]

         Oebay   how   NEG   go   Kilapa:

         'How come Oebay did not go to Kilapa:?'

       b.   hini'   pongaeh   **nak'ino'** ila   minpongaeh ila?   [causal]

         this   flower   how   PFV   bloom   PFV

         'How come this flower has come to bloom?'

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[36] Saisiyat consists of two main dialects, one northern and the other southern. Data presented in this study are of the former dialect, all based on my own fieldwork in Hsinchu City and Wufong Township during 2007-08. I am grateful for the Saisiyat speakers, especially 'O Yong A Tahes.

When *nak'ino'* follows a modal, it signifies a method/manner reading. Even when no modals are present, such reading is prominent with an appropriate predicate like *hunt*.

(196) a. rim'an   So'o   'am   **nak'ino'**   rima'   kilapa: [method]
          tomorrow   NOM.2S   will how   go   Kilapa:
          'How will you go to Kilapa: tomorrow?'

    b. Ø   'oebay   **nak'ino'**   <oem>alep?   [method]
        NOM   Oebay   how   <AV>hunt
        'How did Oebay hunt?'

Lastly, we find that postverbal *nak'ino'* has to do the resultative states associated with the main predicate. (197a-b) ask neither the cause nor the method of the underlying actions; rather, they inquire about the resultative states.

(197) a. Ø   'oebay   <oem>alep   **nak'ino'**?   [resultative]
        NOM   Oebay   <AV>hunt   how
        'What happened to Oebay's hunting?'

    b. Ø   'oebay   t<om>bok   ka   tata:a'   **nak'ino'**?   [resultative]
        NOM   Oebay   <AV>hit   ACC   chicken   how
        'What happened to Oebay's killing the chicken?'

The syntax-semantics mapping of *nak'ino'* looks exactly the same as *làm-sao* in Vietnamese. Note further that *nak'ino'* does not meet island constraints.

(198) [**nak'ino'**   pinakayzaeh   tatimae'] kayzaeh   si'ael<en>?
    how   produce   dish   good   eat<PV>
    'What is the method x such that the dish made with x is delicious?'

The second phenomenon concerns the *why*-family in Saisiyat. Interesting it is to see that three complex *why*-items are constructed upon one simplx form, *powa'*:

Table 6: The *why*-family in Saisiyat

Why-forms	Prefix	Interpretation
powa'	Ø	causal (not related to tense)
'ampowa'	*'am* 'will'	causal (inquiring the cause of an event which has not happened yet; irrealis)
mampowa'	*mam* (progressive marker)	causal (inquiring the cause of an event which has already happened before; realis)
nompowa'	*nom* 'for'	purposive (not related to tense)

The bare-*why powa'* can itself be construed with either manner- or causal-reading. As the latter, it seems to be only legitimate at the clause-final position.

(199) a. So'o   rima'   kilapa: **powa'**?   [causal]
          NOM.2SG   go   Kilapa: why
          'Why did you go to Kilapa:?'

     b. * rim'an   So'o   **powa'**   rima'   kilapa:
          tomorrow   NOM.2S   why   go   Kilapa:

     c. So'o   **powa'**   ila?   [manner]
          NOM.2SG   how   ASP
          'What happened to you?' (Lit. 'You are how?')

This ambiguity disappears once it is combined with certain functional elements: *'am* 'will', *mam* (progressive marker), and *nom* 'for'. These complex-*why*s uphold tense relations as well as agentive properties. It is expected to observe some syntactic and semantic differences among the *why*-family in Table 6, which must be left for future explorations.

6.4.2. Taiwanese

Like Saisiyat and Chinese, Taiwanese has very limited expressions for the method-*wh how*; typically, only *an-tsuann(-iunn)* is used.[37] When *an-tsuann* precedes a modal, a negative marker, or an adverb of quantification, the "causal" interpretation arises, shown in the (a)-examples below.[38] On the other hand, at the posterior position it gets the "method" reading, except in the negation case. This is shown in the (b)-sentences.

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[37] The consonant cluster [ts] in the second syllable can be dropped optionally.
[38] To my knowledge, however, the causal construal seems to be disappearing in today's Taiwanese. Quite a lot of younger speakers do not accept it, while some older natives do.

(200) Modal: *e-hiau* 'can'

    a. A-bing   **an-tsuann**   e-hiau   sai   tshia? [*wh* > can: causal-how]
        Abing   how   can   drive car
        'How come Abing can drive a car?'

    b. A-bing   e-hiau   **an-tsuann**   sai   tshia
        Abing   can   how   drive car
        'By what way can Abing drive a car?'   [can > *wh*: method-how]
        'Abing knows how to drive a car.'   [can > *wh*: indirect question][39]

(201) Negation: *m* 'not willing to'

    a. A-bing   **an-tsuann**   m   sai   tshia?   [*wh* > not: causal-how]
        Abing   how   NEG drive   car
        'How come Abing is not willing to drive the car?'

    b.??A-bing   m   **an-tsuann**   sai   tshia?   [??not > *wh*: method-how]
        Abing   NEG how   drive car
        'By what way is Abing not willing to drive the car?'

(202) Adverb of quantification: *tianntiann* 'often'

    a. A-bing   **an-tsuann** tiann-tiann   sai   tshia? [*wh* > often: causal-how]
        Abing   how   often   drive car
        'How come Abing can drive a car?'

    b. A-bing   tiann-tiann **an-tsuann**   sai   tshia? [often > *wh*: method-how]
        Abing   often   how   drive car
        'By what way can Abing drive a car?'

Agentitivity restriction applies here as well. Recall that since the high/causal *how* ranges over a whole proposition, it can be compatible with non-agentive environments, typically stative predicates, locative unaccusatives, and passives. But the low/method *how* is sensitive to such restrictions because it fails to be licensed without an agent role. This prediction is exactly borne out.

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[39] I thank Chinfa Lien (p.c.) who pointed out to me the second, non-interrogative reading.

(203) Agentless construction: Stative predicates

    A-bi   **an-tsuann**   tsiah-ni   bi-le?
    Abi   how   so   beautiful
    a. 'How come Abi is so beautiful?'   [causal]
    b.* 'By what way is Abi so beautiful?'   [*method]

(204) Agentless construction: Locative unaccusatives

    guak-hau   **an-tsuann**   tsau-lai   tsit-kun-lang?
    outside   how   run-come   one-CL-people
    a. 'How come there came a group of people outside?'   [causal]
    b.* 'By what way did there come a group of people outside?' [*method]

(205) Agentless construction: Passives

    hue-khann   **an-tsuann**   hoo lang   kong phua ki?
    flowerpot   how   pass person hit   break go
    a. 'How come the flowerpot was broken?'   [causal]
    b.* 'By what way was the flowerpot broken?'   [*method]

For another thing, *wh*-nominals in Taiwanese, patterning the Chinese/Vietnamese counterparts, do not seem to undergo movement. (206a) demonstrates a Complex NP Island, and (206b) a Sentential Subject Island.

(206) a. A-bing   ai   tsia [[**siang** tsu] e   tshai]?
          Abing   like eat   who   cook REL   dish
          'Abing likes to eat dishes made by who?'

     b. [A-bing kong **sia-mi**] hoo   tak-ke   kiann-tsit-tioo?
          Abing   say   what   make everyone frightened
          'That Abing said what made everyone frightened?'

Now observe that *an-tsuann* can also appear in suchlike constructions, indicating its "nominal" (instead of "adverbial") property.

(207) a. A-bing   ai   tsia [[**an-tsuann** tsu] e   tshai]?
          Abing   like eat   how   cook REL   dish
          'Abing likes to eat dishes made in what way?'

b. [A-bing **an-tsuann** kong] hoo tak-ke kiann-tsit-tioo?
   Abing   how   say   make   everyone   frightened
   'That Abing said in what way made everyone frightened?'

6.5. Conclusion

Recapitulating what we have gone through, it is a crosslinguistically well-established fact that the *v*P-level *wh*-adverb *how* may be licensed an IP/CP-level reading without morphological changes. In this case, island effects emerge, and it must antecede clausal operators. The space does not permit me to draw more on the *why*-parts, but from some simple data the *why*s should also have an analogous pattern to the *how*s.

Why does a single morphological form have the high/low distinction (in the *how* case)? Island effects suggest that the lower instance should be inherently nominal, so that it is capable of evading island effects; the higher one should not be, for it is not allowed within islands. The result rightly echoes the "adverb-nominal asymmetry" of *wh*-adjuncts in Chinese-type languages (Chinese, Vietnamese, Taiwanese, and perhaps Saisiyat as well). The "nominal" characteristic of the lower *wh* is concealed by the morphology, but syntactic tests convince us that it is there.

The following structure summarizes the three languages discussed in this chapter:

Figure 10: Syntax-semantics mapping in *how-why* alternations
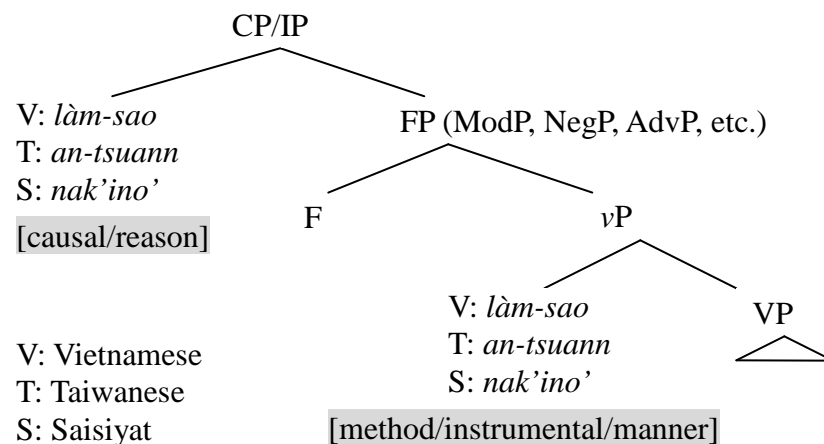
Chapter 7

Other Conditions on the *Wh*-Particle

We have seen from prior chapters the syntactic properties of the clause-final particle, *vậy*, in (southern) Vietnamese. Its occurrence is conjoined with *wh*-questions and a CP-level position, and I have analyzed it as the C-head that fixes the scope of the *wh*-phrases in its c-command domain.

In this chapter, we shall look into the semantic and pragmatic functions carried by such particle. The discussions will be largely descriptive without any technical formalization, but this does not deprive us of the purpose of obtaining an overall understanding of the *wh*-constructions in Vietnamese.[40]

7.1. Encoding Realis Mood

Bruening & Tran (2006) (henceforth B&T) claim that the sentence-final particle *thế* (the northern *vậy*) in Vietnamese realizes "realis mood": in *thế*-*wh*-questions, the events characterized by the predicates have already happened (B&T:334). As the English translations of the previous examples indicate, the matrix predicates of all the sentences with *thế* are marked by past tense.[41] (See B&T for more discussions that *thế* indeed goes hand in hand with (realis) mood, instead of tense).

Let me start with (141)-(143), repeated here as (208)-(210).

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[40] There are, of course, many other clause-final particles in Vietnamese (such as *đây*, *đấy*, *ạ*, *không*, etc.) which might receive a similar syntactic (but not semantic/pragmatic) analysis as *vậy*/*thế*. It goes beyond the scope of this study to include all of them into it, however, so I focus solely on *vậy*/*thế*.

[41] However, it is a puzzle to me why, in B&T's examples, the tense in sentences without *thế* is translated into either present or future. In general, affirmative sentences of present tense should be analyzed as involving "realis" mood. For example, *John wonders why Mary didn't come* means John has implemented the (mental) activity of "wondering" at the speech time, which is an event that already occurred, hence realis. But B&T group such sentences into "irrealis" ones.

(208) Nam   đi   **đâu**   vậy?
      Nam   go   where   PRT
      'Where did Nam go?'

(209) Tân nói   là   Nam   đi   **đâu**   vậy?
      Tan say   COMP   Nam   go   where   PRT
      'Where did Tan say that Nam went?'

(210) a.   [Subject Tân   cưới   **ai**]   làm   Lan đau-lòng   vậy?
              Tan   marry   who   make   Lan grieve   PRT
           'What is the person x, such that that Tan married x made Lan grieved?'

      b. * [Subject Tân   cưới   **ai**]   vậy   làm   Lan   đau-lòng?
              Tan   marry   who   PRT   make   Lan   grieve

As B&T have mentioned, when *vậy* comes about, the action described by the question is much more often than not realis, viz., it must have occurred or is still undergoing at the speech time. In (208), the going event of Nam has already taken place. In (209), both the action of saying indicated by the matrix predicate and the embedded event of going have a strong tendency to be interpreted as of past tense. It is the same for both events (Tan's marrying someone and Lan's being grieved) in (210), which are most naturally comprehended as of past tense. Notice that there is no tense/aspect marking in Vietnamese verb forms, neither do these three examples involve any tense- or aspect-related functional items. It is also not the structures themselves that induce a past reading, since (211) below, which contrasts with (208) only in the lack of *vậy*, can be understood as either realis or irrealis, depending on the discourse context.

(211) Nam   đi   **đâu**?
      Nam   go   where
      a.   'Where did Nam go?'
      b.   'Where does/will Nam go?'

That *vậy* encodes realis mood is further evidenced by the ungrammaticality in (212), where a future marker and the adverbial phrase *ngày mai* 'tomorrow' are inserted. Since the future is not compatible with realis mood, (212a-c) are ruled out as desired.

(212) a. *Ngày mai   Nam   sẽ   đi   **đâu**   vậy
         tomorrow   Nam   FUT   go   where   PRT

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b. *Ngày mai   Nam   sẽ   đi   gặp   **ai**   vậy

    tomorrow   Nam   FUT   go   meet   who   PRT

c. *Ngày mai   Nam   sẽ   ăn   **gì**   vậy

    tomorrow   Nam   FUT   eat   what   PRT

On the other hand, the particle *vậy* stays fine with the marker *đã* which denotes perfect aspect, confirming our observation. The progress marker *đang* is allowed to co-occur with *vậy* as well, since realis mood includes present tense.

(213) a. Nam   đã   đi   **đâu**   vậy?

    Nam   PFV   go   where   PRT

    'Where did Nam go?'

b. Nam   đang   ăn   **gì**   vậy?

    Nam   PROG   eat   what   PRT

    'What is Nam eating?'

Another relevant example further sharpens this point. To be interpreted as generic, a *wh*-question is prohibited from taking the particle; if the particle appears, the *wh*-question will be intended as describing a stage-level event.

(214) a. voi   ăn   **cái-gì**?   [generic]

    elephant   eat   what

    'What do elephants eat?'

b. voi   ăn   **cái-gì**   vậy?   [stage-level]

    elephant   eat   what   PRT

    'What did the elephant eat?'

As a generic clause, (214a) is perfect. When the particle is added as in (214b), it is only licit in a scenario where the speaker has just seen an elephant eating something. Assuming the generic are irrealis (Pesetsky & Torrego 2004), (214) demonstrates a good representative of the realis-encoding feature of *vậy*.

    Still another case comes from dynamic/ability modal auxiliary:

(215) a. Nam   mang   được   **bao-nhiêu**   tảng-đá?   [individual-level]

    Nam   carry   can   how.many   CL-stones

    'How many stones can Nam carry?'

b. Nam   mang   được   **bao-nhiêu** tảng-đá   vậy?   [stage-level]

     Nam   carry   can   how.many   CL-stones   PRT

     'How many stones can Nam carry?'

The question (215a) targets the ability of Nam of carrying stones in general, while (215b) asks the number of stones of Nam's carrying in a specific, realis event.

It seems that *vậy* enforces the presence of realis mood to all verbal predicates in a sentence. That is, embedded clauses and island clauses receive a realis reading together with the main clause when *vậy* is overt.

Problematic cases arise, however. Sometimes irrealis sentences may also take *vậy*, contra the claim that events which have not happened yet cannot be questioned with a *vậy-wh*-question. This can be seen in the deontic modal clause (216) and the irrealis negation context (217).

(216) Lam   phải   khuyên   Nam   tìm   việc   **ở-đâu**   vậy? [42]

     Lam   should   recommend   Nam   search   job   where   PRT

     'Where should Lam recommend Nam to find a job?'

(217) **Ai**   chưa   đến   vậy?

     who   not.yet   come   PRT

     'Who has not come yet?'

The two irrealis clauses do not exclude *vậy*. In fact, even (212) may have *vậy* if *ngày mai* 'tomorrow' is deleted. Moreover, it is incorrect, either, to say that all clausal constituents are assigned realis mood. To wit, see (218) below.

(218) a. Tân sẽ   kể-lại   tin   [Nam   cưới   **ai**]   vậy?

       Tan FUT   report   news   Nam   marry   who   PRT

       'Who is x such that Tan will report the news that Nam married x?'

    b. Quang   sẽ   mua   bức-vẽ   [**ai**   làm]   vậy

       Quang   FUT   buy   painting   who make   PRT

       'Who is x such that Quang will buy the painting made by x?'

---

[42] In (216), *ở đâu* '(to) where' can be understood with an existential reading if *vậy* is absent.

c. Tân sẽ   mua ngôi-nhà   [mà **ai**   đã   xây-dựng] thế[43]
Tan ASP buy CL-house   REL who PFV build   PRT
'Who does/will Tan buy the house that built?'   (B&T 2006:337)

In (218a-c), the particle is licit. What is crucial here is that a future marker *sẽ* is present in the matrix clause in each of (218), and *vậy* is nevertheless allowed. Recall from (212a-c) that *vậy* cannot coexist with future tense due to contradicted temporal interpretation, i.e., realis mood is inconsonant with future tense. How to solve this paradox?

It is not unreasonable to argue that *vậy* in (218) is linked to the relative clause, instead of the main one, since the mood in the relative clause in each of these three cases is realis. As long as *vậy* finds a "host" to stay, it is allowed to appear. But this hypothesis can hardly work for (216) and (217), where no such "host" is available. It ensues that only one option is left to explain (216)-(218): there are *two* variants of *vậy*, one of which is associated with realis, the other not.

Although counterexamples exist, my informant agrees that *vậy* in general denotes realis mood. I believe this is true because a great deal of data collected during the fieldwork show that they are correlated. For the inconsistent examples, the informant suggests that the particle in these cases has nothing to do with realis mood; rather, it only serves to "confirm" something. Also worth noting is that irrealis *wh*-questions with *vậy* have slightly different semantics from those without *vậy*: In the former, *vậy* constitutes an additional interpretation like "merely" or "that's all". In this connection, the particle perhaps does not relate itself with realis mood, leading to the speculation that it may not receive a unifying (semantic) account.

We may take the sentence-final particle *ne* in Chinese as a similar case. When *ne* is pronounced with a low tone, the clause it heads is a declarative with some sort of "emphasis" (or "evaluative", in B. Li's 2006 terms) meaning; but when with a high tone, the clause can only be an interrogative (cf. B. Li 2006 and references therein).

(219) a. ta   hui   jia   le   ne^L !   [declarative + ne^L]
         he   return home   ASP NE^L
         'He has returned home!'

---

[43] This example, adapted form B&T's article, obviously forms a counterexample to their statement that "…the speaker presupposes the existence of the entity described by the *wh*-phrase and the realization of the event described by the predicate and believes that the hearer shares this knowledge." (B&T:333). Curiously, they do not say a word about this case. In fact, their paper does not discuss at all the potential incompatibility between *sẽ* and the particle, and *sẽ* is vaguely glossed as "ASP" by them, shown in (218c).

b. *ta   qu   le   nali   ne^L [*interrogative + ne^L]
   he   go   ASP where   NE^L

(220) a. ta   qu   le   nali   ne^H ?   [interrogative + ne^H]
         he   go   ASP where   NE^H
         'Where did he go?'

   b. *ta   hui   jia   le   ne^H [*declarative + ne^H]
      he   return   home   ASP NE^H

In this regard, Chinese *ne* differs from Vietnamese *vậy* in possessing two tones, which help sorting out one of its two variants from the other.

A detailed survey on the semantic/pragmatic constraints of *vậy* is certainly out of the scope of this thesis, since what we are concerned here is its syntax. A first step toward the generalization can still be achieved, however, though exceptions do arise. I conclude that *vậy* is associated with realis, leaving the principles that govern the (limited) anomalous cases (216)-(218) to further research.

A few words to say before we close this section. The particle could arguably be base-generated inside the relative clause in (218). But this cannot hold, provided that the particle must take matrix scope whenever it occurs, even when the relative clause is realis:

(221) a. Anh nghĩ   sách   [**ai**   viết]   sẽ   trở nên   nổi tiếng   vậy?
          you   think   book   who   write   FUT   become   famous   PRT
          'Who is x such that you think the books that x wrote will become famous?'

   b. *Anh nghĩ   sách   [**ai** viết   vậy]   sẽ   nổi tiếng   phổ biến
         you   think   book   who write   PRT   FUT   famous   popular

(222) a. **Ai**   không   làm bài-tập   khiến   cho   cô-giáo   giận   vậy?
          who   NEG   do assignment   make   give   teacher   angry   PRT
          'Who is x such that that x did not do homework made the teacher angry?'

   b. ***Ai**   không   làm bài-tập   vậy khiến   cho   cô-giáo   giận
         who   NEG   do assignment   PRT make   give   teacher   angry

We also need to be cautious with the logical relation between the particle (the genuine "realis" one) and the realis reading. In a previous section, I have demonstrated some examples which bear realis readings but do not require the particle. It can appear, but need not. Conversely, if the particle is overtly present, the sentence

must be interpreted as realis, which is a pervasive phenomenon in my data and is also suggested by B&T. Thus, the existence of the particle is only a sufficient (but not a necessary) condition for realis mood. On the other hand, the future marker *sẽ* is (at least) semantically inconsistent with realis mood. The appearance of *sẽ* thereby guarantees the absence of realis mood. But the reverse does not hold: An irrealis sentence does not have to carry *sẽ*. So, the presence of *sẽ* can only be a sufficient condition for the lack of realis mood (as shown in (212a-c)).

7.2. Existence of Presupposition

Another property of the particle *vậy* is that the speaker, when using it in the *wh*-question, tends to presuppose that "the hearer should know the answer". Here I cite one example from B&T to illustrate what this means. Consider the following scenario: A pedestrian walks by a noisy crowd on the street. He wonders what happened, so he asks a policeman standing nearby a question like (223a):[44]

(223) a. Chuyện **gì**   xảy-ra thế?
           story   what   happen PRT
           'What happened?'

     b. #Chuyện **gì**   xảy-ra?
           story   what   happen
           'What happened?'   (B&T:333)

(223b), on the other hand, does not form a felicitous question in this context since the pedestrian presupposes that the policeman should know what is going on.[45]

   Note that requiring presupposition is different from encoding realis mood. We can of course ask someone (who potentially has relevant knowledge) about the existence of something, without the question being realis:

---

[44] In B&T's original example, *xảy ra* 'happen' is inaccurately transcribed as *xãy ra*. I follow the informant's suggestion to correct this typo.

[45] Another scenario offered in B&T, however, is problematic, which goes like the following: A teacher in a chemistry class is demonstrating to some students an experiment by mixing two chemicals. In this kind of situation, the teacher would not expect the students to know what is going to happen with this act, i.e., s/he does not presuppose the students know the outcome before the mixing. As a result, (223b) would not be an appropriate answer (B&T:333).

   The problem in this example is that there are two factors that render (223b) infelicitous: Irrealis mood (because the act of mixing has not occurred) and presupposition. It turns out that what rules out (223b) could only be the temporal property of the particle, i.e., the *mood*, instead of the presupposition, because the particle itself already conflicts with irrealis mood at the first place.

(224) kết-quả của thí-nghiệm   này sẽ   là   gì? [irrealis; non-presuppositional]
      result   of   experiment   this will be   what
      'What will the result be of this experiment?' (Asked by a student to a teacher)

7.3. Conversationality

Third, the particle *vậy* is only required in conversational contexts (with other proper conditions met), but not in written forms (e.g. questionnaires) or non-conversational discourse (e.g. self-talking). The informant has such intuition that in *wh*-questions of written contexts, *vậy* is normally omitted, no matter they bear realis mood or not. Thus, for instance, the question (225) given in a (written) questionnaire is completely fine, even though the action described in this sentence is certainly realis.

(225) hôm-qua   anh ăn **gì**?
      yesterday   you eat what
      'What did you eat yesterday?'

The similar situation can be observed in TV advertisements or broadcasts. Normally questions uttered in these media do not inquire answers from audiences, i.e., they belong to non-conversational discourse types. Therefore, (225) is also felicitous in these two cases.

Self-talking is another case of non-conversational discourse because the speaker and the hearer are the same person. Accordingly, (226a-b) are both agreeable in this kind of circumstance, albeit the realis mood. Attaching the particle to them is even worse.

(226) a. Tối-qua   tôi làm **gì**   (??vậy)
          last-night   I   do what   PRT
          'What did I do last night?'

      b. hôm-nay tôi gặp   **ai**   (??vậy)
          today   I   meet   who   PRT
          'Who did I meet today?'

7.4. Strengthening and Mitigation of Illocutionary Force

Two informants agree that the presence of the particle, from time to time, serves solely for strengthening the illocutionary force of *wh*-questions, not necessarily

involving the functions discussed above at the same time. Example (37), repeated here as (227), illustrates this case.

(227) Anh-ta vì   mua **cái-gì** mà   bị   sa-thải (vậy)?
  he   because buy   what   CONJ PASS   fired   PRT
  'What is the thing x such that he got fired because (he) bought x?'

Even though both clauses (main and adjunct) are presented as realis mood, (227) can still optionally take *vậy*. The informants note that overt *vậy* may be used only in order to "emphasize" the force of inquiry, like arousing attention from a group of people. Other things remain unaffected. This property may support the claim that this particle has at least one variant that needs to be differentiated from the mood-encoding one.

  Finally, *vậy* may also have to do with the mitigation of illocutionary force. In an aggressive speech act with the phrase *the hell*, the existence of *vậy* helps mitigate the aggressive force of the *wh*-question. On the other hand, if the question is deliberately made rude, *vậy* is absent.

(228) a. Rốt-cuộc anh muốn **gì**   vậy?   [mitigating]
   the.hell   you   want   what   PRT
   'What the hell do you want?'

  b. Rốt-cuộc anh muốn **gì**?   [non-mitigating]
   the.hell   you   want   what
   'What the hell do you want?'

  I leave for further investigation whether or not there are general patterns regarding the presence/absence of *vậy* when it has no correlation with realis mood, presupposition and conversationality (i.e., when only the strengthening/mitigation is at work), as well as the possibility for such strengthening/mitigating force to override other functions.

7.5. A Final Remark

This section has descriptively presented a complex picture of what are in association with the particle *vậy* in Vietnamese *wh*-questions. We have seen that both semantic and pragmatic factors can play a part in this respect, and whether *vậy* appears or not obviously has nothing do to with the legality of *wh*-in-situ in these cases. This must be correct because we have encountered numerous examples of *wh*-questions in which

vậy is absent, and they are nonetheless perfectly grammatical. If the data are reliable, they automatically obviate B&T's statement that *wh*-in-situ in Vietnamese can hold only when *vậy* is present.

A critical remark I would like to make here is that the "multi-functionality" of the particle we just witnessed does not necessarily render itself as a distinct syntactic head (e.g. Realis^0) from C^0. In Vietnamese *vậy* can and only can show up in *wh*-questions, an observation also confirmed in B&T's paper. As we have seen earlier, *vậy* is unable to attach to clauses that are not *wh*-questions, nor can it be a yes/no-question particle. Indeed, if it is only associated with realis mood, as proposed by B&T, *any* realis sentence should be compatible with it, counter to the fact: Whenever *vậy* exists, we have a *wh*-question.

There are actually more conceptual problems in B&T's analysis: If the final particle is associated with realis mood, *any* realis sentence should be compatible with it. But this is obviously not true in Vietnamese. Secondly, their account cannot explain why the Q-operator in Vietnamese needs a realis mood licenser, but the same element in Chinese does not. As far as I know, the Q-operator has not been proposed to possess any polarity characteristic in the lieterature, and it remains unclear why it should do so in Vietnamese.

Trying to separate *vậy* from being the Comp would complicate the theory and increase unnecessary burden to the theoretical framework. Surely, there is no a priori reason to assume that the "multi-functionality" of the particle must disable itself from being the Comp. It is equally likely that the particle, covert or overt, is always at work in Vietnamese, and when it comes to be explicitly realized as *thế*/*vậy*, it contributes further semantic/pragmatic functions which are syntactically closely related to CP. Note further that in Cheng's (1991) framework, there is no such prerequisite that a *wh*-particle cannot carry other functions than typing *wh*-questions, either. Ensuing this line of pursuit, I believe that *thế*/*vậy* is the Q-operator directly merged at C^0. Any kind of *wh*-criterion will in turn be satisfied by Merge, not Move.

Chapter 8

Finale

This thesis explores the syntax of various types of *wh*-questions in Vietnamese. A first attempt on this issue is initiated by Bruening & Tran (2006), who reach the conclusion that Vietnamese recourses to both LF *wh*-movement and unselective binding to form *wh*-questions, depending on whether a sentence-final particle is present to license the covert Q-operator or not. Yet this thesis reaches a different conclusion: Vietnamese greatly resembles Chinese in practicing unselective binding for *wh*-nominals, and LF *wh*-movement for *wh*-adverbs. The particle itself plays the Q-operator role in binding, in addition to other semantic/pragmatic functions, including settling realis mood.

Despite the similarities, Vietnamese disaccords from Chinese in several aspects: It contains a relatively large inventory of *wh*-forms, particularly *wh*-adjuncts, which leads to some interesting consequences. For *wh*-indefinites, Vietnamese does not seem to have bare-conditional structures, and it attaches a demonstrative item to the right end of *wh*-words to form phrasal existential indefinites, both unlike Chinese.

Many issues and questions about Vietnamese *wh*-questions remain unresolved: What are the syntactic and semantic differences among the rich inventory of *wh*-words? What is the exact C-position onto which the sentence-final particle is projected? How to pin down the positions of the *wh*-adjuncts within the cartographic approach (Rizzi 1997)? Is there any deviance in Vietnamese unselective binding from Chinese, since they are genetically unrelated? Answers to these (and many other) questions await further investigations.

Appendix

Vietnamese Sound System & Orthography

I.   Consonants

	Bilabial	Labiodental	Alveolar	Palatal	Velar	Glottal
Plosives	p b		t tʰ d	c	k	ʔ
Nasals	m		n	ɲ	ŋ	
Fricatives		f v	s z		x ɣ	h
Approximants	w			j		
Lateral approx			l			

II.   Vowels

	Front	Central	Back	
			[-rnd]	[+rnd]
High	i		ɯ	u
Upper-mid	e		ɤː ɤ	o
Lower-mid	ɛ			ɔ
Low		ɐː ɐ		

Source of I & II:

Duffield, Nigel (editor) *Vietnamese Online Grammar*
(http://www.vietnamese-grammar.group.shef.ac.uk/index.php). Accessed 06/10/2009.
Citation permitted by the editor.

III.   Alphabet-Sound Correspondences

(a)   Alphabet:

A a	Ă ă	Â â	B b	C c	D d	Đ đ	E e	Ê ê	G g
I i	K k	L l	M m	N n	O o	Ô ô	Ơ ơ	P p	R r
S s	T t	U u	Ư ư	V v	X x	Y y			

(b) Consonants:[46]

p [p]	b [b]	ph [f]	v [v]	m [m]	u/o [w]	t [t]	th [tʰ]
đ [d]	x [s]	gi [z]	n [n]	l [l]	tr [ʈʂ~t]	s [ʂ]	r [ʐ~ɹ]
ch [c~tɕ]	d [ɟ]	nh [ɲ]	y/i [j]	c/k [k]	kh [x]	g/gh [ɣ]	
ng/ngh [ŋ]		h [h]					

(c) Vowels:[47]

i [i]	ư [ɯ]	u [u]	e [ɛ]	ê [e]	â [ɤ]	ơ [ɤː]
ô [o]	o [ɔ]	ă [ɐ]	a [ɐː]			

IV. Tones

Diacritic	Name	Description	Example
(no mark)	ngang 'level'	mid level	*ma* 'ghost'
`	huyền 'hanging'	low falling	*mà* 'but'
´	sắc 'sharp'	high rising	*má* 'cheek, mother (southern)'
ˀ	hỏi 'asking'	mid dipping-rising	*mả* 'tomb, grave'
~	ngã 'tumbling'	high breaking-rising	*mã* 'horse'
.	nặng 'heavy'	low falling constricted	*mạ* 'rice seedling'

Source of III & IV:

Vietnamese language, Wikipedia

(http://en.wikipedia.org/wiki/Vietnamese_language). Accessed 06/11/2009.

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[46] The consonantal inventory here is slightly different from that of the *Vietnamese Online Grammar*.

[47] I adopt the classification in *Vietnamese Online Grammar* that *ơ* denotes [ɤː], not [əː].

List of Abbreviations

1	first person
2	second person
ACC	accusative
ASP	aspect
AV	agent voice
CL	classifier
COMP	complementizer
CONJ	conjunction
DAT	dative
DISJ	disjunction
EXI	existential
EXP	experiential
FOC	focus
FUT	future
MOD	modal
NEG	negation
NOM	nominative
PASS	passive
PFV	perfect
PL	plural
PNM	pronominalizer
PRG	progressive
PRT	particle
PST	past
PV	patient voice
REL	relativizer
TOP	topic

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