CHAPTER 4

WH-QUESTIONS IN JAPANESE

4.0 Introduction

In this chapter I argue that Japanese is one of the focus languages discussed in the previous chapter. That is, an identificational focus that requires an exhaustive reading undergoes obligatory syntactic movement to SPEC-Foc. However, the behavior of *wh*-phrases in Japanese is different from that of the typical focus languages. In Japanese, 'focus' movement of *wh*-phrases is optional. This fact is paraphrased as follows. An EPP-feature assigned to *wh*-phrases is optional, as we have already seen in Hungarian multiple *wh*-question case (section 3.4.1). When EPP is assigned, the *wh*-phrase moves out of VP. When EPP is not assigned, on the other hand, the *wh*-phrase remains in situ. In previous studies, it has been assumed that *wh*-phrases in Japanese can freely scramble, and all movements of *wh*-phrases are the case of scrambling. I argue against the assumption and propose that movement of *wh*-phrases out of VP is an instance of 'focus' movement in order to yield an exhaustive reading.

As evidence for my claim, I provide various kinds of *wh*-question data. After the brief review of the properties of Japanese *wh*- and focus constructions in section 4.1, I consider a locality constraint on scope-taking. I provide *wh*-island data which have not been discussed in previous studies. The data show that while a Japanese *wh*-clause qualifies itself as a weak island for scope-taking, it becomes a strong island when it is

Case-marked. In other words, a nominal *wh*-phrase in a Case-marked *wh*-clause never takes wide scope. This fact is explained with a QUIB notion assumed in chapter 2. Intuitively speaking, a QUIB blocks the same kind of quantificational agreement relation. I propose that a Case-marked *wh*-clause stands out as a focus of the whole sentence and hence bears a foc(us)-feature to agree with Foc. Thus, this foc-agreement relation becomes a QUIB that prevents the other agreement relation of the same feature, i.e. the agreement between matrix Foc and a *wh*-phrase inside the *wh*-clause.

Sections 4.3 and 4.4 consider syntactic and semantic properties of multiple *wh*-questions. In section 4.3, I provide '*wh*-scrambling' data which have not been discussed in previous studies. The data indicate that in a multiple *wh*-question, both *wh*-phrases must move out of v*P to ensure a PL reading. I show that the present analysis can account for how a PL/SP reading is processed correctly.

Section 4.4 is devoted to anti-superiority effects in multiple *wh*-questions. The present thesis provides an account for the effects. The structural relation between the two *wh*-phrases influences the interpretation at an LF representation: the higher *wh*-phrase 'absorbs' the lower *wh*-phrase. The absorption fails when the word order is 'adverbial-nominal.' Therefore, to achieve a proper interpretation, that order should be avoided. In this way, the present analysis explains that anti-superiority effects stem from the interpretation procedure at an LF representation.

Each argument to be developed below requires one assumption. That is, a syntactic projection relevant to an exhaustive interpretation is present in syntax. Therefore, the discussion in this chapter provides another piece of evidence for the assumption of the present thesis.

4.1 Basic Facts

In this section I mention basic properties of *wh*-questions and focus sentences in Japanese. Section 4.1.1 deals with properties of *wh*-questions. Section 4.1.2 considers how to account for three basic properties of focus sentences. I propose that morphologically-marked focus phrases are syntactic, and bear a foc-feature and an EPP-feature obligatorily. Therefore, just like the focus languages shown in the previous chapter, syntactic foci in Japanese undergo obligatory 'focus' movement to SPEC-Foc.

4.1.1 Properties of *Wh*-Questions

This section shows how *wh*-phrases behave in Japanese interrogative sentences. First, Japanese *wh*-phrases need not move, at least overtly. Consider the following examples:

(1) a. John-ga *hon-o* katta.
John-nom book-acc bought
'John bought a book.'
b. John-ga *nani-o* katta no ?
John-nom what-acc bought Q
'What did John buy?'

When the object phrase in (1a) (*hon-o* 'book-acc') is replaced by a *wh*-phrase (*nani-o* 'what-acc') in (1b), the *wh*-phrase does not change its sequential position. Only a Q-particle *no* is added at the clause-final position.

Second, Japanese *wh*-phrases are not subject to Subjacency. They can appear in an island and take scope out of the island.

(2) a. *Wh*-island[1]

John-wa [Mary-ga *nani-o* katta ka(dooka)] siritai no?

John -top Mary-nom what-acc bought whether want-to-know Q

'John wonders [whether Mary bought what]?'

b. Adjunct island

John-wa [Mary-ga *nani-o* iu mae-ni] heya-o deteitta no?

John-top Mary-nom what-acc say before room-acc left Q

'John left the room [before Mary said what]?'

c. Complex NP island

John-wa [[*e nani-o* kaita] hito]-ni atta no?

John-top what-acc wrote man-dat met Q

'John met [the man who wrote what]?'

Third, an adverbial *wh*-phrase is subject to 'ECP' effects. Contrary to nominal *wh*-phrases, adverbial *wh*-phrases cannot appear in islands.

(3) a. *Wh*-island

*John-wa [Mary-ga *naze* sono hon-o katta ka(dooka)] siritai no?

John-top Mary-nom why the book-acc bought whether want-to-know Q

'John wonders [whether Mary bought the book why]?'

b. Adjunct island

*John-wa [Mary-ga *naze* spiiti-o suru mae-ni] heya-o deteitta no?

John-top Mary-nom why speech-acc do before room-acc left Q

'John left the room [before Mary made a speech why]?'

c. Complex NP island

*John-wa [[*e* sono hon-o *naze* kaita] hito]-ni atta no?

John-top the book-acc why wrote man-dat met Q

'John met [the man who wrote the book why]?'

In this connection, it is worth noting that an adverbial *wh*-phrase can appear in islands when it cooccurs with a nominal *wh*-phrase within the island. Consider the following contrast:

(4) a. *John-wa [[Mary-ga *naze* *e* katta] hon]-o sagasiteiru no?

John-top Mary-nom why bought book-acc looking-for Q

'John is looking for [the book that Mary bought why]?'

b. ??John-wa [[*dare-ga* *naze e* katta] hon]-o sagasiteiru no?

John-top who-nom why bought book-acc looking-for Q

'John is looking for [the book that who bought why]?'

(adapted from Saito and Fukui (1998:464))

In (4a), the adverbial *wh*-phrase *naze* appears in the relative clause, which renders the sentence ungrammatical. In contrast, example (4b) is marginally allowed where the adverbial *wh*-phrase is preceded by the nominal *wh*-phrase *dare-ga* 'who'. Saito (1994) proposes that in (4b), the adverbial *wh*-phrase *naze* can adjoin to the nominal *dare-ga*. If so, *naze* is exempt from the ECP since there is no movement out of the island.

Fourth, Japanese *wh*-phrase can 'scramble'. Among languages that allow scrambling, some allow *wh*-scrambling, and others do not. Japanese and Korean are the former type, and German is the latter. Japanese *wh*-scrambling is exemplified in (5) below:

(5) a. *Nani-o*$_1$ John-ga t_1 katta no?

what-acc John-nom *t* bought Q

'What did John buy?'

b. *Nani-o*$_1$ John-wa [Mary-ga t_1 katta ka] sitteiru no?

what-acc John-top Mary-nom *t* bought Q/whether know Q

'What does John know whether Mary bought?'

'Does John know what Mary bought?'

Long-distance scrambling (5b) is possible as well as clause-internal scrambling (5a). As (5b) shows, a *wh*-phrase can be 'undone' to its base-generated clause and take scope of the embedded clause. Alternatively, a *wh*-phrase can remain in the matrix clause and take matrix scope.[2]

Fifth, Japanese *wh*-phrases are free from a superiority-like ordering constraint. However, they are subject to `anti-superiority'. Consider the following sentences:

(6) a. *Dare-ga nani-o* katta no?

who-nom what-acc bought Q

'Who bought what?'

b. *Nani-o dare-ga* katta no?

what-acc who-nom bought Q

c. John-ga *nani-o naze* katta no?

John-nom what-acc why bought Q

'Why did John buy what?'

d. *John-ga *naze nani-o* katta no?

John-nom why what-acc bought Q

When a sentence contains two nominal *wh*-phrases, either *wh*-phrase can precede the other. Therefore, both (6a) and (6b) are accepted. On the other hand, when a sentence contains nominal and adverbial *wh*-phrases, the nominal must precede the adverbial, as in (6c).[3]

To sum up, Japanese does not employ syntactic *wh*-movement to SPEC-C. *Wh*-phrases can either 'scramble' or remain in situ. We have also observed that there is argument-adjunct asymmetry in locality effects and ordering constraints.

There have been several previous studies that attempt to account for those facts observed so far. Here, however, I do not review the previous accounts since they do not have any direct relevance to the present thesis. For a detailed discussion, see Lasnik and Saito (1984, 1992), Nishigauchi (1991, 1999a), Watanabe (1991), Takahashi (1993), Watanabe (1994), Mihara (1998), Tanaka (1999), among others.

In the next section, I review two previous analyses which argue that there is a syntactic focus position in Japanese.

4.1.2 Properties of Focus Sentences

4.1.2.1 Basic facts In this section, I observe three representative properties of focus sentences in Japanese, which will have direct or indirect relevance to the discussion in sections 4.2-4.4. I explain each property in turn, and consider what account should be provided in the present framework.

As a first property, Japanese allows two kinds of focus; a morphological focus which marks a focused element with a focus particle *-wa* and a focus marked with a pitch accent. Each of them is exemplified as follows:

(7) John-wa *Mary-wa* sukida.

John-top Mary-foc like

'John likes MARY.'

(8) John-wa MARY-ga sukida. (Capitals stand for a pitch accent assigned.)
John-top Mary-nom like
'John likes MARY.'

In example (7), both subject and object DPs are apparently associated with the same particle *-wa*. However, for some unknown reasons, we can distinguish topic *-wa* from focus *-wa*. When two *-wa*-marked elements appear, the second element should be a focus (unless some marked pronunciation is assigned). Therefore, (7) involves a morphologically-focalized object. On the other hand, example (8) involves no morphological information to single out an element as focus. Rather, focus is marked by a pitch accent assigned on the object.

As pointed out in section 1.5, the two tactics differ in their implication. Example (7) implies that Mary is the only person that John likes. In example (8), on the other hand, there is no such implication. In this sense, only the morphologically-marked focus contributes to an exhaustive reading, which, according to É. Kiss (1998), is a defining property of identificational (hence syntactic) focus. Therefore, the present thesis deals with only morphologically-marked focus and ignores information focus as in (8) which merely conveys new information.

Let us now consider the second property, which is observed in Yanagida (1996a, b) and Miyagawa (1997). A morphologically-marked focus cannot remain in VP. Consider the following examples:

(9) a. ??John-ga [$_{VP}$ isoide *hon-wa* katta].
John-nom quickly book-foc bought

'John quickly bought A BOOK.'

b. John-ga *hon-wa*$_1$ [$_{VP}$ isoide t_1 katta].
John-nom book-foc $_1$ quickly t_1 bought.

(10) a. ??John-ga [$_{VP}$ isoide *Hanako-ni-wa* hon-o ageta].
John-nom quickly Hanako-dat-foc book-acc gave
'John quickly gave HANAKO a book'

b. John-ga *Hanako-ni-wa*$_1$ [$_{VP}$ isoide t_1 hon-o ageta].
John-nom Hanako-dat-foc$_1$ quickly t_1 book-acc gave

(Miyagawa (1997:10))

The manner adverb *isoide* 'quickly' indicates the edge of VP, and the direct ((9)) and the indirect ((10)) objects are marked as identificational foci by the particle *-wa*. If the focus stays in VP, the sentence is marginal, as shown in (9a) and (10a). Grammatical examples (9b) and (10b) show that the focus phrase must move out of VP.[4]

The third property is that a sentence cannot contain more than one identificational focus. This is illustrated by the following example:

(11) *John-wa *gakkoo-de-wa* *Mary-ni-wa* Bill-o shookai-sita.
John-top school-loc-foc Mary-dat-foc Bill-acc introduced
`(Lit.) John introduced Bill TO MARY, AT SCHOOL.'

In (11), the second and third *wa*-marked elements are regarded as foci. The ungrammatical status of (11) indicates that Japanese does not allow a multiple-focus sentence.

The ban on multiple-foci seems to be a universal property. Rizzi (1995)

observes a similar phenomenon in Italian. Consider the following example:

(12) **A Gianni il libro* dar (non a Piero, l'articolo).
to John the book give-fut.1sg. not to Piero the article
`(Lit.) I'll give THE BOOK, TO JOHN (not the article, to Piero).'

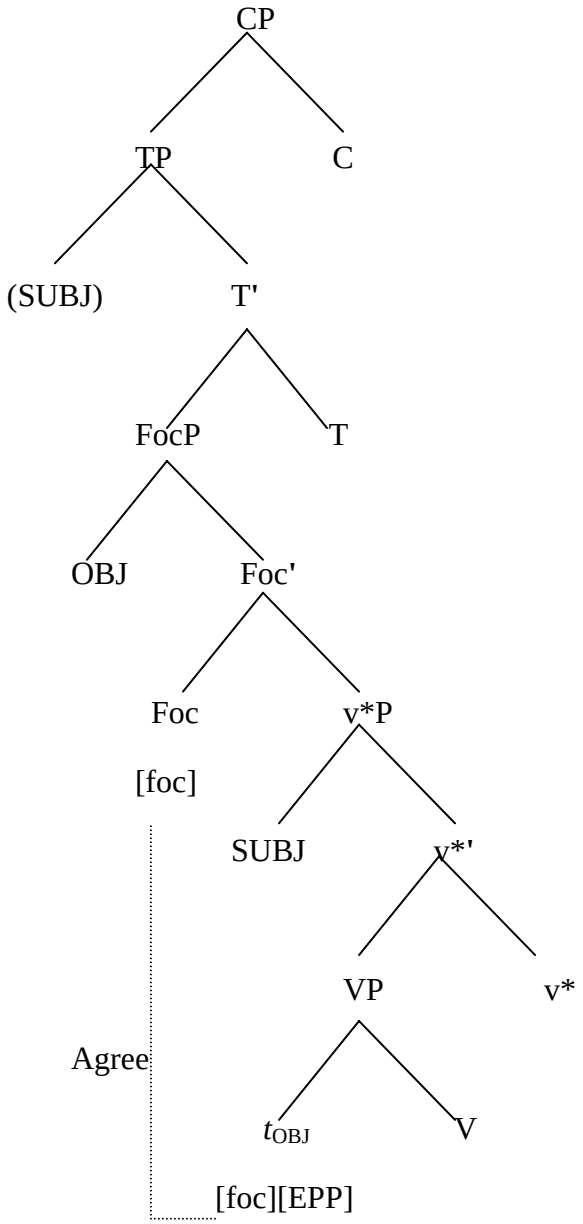
(Rizzi (1995:9))

In Italian, contrastive focus is expressed by moving it to IP-periphery position, just like Serbo-Croatian shown in section 3.4.2. Therefore, example (12) contains two focus phrases, i.e. *a Gianni* 'to John' and *il libro* 'the book', and the sentence is deviant.[5]

4.1.2.2 Syntactic account: Focus position is realized in syntax It has already been suggested that Japanese bears a syntactic focus position. Yanagida (1996a, b) assumes a projection FocP, and Miyagawa (1997) considers VP-adjunction as focus position. If we assume that a focus phrase must move to the focus position, then such sentences as (9) and (10) can receive a straightforward account. Under the assumption, (9a) and (10a) are excluded since the focus phrases do not undergo focus movement.[6]

Instead of developing their analyses, I consider how the present analysis provides an account for the properties of focus observed in the previous section. In chapter 1, I have assumed that there is a functional category Foc(us) whose SPEC provides a focus position. I assume that it holds true in Japanese clause structure and hence Japanese takes the following syntactic structure:

(13)



(More precisely, the focus object has been moved to outer SPEC-v*P in order for Foc to seek out its goal. The movement is motivated by an optional EPP-feature assigned to v*. Since the minimality of Agree is always overcome by this kind of phasal movement, I ignore the phasal movement in this chapter.)

Suppose that the object is focalized with the particle *-wa*. The obligatory focus movement implies that syntactic focus phrases in Japanese obligatorily bear an EPP-feature as well as a foc-feature. With the two features, then, the focus phrase

undergoes obligatory movement targetting the agreed probe, i.e. to SPEC-Foc.

Let us now consider the third property, i.e. the ban on multiple foci. Chierchia (1991) suggests that quantifying into quantification complicates the interpretation of the sentence and therefore should be avoided. It has been a tacit motivation for the assumption of quantifier unification proposed in previous studies. For example, when a sentence contains two quantifiers, e.g. *all* and *some*, they are unified into either $\forall \exists$ or $\exists \forall$ (cf. May (1985)). Similarly, when a sentence contains two *wh*-phrases, they are absorbed (cf. Higginbotham and May (1981)) or unselectively bound (cf. Baker (1970)). Those analyses imply that two quantifiers cannot be interpreted individually, and hence need to be unified in some way. This should hold true for the case of multiple foci. Since identificational focus is quantificational, multiple foci must be unified for a proper interpretation.

However, unification of identificational foci seems impossible. Let us consider again the definition of identificational focus given by É. Kiss (1998:245):

(14) The function of identificational focus: An identificational focus represents a subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold; it is identified as the exhaustive subset of this set for which the predicate phrase actually holds.

Simply put, the sentence containing an identificational focus is true only if the entity denoted by the focus saturates the open position of the sentence: the sentence is false when any other entity available in the context saturates the open position. To determine a truth value with the saturation of one entity, the sentence must have one and only one open position. If a sentence contained two foci, it would have two open positions. The saturation of one focus entity doses not determine the truth value of the

sentence, which means that the saturated focus does not function as exhaustive information. Therefore, multiple occurrence of identificational foci is impossible. (But see note 5.)

To sum up, we have arrived at the following conclusions about the focus construction:

(15) a. Identificational focus phrases in Japanese are morphologically marked with the particle *-wa*.

b. Identificational focus phrases in Japanese obligatorily bear an EPP-feature as well as a foc-feature.

c. Multiple foci are not allowed for the impossibility/difficulty of interpretation, which seems to be a universal property.

Before closing the section, it is worth noting the difference between focus phrases and *wh*-phrases. Whereas focus phrases undergo obligatory 'focus' movement in Japanese, *wh*-phrases do not need such movement and can remain in VP. It is paraphrased that an EPP-feature is obligatory for foci, but not for *wh*-phrases. In this regard, there is a cross-linguistic difference as to the obligatoriness of EPP-assignment. The following table demonstrates the obligatoriness of an EPP-feature in each language.

(16) obligatoriness of EPP (=obligatory movement to SPEC-Foc)

a. Serbo-Croatian	focus	○
	wh-phrase (single Q)	○
	wh-phrase (multiple Q)	○
b. Hungarian	focus	○
	wh-phrase (single Q)	○
	wh-phrase (multiple Q)	one obligatory, the other optional
c. Japanese	focus	○
	wh-phrase (single Q)	optional
	wh-phrase (multiple Q)	optional

From the observed differences, I tentatively propose that the assignment of an EPP-feature is parameterized in each language, and the parametric differences characterize languages from 'typically focus language' to 'non-focus language'.

Having surveyed basic properties of *wh*-questions and focus sentences in Japanese, I turn to a detailed analysis of more complicated properties of *wh*-questions. In the next section, I consider a fact that has not been observed in previous studies. *Wh*-islands are optionally Case-marked, and the Case-marking changes the island from a weak to a strong island.

4.2 Locality in Scope-Taking of a *Wh*-Phrase in a *Wh*-Clause

It is well known that Japanese *wh*-phrases do not undergo overt movement at least visibly. Therefore, when a complex sentence contains more than one Q-morpheme, a *wh*-phrase can be related to either Q-morpheme. Consider the following example:

(17) John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*?

John-top [May-nom what-acc bought Q] investigate-prog. Q

a. 'Is John investigating what Mary bought?'

b. 'What is John investigating whether Mary bought?'

It should be noted that the *wh*-clause in (17) can be assigned accusative Case *-o* by the verb:

(18) John-wa [Mary-ga *nani-o* katta *ka*]-**o** sirabeteiru *no*?

John-top [May-nom what-acc bought Q]-acc investigate-prog. Q

a. 'Is John investigating what Mary bought?'

b. * 'What is John investigating whether Mary bought?'

When assigned Case, a long-scope reading of *nani-o* 'what-acc' (18b) is impossible. In other words, a Case-marked *wh*-clause serves as a strong island for scope-taking.

This section considers why this is the case, and shows that the present analysis can provide an explanation for this fact.

4.2.1 Case-Marking and Strength of *Wh*-Clauses

Previous studies have judged (17) with a wide-scope reading (17b) from (considerably) acceptable to completely unacceptable. This section observes that such diversity disappears once the embedded *wh*-clause is Case-marked by the matrix verb.

To begin with, let us make sure that (17) can take matrix scope. Ambiguity in (17) disappears once the embedded Q-morpheme *ka* is replaced with *ka dooka* 'whether':

(19) John-wa [Mary-ga *nani-o* katta *ka dooka*] sirabeteiru *no*?
John-top [May-nom what-acc bought whether] investigate-prog. Q
'What is John investigating whether Mary bought?'

The following table sums up the diversity of judgment for a sentence equivalent to (19) in previous studies:

(20)	long-distance scope over the *wh*-clause
a. Lasnik and Saito (1992)	(?)
b. Watanabe (1991)	??
c. Nishigauchi (1999a)	?*
d. Mihara (1998)/Tanaka (1999)	*

At first glance, a sentence like (19) seems to take a varying degree of acceptability from person to person. In fact, however, Watanabe's judgment '??' is just taking an average degree of acceptability 'in order to reflect the judgment of the relevant speakers' (Watanabe (1991:11)). Therefore, it can be said that each person's judgment for (17b)/(19) is divided between acceptable and acceptable.[7]

Informants I consulted showed the same responses. Some of them excluded the wide-scope reading of (17)/(19), and the others accepted it if an appropriate context was given (see footnote 7). If I took an average, the grammaticality for the wide-scope reading of (17)/(19) would be '??'. It should be noted, however, that what is of my concern here is not the average degree of grammaticality. What I would like to emphasize here is this: there are some people who accept the wide-scope reading of (17)/(19). This becomes relevant to the discussion below. Therefore, I regard the wide-scope reading of (17)/(19) as 'potentially acceptable' and proceed to the

discussion below. As for a diversity in judgments of (17)/(19), I provide a tentative account in section 4.2.4.

A wide-scope reading over a *wh*-clause is limited to nominal *wh*-phrases. Adverbial *wh*-phrases can only take embedded scope. Consider the following examples:

(21) John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*? (=(17))
John-top [Mary-nom what-acc bought Q] investigate-prog. Q
a. 'Is John investigating what Mary bought?'
b. 'What is John investigating whether Mary bought?'

(22) John-wa [Mary-ga *naze* Bill-ni atta *ka*] sirabeteiru *no*?
John-top [Mary-nom why Bill-dat met Q] investigate-prog. Q
a. 'Is John investigating why Mary met Bill?'
b. * '(Lit.)Why$_1$ is John investigating whether Mary met Bill t_1?'

The nominal *wh*-phrase in (21) can take either embedded or matrix scope. On the other hand, the adverbial *wh*-phrase in (22) can only take embedded scope. In this regard, a *wh*-clause serves as a 'weak island' for scope-taking of a *wh*-phrase in it. (It should be noted that the term 'island' here means a barrier for scope-taking, not for movement.)

Now let us turn to a phenomenon I newly provide here. A *wh*-clause is optionally Case-marked when it appears in a complement position. Take (21a) for instance. The *wh*-clause appears as a complement of a verb *siraberu* 'investigate' which obligatorily assigns accusative Case when it takes a DP complement. Accusative is optionally assigned to CP complement when the CP is interrogative.

Compare (21), repeated here as (23a), with (23b) below:

(23) a. John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. 'What is John investigating whether Mary bought?'
b. John-wa [Mary-ga *nani-o* katta *ka*]-**o** sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] -acc investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. * 'What is John investigating whether Mary bought?'

The same holds true for other Cases. Examples in (24) demonstrates optional dative Case-marking, and examples in (25) optional nominative Case-marking of the complement *wh*-clause.

(24) a. John-wa [Mary-ga *nani-o* katta *ka*] kyoomi-o motta *no*?
John-top [Mary-nom what-acc bought Q] interest-acc had Q
i. 'Did John take interest in what Mary bought?'
ii. '(Lit.) What did John take interest in whether Mary bought?'
b. John-wa [Mary-ga *nani-o* katta *ka*]-**ni** kyoomi-o motta *no*?
John-wa [Mary-nom what-acc bought Q]-dat interest-acc had Q
i. 'Did John take interest in what Mary bought?'
ii. * '(Lit.) What did John interest in whether Mary bought?'

(25) a. [Mary-ga *nani-o* katta *ka*] hanmee-sita *no*?
[Mary-nom what-acc bought Q] reveal-do Q

i. ‘Did it get revealed what Mary bought?’

ii. ‘(Lit.) What did it get revealed whether Mary bought?’

b. [Mary-ga *nani-o* katta *ka*]-**ga** hanmee-sita *no*?

[Mary-nom what-acc bought Q]-nom reveal-did Q

i. ‘Did it get revealed what Mary bought?’

ii. * ‘(Lit.) What did it get revealed whether Mary bought?’

Notice that the optionality of Case-marking for interrogative CP is different from the optionality of Case-realization for complement DP. As pointed out in Kuroda (1988), nominal objects optionally drop their accusative Case in Japanese, as in (26):

(26) John-wa [Mary-no koto](-o) sitteiru.

John-top Mary-gen thing(-acc) know

‘John knows about Mary.’

The dropping of accusative Case is observed only in a colloquial situation. As for other Cases (dative and nominative), too, the same restriction applies. Such examples are showed below:

(27) a. John-wa [Mary-no koto](-ni) kyoomi(-o) motta-n datte.

John-top Mary-gen thing(-dat) interest(-acc) had-that modal

‘I've heard that John had interest in Mary.’

b. [Mary-no koto](-ga) hanmee-sita-n datte.

Mary-gen thing(-nom) reveal-did-that modal

‘I've heard that something about Mary was revealed.’

However, Case-marking is obligatory in a formal situation. Case is dropped only in a limited spoken context.

Optional Case-marking for *wh*-clauses is different from optional Case-dropping of DPs. Interrogative CPs can drop Case freely. For instance, the Case-dropped *wh*-clause in (23a) can appear even in a written context. The context-independent optionality of Case-marking for interrogative CPs implies that Case-assignment itself is optional in that case. Interrogative CPs can bear Case or lack Case.[8]

Although Case-marking of a complement *wh*-clause is optional, the resultant sentence has a semantic effect. Consider (23), repeated here as (28) once again.

(28) a. John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. 'What is John investigating whether Mary bought?'

b. John-wa [Mary-ga *nani-o* katta *ka*]-**o** sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q]-acc investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. * 'What is John investigating whether Mary bought?'

As the English translations of the examples show, the presence of accusative Case on the *wh*-clause changes the possible scope-reading. That is, when the *wh*-clause lacks Case, as in (28a), the *wh*-phrase (*nani-o* 'what') in the clause can take either embedded or matrix scope. On the other hand, when the *wh*-island exhibits its Case, as in (28b), the *wh*-phrase in the clause can only take embedded scope. In other words, the presence of Case changes the strength of an interrogative clause from a weak island to a strong island. The same holds true for other Case-marking. See examples (24) and

(25) and their English translations.

It should be noted that the judgment of (28b) with the reading (ii) is uniformly excluded. That is, whereas some people accept the wide-scope reading (ii) for (28a), they uniformly judge '*' for the wide-scope reading once the *wh*-clause is assigned Case.

Several questions arise concerning this phenomenon. First, is Case-marking for CP possible at all? Second, what semantic/syntactic change is brought about by Case-marking for a *wh*-clause? Third, how does the Case-marking prevent a *wh*-phrase from taking matrix scope over the *wh*-clause? I consider the first two questions in the next section, by referring to Masuoka's (1997) similar observation about temporal adverbial clauses and their optional Case-marking. Based on the conclusion reached in the next section, I proceed to the third question and provide an account with the QUIB- based locality assumed in section 2.4.

4.2.2 Semantic and Syntactic Consequences of Case-Marking for *Wh*-Clause

4.2.2.1 Case-marked *wh*-clause as a focus of the whole sentence Before dealing with Case-marking effects for *wh*-clauses, let us first consider Masuoka's (1997) similar observation about temporal adverbial clauses. Masuoka observes that temporal (and some other) adverbial clauses can undergo optional Case-marking and that the Case-marking makes the temporal clause stand out as focus of the whole sentence. Consider the following examples:

(29) [Kyoto-ni itta toki] sono hon-o katta noda.
[Kyoto-to went time] the book-acc bought modal(focus)
a. It was the book that I bought when I went to Kyoto.
b. It was when I went to Kyoto that I bought the book.

(30) [Kyoto-ni itta toki]-**ni** sono hon-o katta noda.

[Kyoto-to went time]-dat the book-acc bought modal(focus)

a. *It was the book that I bought when I went to Kyoto.

b. It was when I went to Kyoto that I bought the book.

Both sentences (29) and (30) are marked with a special modal *noda*, which indicates that some element in each sentence is highlighted as focus.[9] When the temporal clause lacks Case, as in (29), any element can be focus. Hence both (29a), where the object is focalized, and (29b), where the temporal clause is focalized, are possible interpretations for (29).

On the other hand, interpretation possibility is changed in (30), where the temporal clause bears optional Case *-ni*. The Case-marked temporal clause must be interpreted as focus, as shown in (30b), and any other focal interpretation is excluded.

Masuoka also observes that this Case-marking effect is observed in adverbial clauses of other types. Examples (31) and (32) below are such examples. When the adjunct clause is not Case-marked, both (a) and (b) are possible interpretations. However, once it is Case-marked by locative *-de* or dative *-ni*, the sentence allows only (b) interpretation.

(31) [Yukiko-ni denwa-sita ato](**-de**) kono tegami-o kaita noda.

[Yukiko-dat telephoned after](-loc) this letter-acc wrote modal(focus)

a. It was this letter that I wrote after I telephoned Yukiko.

b. It was after I telephoned Yukiko that I wrote this letter.

(32) [Yuki-ga hutta tame](**-ni**) sinkansen-ga tomatta noda.

[snow-nom fell for](-dat) the bullet train-nom stopped modal(focus)

a. It was the bullet train that stopped due to the snow.

b. It was due to the snow that the bullet train stopped.

From the observation above, we can obtain the following generalization:

(33) A Case-marked clause stands out as focus of the whole sentence.

Case-marking is not always possible for every clause. A declarative clause never receives Case (as in (34)), and there are many adverbial clauses that cannot undergo Case-marking (as in (35)).

(34) a. John-wa [Mary-ga kuruma-o katta *to*](*-**o**) hookoku-sita.
John-top [Mary-nom car-acc bought COMP](-acc) reported
'John reported that Mary bought a car.'

b. [Mary-ga kuruma-o katta *to*](*-**ga**) John-niyotte hookoku-sareta.
[Mary-nom car-acc bought COMP](-nom) John-by was-reported
'It was reported by John that Mary bought a car.'

(35) a. [Yuki-ga hutta *kara*](*-**ni/de**) sinkansen-ga tomatta.
[snow-nom fell because](-dat/loc) the bullet train-nom stopped
'The bullet train stopped because it snowed.'

b. [Yuki-ga hutta *nara*](*-**ni/de**) sinkansen-ga tomaru daroo.
[snow-nom fell if](-dat/loc) the bullet train-nom stop modal(fut.)
'The bullet train will stop if it snows.'

At present, it is not quite clear what differentiates Case-markable clauses (29)-(32) from

non-Case-markable clauses (34)-(35). Masuoka just points out that as far as Case-markable adverbials are concerned, Case-marking highlights the clause as focus of the whole sentence. I do not go into this issue any further, and just follow Masuoka's generalization.

What I argue here is that Masuoka's generalization (33) can be extended to Case-marking of complement *wh*-clauses. For ease of discussion, I take up only cases of accusative Case, e.g. (23), and do not refer to other cases such as (24) (dative) and (25) (nominative). However, the same holds true for those cases. Consider (23) again, repeated here as (36):

(36) a. John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. 'What is John investigating whether Mary bought?'
b. John-wa [Mary-ga *nani-o* katta *ka*]-**o** sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] -acc investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. * 'What is John investigating whether Mary bought?'

According to my informants, what is investigated is more emphasized in (36b) than in (36a). To make the point clear, suppose the following situation. John, a detective, has several possible options to investigate Mary's financial condition, e.g. to check her purchase, to check her bank account, and to shadow her. If the speaker utters (36b) under this context, he wants to know whether Mary's purchase is the only thing that John is actually investigating. Question (36b) will not be answered positively if John is undertaking other investigations, too, which is not the case with question (36a).

Furthermore, a natural articulation for (36b) is to put a slight pitch accent on optional accusative Case *-o* attached to the *wh*-clause. This truth-conditional/phonological change triggered by the presence of a Case-marked clause indicates that the Case-marked *wh*-clause serves as focus of the whole sentence.[10]

4.2.2.2 Implications From the observation in the previous section, we have obtained the following generalizations:

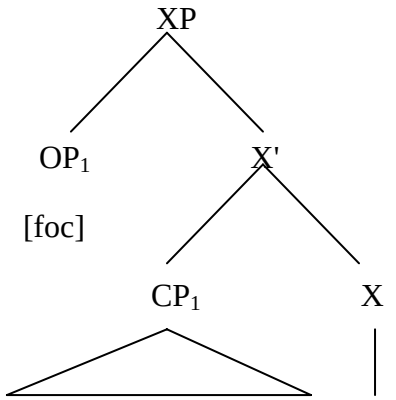
(37) a. A Case-marked clause stands out as focus of the whole sentence. (=(33))

b. It holds true for complement *wh*-clauses.[11]

In this section, I propose that the focal status of a Case-marked *wh*-clause is realized by the association of a foc-feature with the *wh*-clause.

Let us consider what change Case-marking for a *wh*-clause brings about in syntax. Since a Case-marked *wh*-clause stands out as an identificational focus of the whole sentence, the present assumption requires the clause to bear a foc-feature and agree with Foc, in order to ensure an exhaustive reading. Since the whole *wh*-clause is a focus, the foc-feature should reside in a position c-commanding the clause. Hence I propose the following structure for the Case-marked *wh*-clause in (36b):

(38)



Mary-ga *nani-o* katta *ka* ϕ **-o**

The structure above indicates (i) that a functional head X merges with the interrogative CP, (ii) that the CP's focal status is realized in the operator in SPEC-X associated with a foc-feature, and (iii) that Case is assigned not to CP, but to the whole XP consisting of OP and CP. What I would like to assume by (38) is that a foc-feature is generated somewhere outside CP, providing focal quantification for the whole CP.

The foc-feature associated with the null operator in (38) has to agree with Foc. Therefore, Case-marked *wh*-clauses as in (36b) should establish the following agreement relation with Foc.

(39) .... [$_{FocP}$ Foc .... [$_{XP}$ OP_{foc} [$_{CP}$ (*wh*-clause)]]**-o**] ....

[foc] [foc]

Agree

The Case-marked *wh*-clause (XP) thus agrees with Foc, and contributes to an exhaustive reading of the sentence.

On the other hand, a Caseless *wh*-clause as in (36a) never establishes such an agreement with Foc. Since the *wh*-clause (CP) is not a focus, it does not have a foc-feature to agree.

Therefore, the presence/absence of Case-marking for a *wh*-clause can be paraphrased as follows within the present framework:

(40) a. Case-marked *wh*-clauses bear a foc-feature and establish an agreement relation with Foc.

b. Caseless *wh*-clauses do not bear a foc-feature, and hence do not establish an agreement relation with Foc.

In the next section, I proceed to consider how the difference between (40a) and (40b) is related to the difference in scope-taking over the *wh*-clause.

4.2.3 An Account

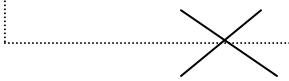
4.2.3.1. QUIB as an LF locality constraint In section 2.4, I have assumed a new locality constraint, following Beck (1996) and Miyagawa (1999b).

(41) The quantificational dependency in an occurrence list is not legitimate over a QUIB of the same type.

There is no *wh*-dependency over the *wh*-quantifier:

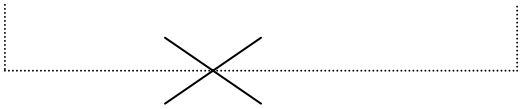
(42) a. C ..... [$_{CP}$ C [$_{TP}$ ..... XP .....]]

[Q] [Q] [Q]



b. Foc .... [$_{XP}$ OP X [$_{CP}$ C [$_{TP}$ .. YP ...]]]

[foc] [foc] [foc]



(Since a phase constitutes a kind of barrier during syntactic computation, any element that bears a feature to agree must be moved to the edge of a phase. However, as I have argued in section 2.3, intermediate occurrences in an occurrence list are erased at an LF representation since they are irrelevant to interpretation. The locality judgment is hence checked between the head (operator) and the tail (variable), as the structures above illustrate.)

In the next section, I consider how we can account for the fact in (40) by means of QUIB as a locality condition. I also show that the present analysis can also account for argument-adjunct asymmetry in scope-taking in a straightforward way.

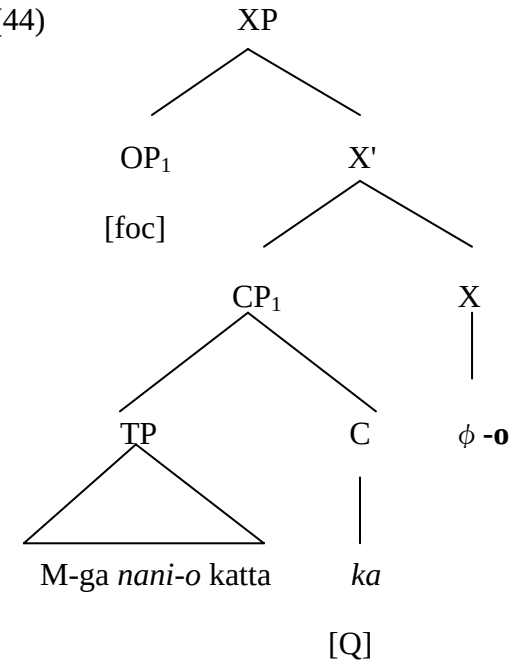
4.2.3.2. An account with a QUIB condition Now let us consider what account is possible for wide-scope reading of a *wh*-phrase inside a *wh*-clause. To begin with, consider (23), repeated here as (43) again:

(43) a. John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. 'What is John investigating whether Mary bought?'
b. John-wa [Mary-ga *nani-o* katta *ka*]-**o** sirabeteiru *no*?
John-top [Mary-nom what-acc bought Q] -acc investigate-prog. Q
i. 'Is John investigating what Mary bought?'
ii. * 'What is John investigating whether Mary bought?'

The only difference between (43a) and (43b) is that accusative Case is assigned to the interrogative embedded clause in (43b), but not in (43a). Following the discussion in

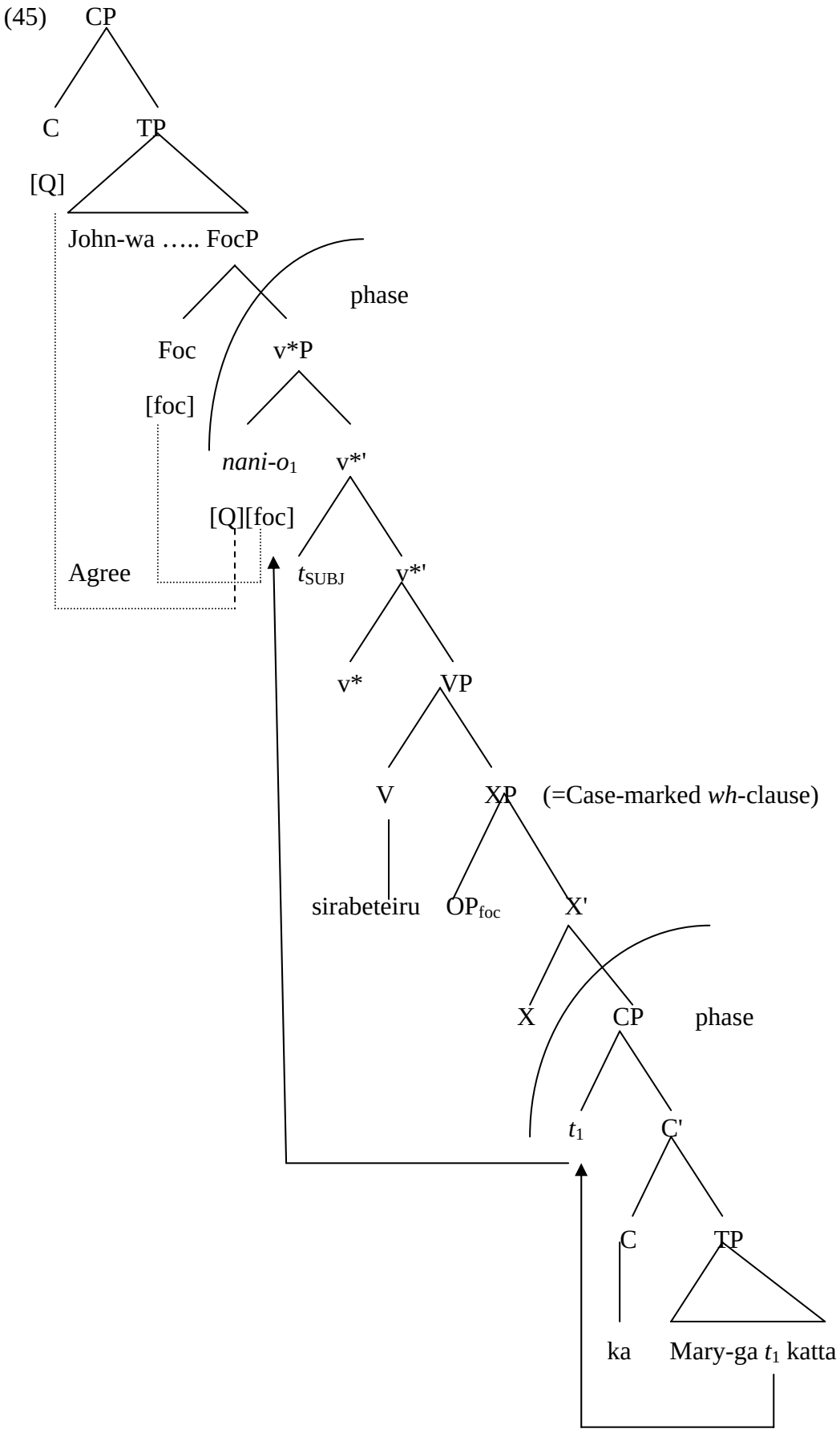
section 4.2.2.2, we can expect that the *wh*-clause in (43b) bears a foc-feature and hence agrees with Foc. Also, since the embedded clause is interrogative, C bears a Q-feature. Therefore, the Case-marked *wh*-clause in (43b) bears the two quantificational features as follows:

(44)



In this structure, when the *wh*-phrase *nani-o* 'what-acc' takes embedded scope, its relevant features agree with Foc and C in embedded CP without posing any problem. However, when it takes matrix scope, it must agree with Foc or C in the matrix clause. The agreement relation would be schematized in the following structure (order irrelevant):

(45)

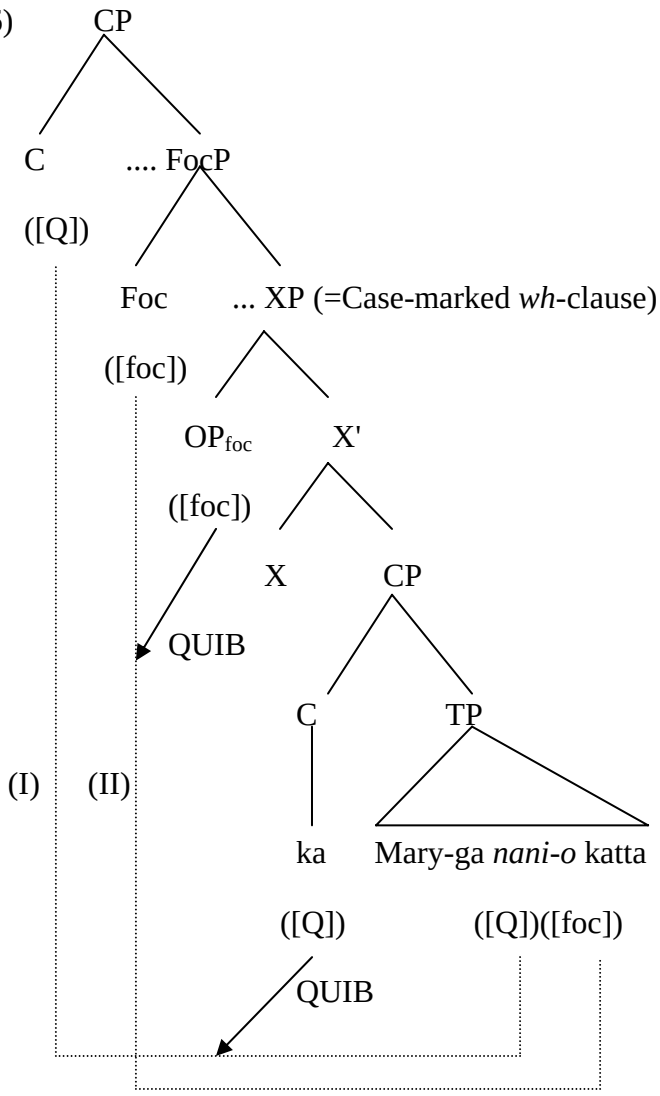

CP
C
TP
[Q]
John-wa ….. FocP
phase
Foc
v*P
[foc]
nani-o1
v*'
[Q][foc]
Agree
tSUBJ
v*'
v*
VP
V
XP
(=Case-marked wh-clause)
sirabeteiru
OPfoc
X'
X
CP
phase
t1
C'
C
TP
ka
Mary-ga t1 katta

When *nani-o* 'what-acc' in the *wh*-clause takes matrix scope, it must have raised to outer SPEC of the matrix v*. Otherwise the matrix C and Foc could not find the *wh*-phrase. This movement must be successive cyclic through the edge position of every phase, as the arrows of (45) above indicate. This series of movements is motivated by an optional EPP-feature assigned to each phasal head. (This kind of phasal movement should not be reflected in a PF representation in Japanese. See note 1 in chapter 5.)

At SPEC-v*, *nani-o* agrees with Foc and C. In this way the *wh*-phrase makes its relation to the matrix elements without posing any derivational problems.

Although derivational operations (i.e. Agree) observe derivational minimality, it does not guarantee that the legitimate derivation should lead to a legitimate LF representation. An LF representation is subject to representational conditions one of which is a QUIB constraint. The QUIB constraint blocks the LF representation resulting from (45). Let us consider how this is the case. Since edge positions are irrelevant to interpretation, they are not contained in an occurrence list at LF. Hence *nani-o* in SPEC of the matrix v* in (45) goes back to its non-edge position, i.e. its base-generated position in the embedded clause, as the structure below shows:

(46)

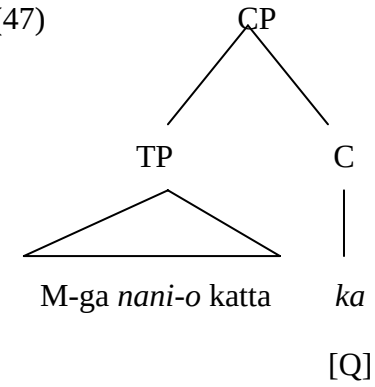


The dependency of Q-agreement (I) between the matrix C and *nani-o* is blocked by the intervening QUIB, i.e. the embedded C with its Q-quantification. The dependency of foc-agreement (II) between the matrix Foc and *nani-o* is also blocked by the intervening QUIB, i.e. OP$_{foc}$ of the *wh*-clause with its foc-quantification. In consequence, the two quantificational dependencies of *nani-o* are both blocked by the QUIBs, and hence cannot have a reading relating with the matrix clause.

Now let us consider the matrix scope reading of (43a). The *wh*-phrase can take matrix scope over a *wh*-clause when the *wh*-clause lacks Case. Since a Caseless *wh*-clause lacks a foc-feature to agree with Foc, the *wh*-clause only bears one quantifier,

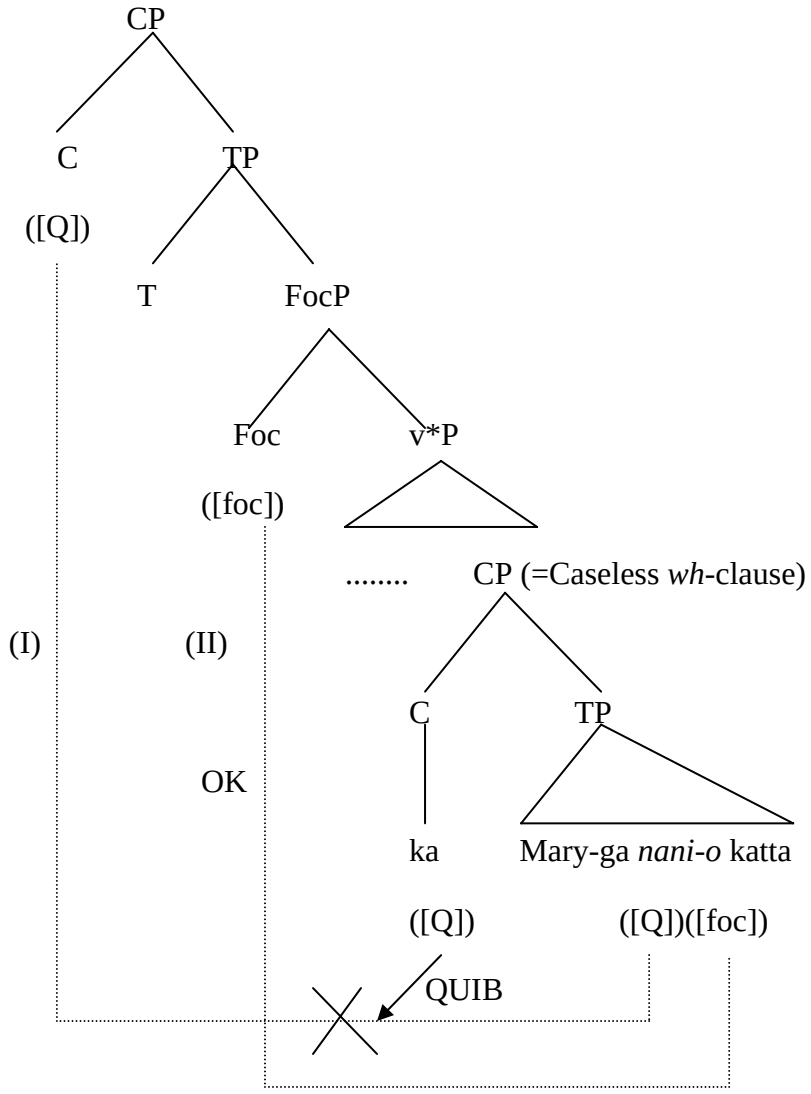
i.e. [Q], hence becoming a QUIB only for the dependency of [Q]:

(47)



Therefore, the *wh*-phrase inside the CP (*nani-o* ‘what-acc’) can retain the dependency of the foc-agreement with matrix Foc at the LF representation, as schematized in the following structure (order irrelevant):

(48)



(Intermediate occurrences of *nani-o* are erased from its occurrence list at the LF representation, and the locality judgment holds between the head and the tail positions.) Since the Caseless *wh*-clause serves as a QUIB only for Q-dependency (I), it does not block foc-dependency (II) that the agreement between *nani-o* and matrix Foc creates. Since one of the two dependencies survives at the LF representation, *nani-o* can relate itself to a matrix clause and take matrix scope.

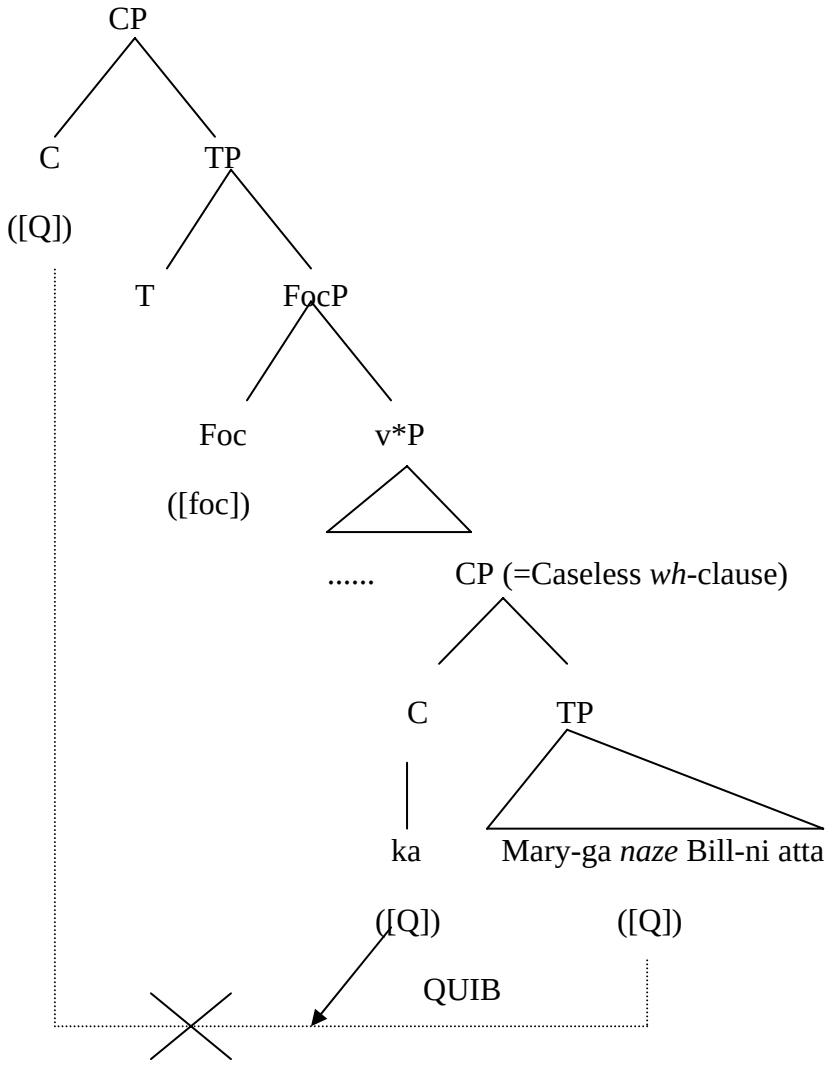
This approach also accounts for the fact that an adverbial *wh*-phrase within a *wh*-island can never take matrix scope, regardless of whether the *wh*-island is Case-marked or not. Consider example (22), repeated here as (49), with the added

option of Case-marking:

(49) John-wa [Mary-ga *naze* Bill-ni atta *ka*](**-o**) sirabeteiru *no*?
John-top [Mary-nom why Bill-dat met Q](-acc) investigate-prog. Q
a. 'Is John investigating why Mary met Bill?'
b. * '(Lit.) Why is John investigating whether Mary met Bill?'

When the embedded *wh*-clause lacks Case and fails to be a focus, it lacks its foc-feature. The only quantifier the *wh*-clause bears is a Q-feature, hence becoming a QUIB only for the dependency of [Q] (as shown in (50)). As for the adverbial *wh*-phrase in the *wh*-clause, it also lacks a foc-feature. The only quantificational feature associated with adverbial *wh*-phrases is [Q]. Therefore, the *wh*-phrase inside the *wh*-clause cannot make an agreement relation with the matrix element. The situation is schematized in the following LF representation:

(50)



Since the adverbial *wh*-phrase bears only [Q], there is only one dependency between the matrix C and *naze*. However, it is blocked by intervening embedded C. Therefore, an adverbial *wh*-phrase can never take matrix scope. The presence/absence of Case on the *wh*-clause is irrelevant to this case.[12]

This line of analysis is possible only when we assume Foc, a functional projection to agree with a foc-feature of a focus/*wh*-phrase. The assumption entails that there be two dependencies for nominal *wh*-phrases, i.e. Q- and foc-dependencies. The Q-dependency is always blocked when the embedded CP is interrogative and hence is a QUIB for a Q-dependency. On the other hand, a foc-dependency survives unless

another [foc]-bearer, i.e. another focus, blocks the dependency. Such an intervention of a foc-agreement is induced when a *wh*-clause takes Case and makes itself a focus. A Case-marking effect thus arises. However, a Case-marking effect is irrelevant to an adverbial *wh*-phrase: it can never take wide scope out of a *wh*-clause. With no restriction part, an adverbial *wh*-phrase only bears a [Q]-feature and makes a Q-dependency, which is blocked by the interrogative embedded C. Therefore, an adverbial *wh*-phrase can take only embedded scope, regardless of whether the *wh*-clause is Case-marked or not. Argument-adjunct asymmetry as to wide-scope taking is thus reduced to argument-adjunct asymmetry as to feature compositions.

4.2.4 On Diverse Judgments for the Strength of *Wh*-Island: A Tentative Proposal

So far I have discussed how a *wh*-phrase within a *wh*-clause 'can' take matrix scope when the *wh*-clause does not bear Case. In this section, then, I consider why some people do not accept the matrix-scope reading. Let us start by observing (17), repeated here as (51):

(51) John-wa [Mary-ga *nani-o* katta *ka*] sirabeteiru *no*?
John-top [May-nom what-acc bought Q] investigate-prog. Q
a. 'Is John investigating what Mary bought?'
b. 'What is John investigating whether Mary bought?'

As far as my informants are concerned, most of those who judge a long-distance scope reading unacceptable are speakers of the Kansai-dialect, which is spoken in and around Osaka and Kyoto.[13] So one might suspect that some properties unique to this dialect should affect their judgment for a long-distance scope reading.

One of the most unique properties of Kansai-dialect is that it almost always drops

an accusative Case particle. To put it differently, null Case serves as accusative in this dialect. Therefore, in its default form, an apparent bare NP is associated with a null Case particle. This strategy might be affecting the interpretation of a *wh*-clause. It might be that when a *wh*-clause appears in object position with a bare form, a default strategy assigns the clause a null Case particle. If correct, then the *wh*-clause always serves as focus of the whole sentence, and therefore constructs a structure like (44), even if the *wh*-clause apparently looks Caseless. Since the Case-marked, i.e. focalized, *wh*-clause bears two QUIB's, one for [foc] and the other for [Q], it serves as a strong island for scope-taking.

If this explanation is on the right track, then it will serve as further support for the present analysis. Case-marking for a *wh*-clause signals the presence of a 'focus' operator for the *wh*-clause, and a [foc]-feature associated with the operator renders the *wh*-clause a strong barrier for scope-taking. It is just a tentative proposal, though, and I leave a detailed investigation for future research.

Having discussed a locality effect, I now consider multiple *wh*-questions in the following sections. Firstly, in section 4.3, I observe the phenomenon which I call a `scrambling' effect. A multiple *wh*-question allows a pair-list (PL) reading only when both of the two *wh*-phrases are moved out of VP. I argue that the positions of *wh*-phrases affect the interpretation possibility of the multiple *wh*-question.

4.3 'Scrambling' Effects in the Multiple *Wh*-Construction

4.3.1 Data: *Wh*-Scrambling and Interpretation Possibility

In this section I observe that the presence/absence of '*wh*-scrambling' is related to the interpretation of Japanese multiple *wh*-questions. Consider the following

examples:

(52) a. Kinoo *dare-ga* *nani-o* katta no?
yesterday who-nom what-acc bought Q
'Who bought what yesterday?'
b. *Dare-ga* *nani-o* kinoo katta no?
who-nom what-acc yesterday bought Q
c. *Dare-ga* kinoo *nani-o* katta no?
who-nom yesterday what-acc bought Q

(53) a. Matigatte *dare-ga* *nani-o* katta no?
mistakenly who-nom what-acc bought Q
'Who bought what by mistake?'
b. *Dare-ga* *nani-o* matigatte katta no?
who-nom what-acc mistakenly bought Q
c. *Dare-ga* matigatte *nani-o* katta no?
who-nom mistakenly what-acc bought Q

Suppose that the ordering variety in the above sentences is just a result of scrambling and that all the *wh*-phrases undergo operator movement at LF to be interpreted as quantifiers at SPEC-C. Then we would expect that the sentences in (52) or (53) bear the same LF representation in spite of the ordering variety on the surface. Or, suppose that *wh*-phrases are licensed by unselective binding, i.e. by being c-commanded form [+wh] C (or a focus operator, following Yanagida (1996a)). If so, each *wh*-phrase would receive the same interpretation regardless of whether it is scrambled or not. It is licensed as a quantifier by being bound from some unselective binder. We would

therefore expect that all the sentences in (52)/(53) take the same interpretation(s) because of their identical LF representations.

However, this is not the case. Actually, previous studies have considered how a multiple *wh*-question forms an interpretable LF representation, but not how the LF representation is mapped to interpretation. This section considers what interpretation(s) each multiple *wh*-question above bears. Let us first consider the interpretation possibilities of each sentence in (52). The two *wh*-phrases both follow the temporal adverbial *kinoo* 'yesterday' in (52a): both precede *kinoo* in (52b); and only one of them precedes *kinoo* in (52c). When the ordering of the *wh*-phrases varies relative to a temporal adverbial, the interpretation possibilities of the multiple *wh*-question remain the same. That is, all the sentences (52a-c) can take both pair-list (PL) and single-pair (SP) readings. Each sentence in (52) can hence be answered either by (54a) (a PL answer) or by (54b) (an SP answer):

(54) a. PL answer: John-ga hon-o, Mary-ga pen-o, Bill-ga kesigomu-o katta.
John-nom book-acc Mary-nom pen-acc Bill-nom eraser-acc bought
'John bought a book, Mary a pen, and Bill an eraser.'

b. SP answer: John-ga hon-o katta.
John-nom book-acc bought
'John bought a book.'

Now, let us consider interpretation possibilities in (53a-c), where the *wh*-sequence is arranged relative to the manner adverb. Let us assume that manner adverbs adjoin to v*P, hence displaying the edge of v*P. Therefore, in (53a), where the two *wh*-phrase follow the manner adverb *matigatte* 'mistakenly', both *wh*-phrases are considered to remain within v*P. In this case, the sentence can only take an SP

interpretation: it can be answered by (54b), but not by (54a). In contrast, in (53b), both *wh*-phrases have moved out of v*P since they precede the manner adverb. The sentence can take either interpretation, PL or SP. That is, both (54a) and (54b) are suitable answers to (53b). Finally, in (53c), where one *wh*-phrase precedes, and the other *wh*-phrase follows the manner adverb, only an SP interpretation is possible. Thus, (54b) is the only suitable answer.

To generalize, the positions of the two *wh*-phrases are closely related to possible interpretations of the multiple *wh*-question. The following structure schematizes the relation between *wh*-positions and possible readings: (X stands for an optional intervener such as an adverbial.)

(55) positions of the two *wh*-phrases — possible readings

a. X wh_1 wh_2 $[_{v*P}$ ...] ((52a)) — PL. SP

b. wh_1 wh_2 X $[_{v*P}$ ...] ((52b)) — PL, SP

c. wh_1 X wh_2 $[_{v*P}$ ...] ((52c)) — PL, SP

d. $[_{v*P}$ X wh_1 wh_2 ...] ((53a)) — *PL, SP

e. wh_1 wh_2 $[_{v*P}$ X ...] ((53b)) — PL, SP

f. wh_1 $[_{v*P}$ X wh_2...] ((53c)) — *PL, SP

The above generalization is paraphrased as follows:

(56) a. An SP reading is always possible. ((55a-f))

b. A PL reading is possible only when both of the two *wh*-phrases are out of v*P. ((55a-c, e) vs. (55d, f))

A supplementary comment might be needed for (56b). Unlike manner adverbs,

the temporal adverb (*kinoo* 'yesterday') in (52a-c) does not fix the position of the *wh*-phrase. It may be generated in some position above v*P. Thus, a *wh*-phrase may be above v*P even if it follows the temporal adverb. Structures (55a, c) indicate this possibility. On the other hand, since a manner adverb edges the v*P-boundary, a *wh*-phrase that follows a manner adverb must remain in v*P. Structures (55d, f) illustrate this. Of all possible orderings of *wh*-phrases in (55), structures (55d) and (55f) fail to have a PL reading. Since (55d) and (55f) are peculiar in that at least one *wh*-phrase necessarily remains in v*P, the conclusion (56b) is obtained.

4.3.2 An Explanation

We have reached the conclusion (56b) in the previous section. In a multiple *wh*-question involving two *wh*-phrases, both *wh*-phrases must move out of v*P to bear a PL reading. This section seeks an explanation for this fact. Firstly I make clear what position the moved *wh*-phrase occupies, and then consider how the position affects the interpretation of a multiple *wh*-question. I deal with only multiple *wh*-questions involving two *wh*-phrases, since a *wh*-question involving more than two *wh*-phrases tends to be interpreted as an echo question which is irrelevant to the current discussion. The explanation to be developed here is closely related to anti-superiority effects which I discuss in section 4.4.

4.3.2.1 Where do the *wh*-phrases move? In Japanese multiple *wh*-questions, both *wh*-phrases must move out of v*P in order to take a PL reading. Notice that we have observed a very similar fact in Hungarian data in chapter 3. Let us briefly survey what I have discussed in section 3.4.1. First, Hungarian is a focus language, in which a *wh*-/focus phrase undergoes obligatory movement to SPEC-Foc. Second, in a multiple *wh*-question, although one of the two *wh*-phrases must move to SPEC-Foc obligatorily,

the other one can either move there or remain in situ within VP. This sequential variety is exemplified as follows:

(57) (=(48) in chapter 3)

a. *Kinek* *mit* adott el János?
who-dat what-acc sold part John
'What did John sell to whom?'

b. Mari tudta hogy Péter *kinek* *mit* küldött.
Mary knew that Peter who-dat what-acc sent
'Mary knew what Peter had sent to whom.'

(58) (=(49) in chapter 3)

Ki látotto *kit*?
who saw whom
'Who saw whom?'

In (57), both *wh*-phrases undergo 'focus' movement, while in (58), the latter *wh*-phrase (*kit* 'whom') remains in situ, following the verb. According to É. Kiss (1998), these two options generate different interpretations. When both *wh*-phrases move, as shown in (57), it will yield a PL reading. On the other hand, when only one of them moves, as shown in (58), it will allow only an SP reading.

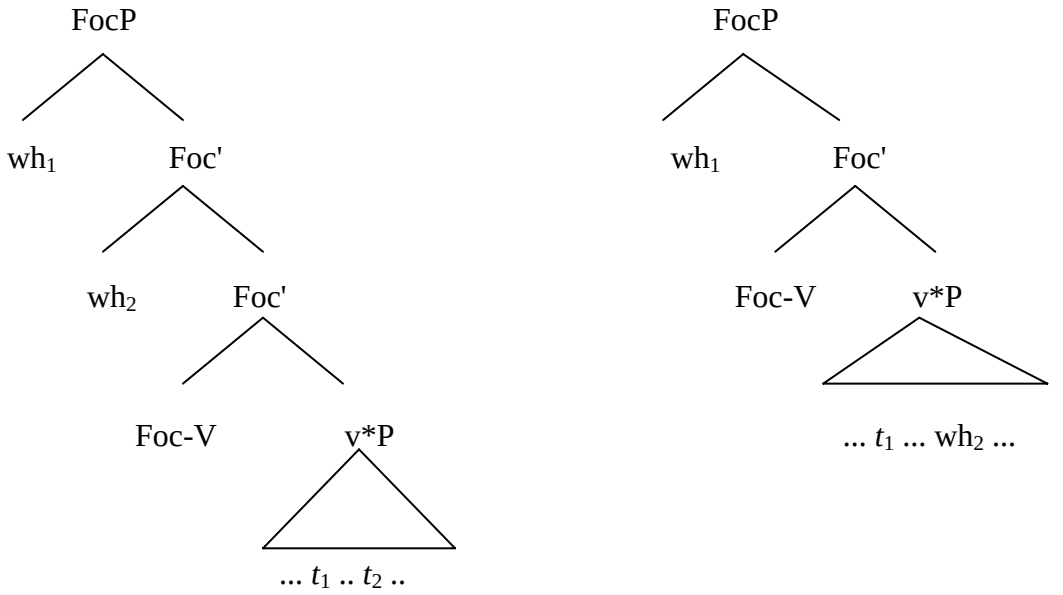
The Hungarian data shown above thus lead us to the same conclusion as in the case of Japanese:

(59) Both *wh*-phrases in a multiple *wh*-question must move out of v*P in order to bear a PL reading.

Since Hungarian and Japanese share this property, it is suspected that (59) is derived from some universal principle regarding a syntactic position and the interpretation assigned to the position. My main purpose of section 4.3.2 is to find how the position contributes to a PL reading. First, however, let us consider where the moved *wh*-phrases go.

The landing site of moved *wh*-phrases is easy to identify in Hungarian. It is SPEC-Foc. It is induced in the following way. As discussed in chapter 3, at least one *wh*-phrase must move to an immediate pre-V position, which is SPEC-Foc. In a multiple *wh*-question, when the other *wh*-phrase is also moved, it must be in an adjacent position to the first *wh*-phrase (e.g. (57)). From the adjacency between the two *wh*-phrases, they are likely to occupy multiple SPEC-Foc, as schematized below:

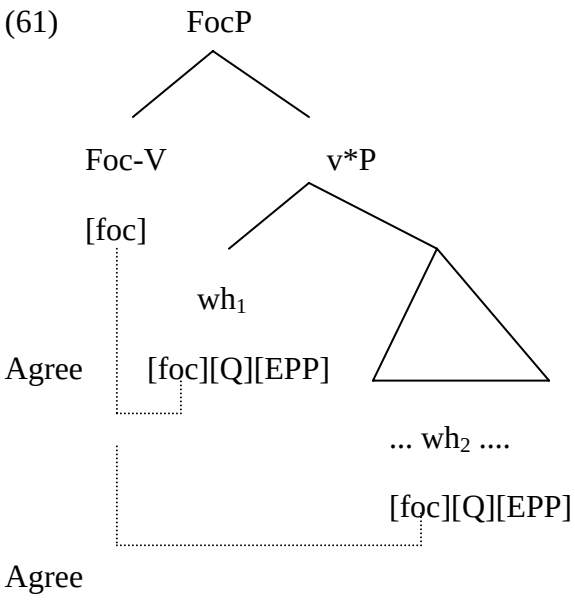
(60) a. multiple *wh*-movement to SPEC-Foc b. cf. single *wh*-movement to SPEC-Foc



The structure in (60a) is naturally achieved under the present assumptions. The relevant assumptions are: (i) all (nominal) *wh*-phrases bear two kinds of formal features to agree, i.e. [Q] and [foc], and (ii) in Hungarian, *wh*-phrases are associated with their

own EPP-features, one with an obligatory EPP, and the other with an optional EPP. Suppose that now two *wh*-phrases are both merged in the syntactic derivation with their own EPP-features. They eventually enter into agreement relations with Foc, as shown in (61) below:

(61)



As a consequence of Agree, the uninterpretable features of the probe and the goals are deleted.[14] At this point, the EPP-features of the *wh*-phrases must be deleted, too, since EPP-deletion cannot be postponed in order to '[m]aximize matching effects' (Chomsky (1999:12)). Therefore, both *wh*-phrases must have their EPP-features deleted at this point of derivation, by moving to SPEC of the probe. In consequence, both *wh*-phrases occupy multiple SPEC positions of Foc (i.e. (60a)), which reflects the *wh*-sequence in (57).

This is what I have argued in chapter 3. Here I would like to propose that the same operation is applied in Japanese when a 'scrambling' effect is observed. In section 4.1, I have argued that Japanese *wh*-phrases can bear an optional EPP-feature

(see (16)). Suppose now that two *wh*-phrases are both merged in the syntactic derivation with optional EPP features. They eventually enter into an agreement relation with Foc, under matching of foc-features (i.e. (61)). Agree is followed by deletion of uninterpretable features of the relevant probe and goal(s). That is, the optional EPP-features on the two *wh*-phrases are to be deleted at this point of derivation. The *wh*-phrases have to have their EPP-features deleted by moving to SPEC-Foc, hence the resulting structure (60a) obtains. Therefore, in Japanese too, *wh*-phrases move to SPEC-Foc and contribute to a PL reading.

If this argument is on the right track, then the observation (56b) or (59) is refined as follows:

(62) A multiple *wh*-question bears a PL reading only when both *wh*-phrases occupy SPEC-Foc.

In the next sections, I consider how SPEC-Foc should be related to a PL reading.

Before closing this section, however, one note is needed regarding a difference between Hungarian and Japanese. Unlike *wh*-phrases in Hungarian, *wh*-phrases moved need not be adjacent to each other in Japanese. Consider the following example:

(63) *Dare-ga*$_1$ kinoo *nani-o*$_2$ [$_{v*P}$ matigatte t_1 t_2 katta] no?[15]
who-nom yesterday what-acc mistakenly *t* *t* bought Q
'Who bought what by mistake yesterday?'

In (63), both *wh*-phrases obviously have moved out of v*P, preceding the manner adverb. However, the two *wh*-phrases do not seem to occupy SPEC positions of the

same head since they are separated by the temporal adverbial *kinoo* 'yesterday'. Given (62), example (63) is not expected to have a PL reading. In fact, however, (63) can take a PL reading. In this respect Japanese multiple *wh*-questions are different from their Hungarian counterparts. In Hungarian, the moved *wh*-phrases contributing to a PL reading must be adjacent to each other.

There are two possible explanations for the PL reading of (63). One is to assume that *dare-ga* 'who-nom' has just scrambled to the sentence-initial position from SPEC-Foc, as shown in (64) below:

(64) *Dare-ga*$_1$ kinoo [$_{\text{FocP}}$ *t'*$_1$ *nani-o*$_2$ [$_{\text{v*P}}$ matigatte *t*$_1$ *t*$_2$ katta]] no?

scrambling

Since scrambling is undone at the LF representation, *dare-ga* is interpreted in SPEC-Foc, and therefore the sentence will bear a PL reading by (62).

The other possibility is to assume that unlike Hungarian, Japanese temporal adverbs can be base-generated in FocP. In this case, the sentence (63) can be assigned the following structure:

(65) [$_{\text{FocP}}$ *Dare-ga*$_1$ kinoo *nani-o*$_2$ [$_{\text{v*P}}$ matigatte *t*$_1$ *t*$_2$ katta]] no?

The intervening adverb *kinoo* 'yesterday' does not necessarily mean that the two *wh*-phrases are in the different phrases. Since the two *wh*-phrases occupy SPEC-Foc in (65), the multiple *wh*-question can bear a PL reading by (62).

Both possibilities are not without problems. As for the first possibility, if we admit scrambling (and LF-undoing) of a *wh*-phrase, the surface position of a *wh*-phrase

does not necessarily contribute to the interpretation of a *wh*-question: e.g. of two *wh*-phrases, the apparently higher *wh*-phrase can be undone to a position below the apparently lower *wh*-phrase. (This is pointed out to me by Mitsunobu Yoshida (p.c.).) In fact, however, an apparently higher *wh*-phrase always function as a 'higher' *wh*-phrase, i.e. as a generator, which I discuss extensively in section 4.4. As for the second possibility, we must stipulate a special property of a temporal adverb in Japanese.

Here I tentatively adopt the second possibility. Adjacency between the two *wh*-phrases is not required for a PL reading since Japanese allows such a structure as (65). However, I modify (62) into (66) below, so that the condition can be accommodated to either possibility.

(66) A multiple *wh*-question bears a PL reading only when both *wh*-phrases are interpreted in SPEC-Foc.

4.3.2.2 An account In this and the succeeding sections I consider what interpretational mechanism derives (66). Obviously, (66) is a welcome situation for the present analysis. In chapter 1, I stipulated that Foc is a functional head which mediates between *wh*-/ focus phrases and the discourse. As for an identificational focus in Hungarian and Japanese, it obligatorily moves to SPEC-Foc (because of its obligatory EPP-feature) and gets assigned an exhaustive reading there (see section 1.5). This stipulation seems to fit in well with the observation (66), since pair-listing is another kind of exhaustive reading. To see the point, let us consider the following question-answer pair:

(67) a. *Dare-ga nani-o* katta no?
who-nom what-acc bought Q
'Who bought what?'
b. John-ga hon-o, Mary-ga pen-o, Bill-ga kesigomu-o kaimasita.
John-nom book-acc Mary-nom pen-acc Bill-nom eraser-acc bought
'John bought a book, Mary a pen, and Bill an eraser.'

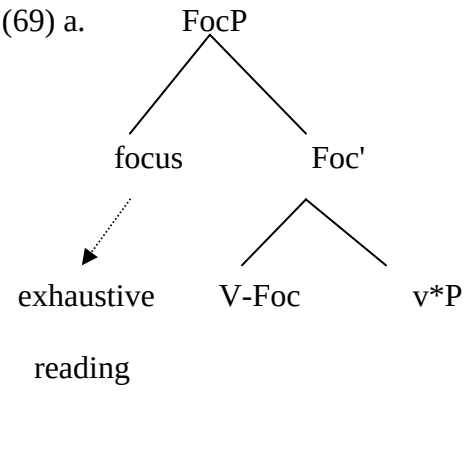
When (67a) is answered by a PL answer like (67b), the buyer-item pairs must be exhaustive. (67b) would not be an appropriate answer if, say, John bought a CD as well as a book, or if there is a fourth person in the discourse who bought some item.

From what has been discussed so far, the interpretation of *wh*-/focus elements in SPEC-Foc is generalized as follows:

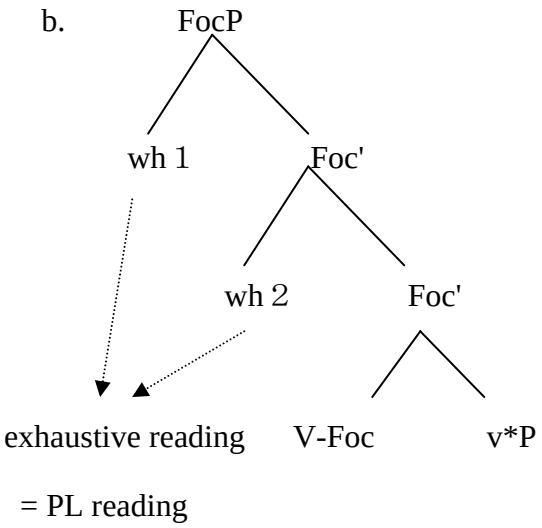
(68) a. In Hungarian and Japanese, elements to be exhaustively-interpreted must occupy SPEC-Foc overtly.
b. An exhaustive interpretation for a multiple *wh*-question is a PL interpretation.

To put (68) differently, elements in SPEC-Foc are mapped into an exhaustive reading in C-I processing:

(69) a.



b.



It should be noted that this is the case only with Hungarian and Japanese. In other languages, e.g. English, *wh*-phrases obviously do not occupy SPEC-Foc but still have to be mapped to a PL reading. Therefore, it is suspected that there is a parametric variation as to an LF-position and a mapped interpretation. I will discuss this variation in chapter 5. My concern here is that SPEC-Foc is a position for a PL reading in Hungarian and Japanese.[16] Let us now consider how a PL reading is derived from (69b) and how an SP reading is derived when *wh*-phrases do not occupy SPEC-Foc.

As mentioned previously, quantifiers cannot be interpreted individually, and therefore need some kind of unification. It entails that multiple-foci are not allowed since (identificational) focus phrases are not unified (see (15c), section 4.1). On the other hand, since multiple *wh*-questions are fully allowed, there should be a unification operation for *wh*-phrases. Here I assume that an 'Absorption'-like operation takes place between *wh*-phrases at LF.

Higginbotham and May (1981) propose that *wh*-phrases in COMP are unified together into one complex *wh*-phrase through the operation Absorption.

(70) $[_{S'} \quad [_{COMP} \quad WH_1, WH_2, \ldots WH_n] \, [_S \ldots]] \rightarrow [_{S'} \quad WH_{(1, 2, \ldots, n)} \quad [_S \ldots]]$

I propose a slightly modified operation which conforms to the minimalist framework. There are two major differences between the newly-proposed Absorption and the standard Absorption shown in (70): (i) *wh*-phrases need not move to COMP, but can be absorbed in any position, and (ii) Absorption is an asymmetrical operation. The first modification is inevitable since an in-situ *wh*-phrase cannot undergo covert movement to COMP in the present framework. Unification should be applied to *wh*-phrases in any position:

(71) $[_{CP}$ C $[_{TP}$ ... wh_1 ... wh_2 ...]] → LF: $[_{CP}$ C $[_{TP}$ .... wh_1 .... wh_2 ....]]
unified

There is one more modification required for the unification operation. Consider the following simple equation with two variables and its possible ways to answer:

(72) a. $xy = 6 \quad (x, y \in |N)$

b. (x,y) = (1,6), (2,3), (3,2), (6,1)

c. (y,x) = (1,6), (2,3), (3,2), (6,1)

d. *x = 1,2,3,6, y = 1,2,3,6

Since the values for *x* and *y* can only be determined unifiedly, (72a) must be answered by a list of paired values such as (72b) or (72c). In answering, either 'x-y' or 'y-x' pairing is possible. In this respect, the interpretation of a polynomial expression and that of a multiple *wh*-question are different. The answer to a multiple *wh*-question is sensitive to the order of answered pairs. Consider the following question-answer pairs:

(73) (=(67))

a. *Dare-ga nani-o* katta no?
who-nom what-acc bought Q
'Who bought what?'

b. John-ga hon-o Mary-ga pen-o, Bill-ga kesigomu-o kaimasita.
John-nom book-acc Mary-nom pen-acc Bill-nom eraser-acc bought
'John bought a book, Mary a pen, and Bill an eraser.'

(74) a. *Nani-o dare-ga* katta no?
what-acc who-nom bought Q
'Who bought what?'

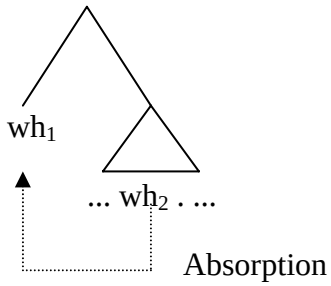
b. Hon-o John-ga, pen-o Mary-ga, kesigomu-o Bill-ga kaimasita.
book-acc John-nom pen-acc Mary-nom eraser-acc Bill-nom bought
'John bought a book, Mary a pen, and Bill an eraser.'

When the surface *wh*-sequence is subject-object, as in (73a), the listing-pair in the answer should be arranged in the same subject-object order, as in (73b). If the answer provides the reversed order as in (74b), it would be very unnatural and odd. On the other hand, when the surface *wh*-sequence is object-subject, as in (74a), the listing pair in the answer should be arranged in the same object-subject order, as in (74b). In this respect, the interpretation process takes place in an asymmetric way so that sequentially-first (or, structurally-higher) *wh*-phrase serves as a 'sorting key' (cf. Kuno and Takami (1993)) or as a 'generator' (Hornstein (1995)). For example, in (73), subject *dare-ga* 'who-nom' is selected as a sorting key. In answering (73a), the answerer firstly seeks possible values for the *wh*-phrase (i.e. seeks who are possible buyers), and then, to each value sought out, associates value(s) for object *nani-o*

'what-acc' (i.e. seeks what each buyer bought). In this way, in (73), the subject *wh*-phrase serves as a key in sorting pairs. On the other hand, in (74), the first *wh*-phrase to serve as a sorting key is object *nani-o* 'what-acc'. Therefore, the answered pair is reversed in (74b).

Since the higher *wh*-phrase always serves as a sorting key, the unifying operation should be applied asymmetrically so that the higher *wh*-phrase can absorb the lower one. I propose that the operation works in the following manner:

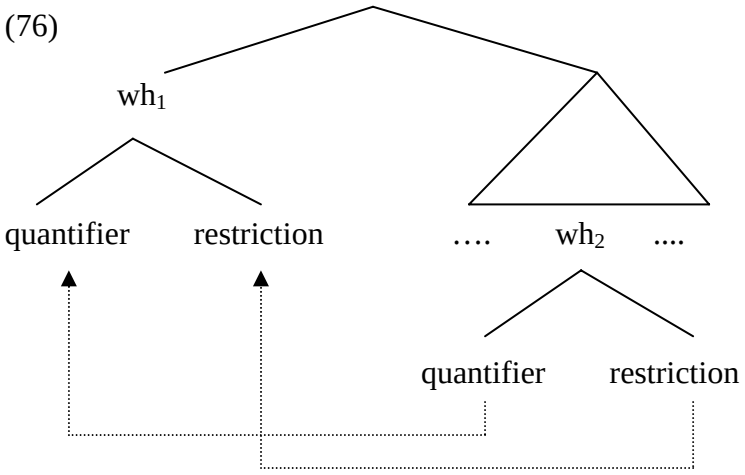
(75)



As a result of Absorption, the reference of the lower wh_2 is dependent on that of the higher wh_1. Back to example (73) again, for example, the purchased items are determined and sorted for each buyer identified.

Since the operation Absorption becomes relevant to the discussion in section 4.3.3 and 4.4 below, I would like to propose a more precise mechanism. The present thesis assumes that a (nominal) *wh*-phrase consists of two parts, a quantificational part which makes the *wh*-phrase an interrogative quantifier, and a restriction part which determines the domain condition of a variable. I propose that Absorption takes place at the level of subparts of *wh*-phrases. If correct, then the operation works as in (76) rather than (75):

(76)



Absorption is complete when all the subparts of the lower *wh*-phrase are absorbed into the relevant counterparts of the higher *wh*-phrase.

To sum up the discussion, the operation of Absorption is applied as follows:

(77) a. Absorption applies to *wh*-phrases in any position.

b. The 'higher' *wh*-phrase absorbs the 'lower' *wh*-phrase.

c. Absorption is complete when all the subparts of the lower *wh*-phrase are absorbed into the relevant counterparts of the higher one.

The application of Absorption is obligatory since multiple quantifiers are interpretable only when they are unified. The sentence is excluded when Absorption is not possible, as we will see in section 4.4.

It should be noted that Absorption is required only to make a multiple *wh*-question interpretable. It does not determine what interpretation the question is assigned. The interpretation possibility is determined by the position which each *wh*-phrase occupies, as shown in (69b). Descriptions in (78) and (79) illustrate how an LF representation of a multiple *wh*-question is made interpretable by Absorption, what interpretation each *wh*-phrase is assigned, and what interpretation each sample question

is to take:

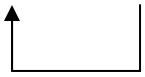
(78) a. LF representation:

[$_{FocP}$ *Dare-ga*$_1$ *nani-o*$_2$ [$_{v*P}$ matigatte t_1 t_2 katta] Foc] no?

who-nom what-acc [mistakenly *t* *t* bought] Q

'Who bought what by mistake?'

b. Absorption: *dare-ga* *nani-o*



unified into one quantifier

c. Mapping to C-I interpretation:

[$_{CP}$ [$_{TP}$ [$_{FocP}$ *dare-ga* *nani-o* [$_{v*P}$ ... katta]]] no]

→ mapping elements in SPEC-Foc into an exhaustive (=PL) reading (cf. (62))

d. The truth condition for the question P = *dare-ga nani-o matigatte katta no*:

P is true iff

(i) for every <*x, y*> ∈ FOCUS$_P$, f_P(y)(x) is true, and

(ii) for every <*w, z*> ∈ ALT$_P$, if f_P(z)(w) is true then <*w, z*> ∈ FOCUS$_P$.

(f_P = *x-ga y-o* matigatte katta no,

FOCUS$_P$ = {<x, y>: <x, y> is an ordered pair expressed as a true answer to P}

ALT$_P$ = {<w, z>: <w, z> is an ordered pair expressed as a possible answer to P})

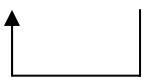
(79) a. LF representation:

[$_{v*P}$ Matigatte *dare-ga*$_1$ *nani-o*$_2$ katta] no?

[mistakenly who-nom what-acc bought] Q

'Who bought what by mistake?'

b. Absorption: *dare-ga* *nani-o*



unified into one quantifier

c. Mapping to C-I interpretation:

$[_{CP}\ [_{TP}\ [_{FocP}\ [_{v*P}$ ... *dare-ga* *nani-o* katta]]] no]

→ mapping elements in non-SPEC-Foc into a non-exhaustive (=SP) reading

d. Logical representation:

? ∃ <x, y>. *x* bought *y*

Absorption is applied in the same way in (78) and (79). In both, the higher *wh*-phrase absorbs the lower *wh*-phrase. Difference arises when the LF representation is mapped into C-I processing. In (78c), since both *wh*-phrases occupy SPEC-Foc, the position to be mapped into an exhaustive reading process, then they will yield a PL interpretation, as shown by (78d): P denotes a set of true answers to the question. In (79c), on the other hand, since they do not occupy SPEC-Foc, they are not mapped to an exhaustive reading process. Therefore, the sentence does not yield a PL reading. The unified *wh*-phrases are only bound from interrogative C (*ka*), which, according to Hagstrom (1998), is an existential quantifier. Therefore, the unified *wh*-phrases are existentially interpreted, yielding an SP reading.

Summing up the account in this section, a multiple *wh*-question is interpreted in the following way:

(80) a. Universal: Since multiple quantifiers are not interpreted individually, *wh*-phrases are obligatorily unified by the application of Absorption, which operates as shown in (77).

b. Parameter: The interpretation for a *wh*-phrase is dependent on its position at LF. In Hungarian and Japanese, only *wh*-phrases interpreted at SPEC-Foc are mapped into an exhaustive interpretation process, yielding a PL reading.

Otherwise, *wh*-phrases are existentially interpreted, yielding an SP reading.

c. Therefore, in Hungarian and Japanese, both of the two *wh*-phrases in a multiple *wh*-question must move out of v*P to SPEC-Foc.

In the next section, I turn to multiple *wh*-questions where one of the two *wh*-phrases is adverbial. In such cases, a PL reading is always impossible, regardless of whether the *wh*-phrases move out of v*P or not. I show that this fact is correctly predicted by the suggested analysis.

4.3.3 The Interpretation of Adverbial *Wh*-Phrases

So far I have limited my attention to multiple *wh*-questions containing only nominal *wh*-phrases. Let us now consider cases involving adverbial *wh*-phrases such as the following:

(81) a. John-wa *nani-o* *naze* isoide katta no?
John-top what-acc why quickly bought Q
'(Lit.) What did John buy why quickly?'

b. John-wa kinoo *nani-o* *naze* katta no?
John-top yesterday what-acc why bought Q
'(Lit.) What did John buy why yesterday?'

c. John-wa *nani-o* kinoo *naze* katta no?
John-top what-acc yesterday why bought Q

(82) a. *John-wa kinoo *naze* *nani-o* katta no?
John-top yesterday why what-acc bought Q

b. *John-wa *naze* kinoo *nani-o* katta no?
John-top why yesterday what-acc bought Q

Whereas there is no precedence restriction in the multiple nominal *wh*-questions, as we have seen in section 4.3.2, a strict restriction is imposed on multiple questions containing an adverbial *wh*-phrase. That is, a nominal *wh*-phrase must precede an adverbial *wh*-phrase. This is called anti-superiority in the recent literature, which accounts for the deviance of (82a, b). I postpone the discussion of anti-superiority until section 4.4. Here I focus on the sentences in (81) and their possible interpretation.

Each sentence in (81) observes the ordering restriction, and is grammatical. Since a reason adverb cannot appear in v*P, both of *naze* 'why' and *nani-o* 'what-acc' are considered to be somewhere above v*P in each sentence. Given the generalization (62) in section 4.3.2, we would predict that each sentence could bear a PL reading. Since both *wh*-phrases move out of v*P, possibly to SPEC-Foc, they can be mapped to an exhaustive interpretation and contribute to a PL reading. However, this prediction is not borne out. A PL interpretation is impossible in any sentence in (81). That is, each sentence can be answered by a singe pair as in (83a), but not by a pair-list as in (83b):

(83) a. Tiketto-o konya-no shucchoo-no tameni katta.
ticket-acc tonight-gen business trip-gen for bought
'(He) bought a ticket for tonight's business trip.'
b. Ticket-o konya-no shucchoo-no tameni, tokei-o musuko-e-no
ticket-acc tonight-gen business trip-gen for watch-acc son-dat-gen

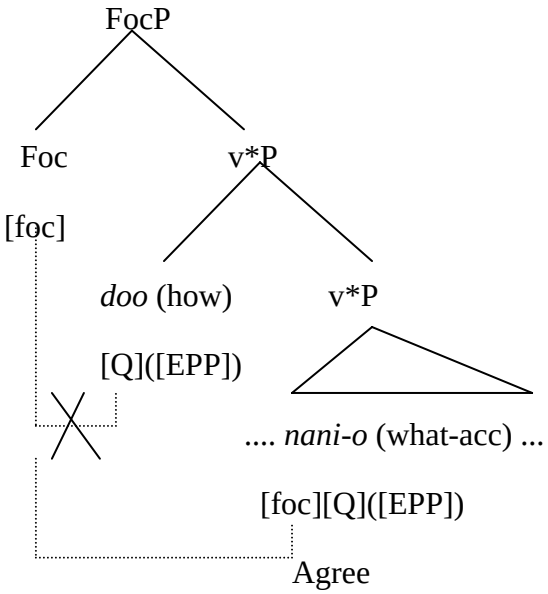
purezento-no tameni katta.

present-gen for bought

‘(He) bought a ticket for tonight's business trip, and a watch for his son's present.’

However, this is exactly what is expected, since an adverbial *wh*-phrase never denotes its restriction. As discussed in chapters 3-4, an adverbial *wh*-phrase lacks a restriction part and hence the relevant foc-feature. Therefore, it cannot enter into an agreement relation with Foc, as demonstrated below:

(84)



As argued in the previous section, a nominal *wh*-phrase enters into an agreement relation with Foc, and the agreement can be followed by optional movement to SPEC-Foc, triggered by an optional EPP-feature on the *wh*-phrase. On the other hand, an adverbial *wh*-phrase does not agree with Foc since there is no matching feature. Accordingly, even if the adverbial *wh*-phrase bears an optional EPP-feature, it cannot move to SPEC-Foc. Therefore, in spite of an ordering variation, no sentences in (81)

display a structure containing both *wh*-phrases in SPEC-Foc. The variation might just be a consequence of another kind of movement. Since a PL reading is possible only when both *wh*-phrases occupy SPEC-Foc, it is correctly predicted that no sentences in (81) will have a PL reading. This is a correct prediction.

Having shown why a PL reading is impossible in (81), let us proceed to consider how an SP reading is derived in (81). Since *wh*-phrases cannot occupy SPEC-Foc for a PL reading, then they must be existentially interpreted for an SP reading. Before the mapping, the two *wh*-phrases must be unified by Absorption, which takes place as shown in (77), repeated here as (85):

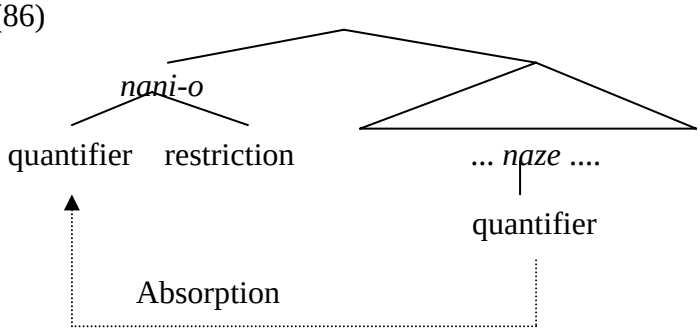
(85) a. Absorption applies to *wh*-phrases in any position.

b. The 'higher' *wh*-phrase absorbs the 'lower' *wh*-phrase.

c. Absorption is complete when all the subparts of the lower *wh*-phrase are absorbed into the relevant counterparts of the higher one.

With (85) in mind, let us consider how Absorption takes place in each case in (81). In each sentence, the higher *wh*-phrase is nominal (*nani-o* 'what-acc' and the lower *wh*-phrase is adverbial (*naze* 'why'). Given (85b), then, the nominal *wh*-phrase absorbs the adverbial *wh*-phrase. Remember again that there is a compositional asymmetry between nominal and adverbial *wh*-phrases. While a nominal *wh*-phrase consists of a quantifier part and a restriction part, an adverbial *wh*-phrase has a quantificational part alone. Therefore, Absorption will be applied in the following way:

(86)



Absorption is complete since the sole subpart of *naze* (i.e. its quantifier part) is absorbed into the relevant counterpart of the higher *wh*-phrase *nani-o*. Since there is no problem in Absorption or mapping to an SP reading, each sentence in (81) can bear an SP reading legitimately.

There are several merits to the present analysis. First, it can account for argument-adjunct asymmetry as to the interpretation possibility of a multiple *wh*-question. When a question sentence contains an adverbial *wh*-phrase, it can never bear a PL reading, since the adverbial *wh*-phrase cannot occupy SPEC-Foc. Second, it can provide a straightforward account for anti-superiority effects, as will be discussed in section 4.4 below. There are two more empirical merits. First, consider the following multiple *wh*-question, containing two adverbial *wh*-phrases:

(87) John-wa sono mooside-o *naze donoyooni* kotowatta no?[17]

John-top that offer-acc why how declined Q

‘(Lit.) Why did John decline the offer how?’

This question with an SP interpretation can be answered by (88) below:

(88) Senyaku-ga atta node narubeku teenee-ni kotowatta.

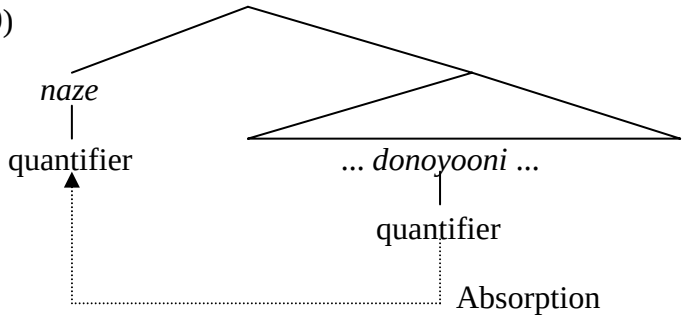
previous engagement-nom was because possibly politely declined

‘(He) declined (it) as politely as possible because (he had already) accepted

another offer.'

The interpretational operations are applied to (87) in the following way. Since both adverbial *wh*-phrases lack a foc-feature to agree with Foc, they do not move to SPEC-Foc. Hence they are mapped to an existential interpretation. For the mapping to be acceptable, Absorption must be applied to the two adverbial *wh*-phrases, as shown below:

(89)



The quantifier part of *donoyooni* is absorbed into the relevant subpart of the higher *wh*-phrase. Since there is no subpart left for Absorption, the operation is completed, and the unified *wh*-phrases contribute to an SP reading.

Another empirical merit of the present analysis is that it can account for the amelioration effect as to a Subjacency violation. Consider the following examples:

(90) (=(4))

a. *John-wa [[Mary-ga *naze* *e* katta] hon]-o sagasiteiru no?
John-top Mary-nom why bought book-acc looking-for Q
'John is looking for [the book that Mary bought why]?'

b. ??John-wa [[*dare-ga* *naze* *e* katta] hon]-o sagasiteiru no?
John-top who-nom why bought book-acc looking-for Q

'John is looking for [the book that who bought why]?'

Example (90a) is excluded as a violation of the Complex NP Constraint. An adverbial *wh*-phrase cannot take scope over a relative clause. In contrast, (90b) with the adverbial *wh*-phrase followed by the nominal *wh*-phrase *dare-ga* 'who-nom' is marginally acceptable. The amelioration in (90b) can be expected once we follow the present assumption. Since the *wh*-sequence in (90b) is the same as that in (81), Absorption is applied in the same way. As demonstrated in (86), the only subpart of the lower adverbial *wh*-phrase, i.e. a quantifier part, is absorbed into the relevant subpart of the higher nominal *wh*-phrase, and the application of Absorption is complete. That is, *naze* is absorbed into *dare-ga* in (90a). Since the absorbing *wh*-phrase in (90b) is nominal, it can take scope over the Complex NP island. Hence the absorbed adverbial *wh*-phrase can take matrix scope together with the nominal *wh*-phrase.

This is reminiscent of Saito's (1994) stipulation for such examples as (90). He proposed that an adverbial *wh*-phrase adjoins to a nominal *wh*-phrase in order to avoid a Subjacency violation, and his proposal fits into the present analysis.

4.4 Anti-superiority Effects in the Multiple *Wh*-Construction

4.4.1 Anti-superiority Data and the Explanation

In sections 4.1.1 and 4.3.3 above I referred to anti-superiority effects in Japanese multiple *wh*-questions. Example (82) is repeated here as (91):

(91) a. *John-wa kinoo *naze* *nani-o* katta no?
John-top yesterday why what-acc bought Q
'(Lit.) Why did John buy what yesterday?'

b. *John-wa *naze* kinoo *nani-o* katta no?

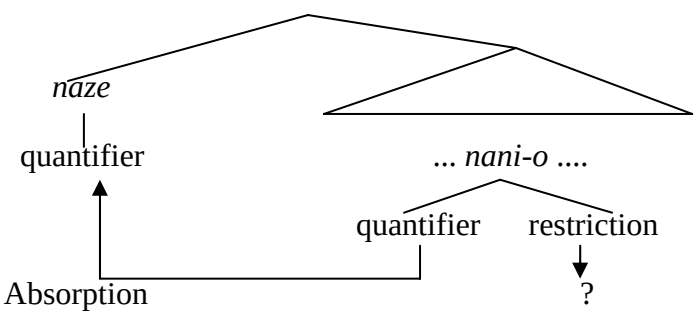
John-top why yesterday what-acc bought Q

In a question with nominal and adverbial *wh*-phrases, the precedence relation is fixed. That is, 'nominal-adverbial' is the only possible order. The reversed order shown in (91) is excluded.

The present analysis can provide a straightforward account for anti-superiority effects. This section shows how the present analysis accounts for anti-superiority effects. The next section considers how previous studies have dealt with anti-superiority effects and point out problems with those studies.

Let us consider how (91a) is excluded. Given (85), the lower *wh*-phrase *nani-o* 'what-acc' is absorbed into the higher *wh*-phrase *naze* 'why' in this case, as shown in (92):

(92)



Since the absorbed *wh*-phrase is nominal, it bears two subparts to be absorbed, i.e. a quantifier part and a restriction part. The quantifier part can find its counterpart in the higher *wh*-phrase, as the arrow in (92) indicates. However, the restriction part cannot find its absorber in the higher *wh*-phrase. In consequence, Absorption fails to be complete, which makes it impossible to interpret the multiple *wh*-question. Therefore, example (91a) is deviant.

Anti-superiority effects disappear once an adverbial *wh*-phrase is replaced with its nominal equivalent. Compare example (91a) with the following example:

(93) John-wa kinoo *dooyuu riyuu-de* *nani-o* katta no?
John-top yesterday what reason-for what-acc bought Q
'For what reason did John buy what yesterday?'

This example is fully acceptable. As the literal translation indicates, *dooyuu riyuu-de*, containing a nominal *wh*-phrase, bears a restriction part. Therefore, the two *wh*-phrases in (93) are compositionally homogeneous: both consist of a quantifier part and a restriction part. When Absorption applies, each part of the lower *wh*-phrase *nani-o* 'what-acc' is absorbed into its counterpart of the higher *wh*-phrase *dooyuu riyuu-de* 'for what reason'. Absorption completes, and grammatical (93) is obtained.

It should be noted that in (93), both nominal *wh*-phrases bear foc-features to agree with Foc, and can optionally move to SPEC-Foc. We then expect that (93) can bear a PL reading as well as an SP reading. This prediction is borne out. When example (93) bears a PL reading, the answer will be like (94) below:

(94) Mary-e-no purezento-ni tokei-o, Bill-e-no purezento-ni T-shatu-o katta.
Mary-dat-gen present-for watch-acc Bill-dat-gen present-for T-shirt-acc bought
'(He) bought a watch for a present to Mary, and a T-shirt for a present to Bill.'

To recapitulate, anti-superiority effects are accounted for as follows. All multiple-quantifier sentences have to unify the quantifiers. When a multiple *wh*-question contains two nominal *wh*-phrases (cf. (52), (53)), or, two adverbial *wh*-phrases (cf. (87)), Absorption takes place with no problem, because of the

compositional symmetry of the two *wh*-phrases. In contrast, when a multiple *wh*-question contains a nominal *wh*-phrase and an adverbial *wh*-phrase, the direction of Absorption must be taken into account. Since an adverbial *wh*-phrase lacks a restriction part, it cannot absorb the restriction part of a nominal *wh*-phrase. In consequence, an adverbial *wh*-phrase can never appear in the higher position as an absorber. An adverbial *wh*-phrase thus follows a nominal *wh*-phrase in a multiple *wh*-question. In this way, anti-superiority effects are accounted for as a failure of Absorption between adverbial and nominal *wh*-phrases.

Having discussed how the present analysis provides an account for anti-superiority effects, I now proceed to consider some previous analyses and point out that they involve conceptual and empirical problems.

4.4.2 Previous Analyses and Their Problems

There have been several analyses that deal with anti-superiority effects in Japanese multiple *wh*-questions. In this section I discuss some of those analyses and point out problems which do not arise in the present analysis. First I consider Watanabe's (1991) analysis which assumes covert movement of in-situ *wh*-phrases. Second, I consider Hornstein (1995) and Watanabe (1994) that regard anti-superiority as a case of Weak Crossover (WCO). Finally, I consider Kuno and Takami's (1993) functional analysis.

4.4.2.1 Watanabe (1991) Watanabe (1991) suggests that Japanese multiple *wh*-questions are subject to (95).

(95) *Anti-superiority Effect*[18]

The *wh*-phrase that is moved first cannot c-command the other *wh*-phrase at S-structure which takes the same scope. (Watanabe's (1991) (22))

Three assumptions are involved in Watanabe's (1991) analysis. First, all *wh*-phrases occupy SPEC-C at LF. The *wh*-phrase that is moved first occupies SPEC-C, and one that follows the first movement adjoins to SPEC-C. Second, the order of LF *wh*-movement is fixed by the anti-superiority condition in (95). Third, the resulting LF representation must satisfy the Empty Category Principle (ECP). With this in mind, let us consider the following examples:

(96) a. Kimi-wa *nani-o* *naze* katta no?[19]
you-top what-acc why bought Q
'(Lit.) What did you buy why?'

b. *Kimi-wa *naze nani-o* katta no?
you-top why what-acc bought Q

In (96a), the anti-superiority condition (95) requires the lower *wh*-phrase, i.e. adjunct *naze* 'why' to move first and occupy SPEC-C. *Nani-o* undergoes a subsequent *wh*-movement and adjoins to SPEC-C. At the resulting LF representation, the two *wh*-traces left by the two *wh*-movements both satisfy the ECP. The adjunct trace is antecedent-governed by its antecedent (*naze*) in SPEC-C, and the argument trace is head-governed by V. Therefore, the LF representation of (96a) is legitimate.

On the other hand, in (96b), the lower *wh*-phrase to be moved first is *nani-o* 'what'. The argument *wh*-phrase hence occupies SPEC-C. Subsequently, adjunct *naze* 'why' adjoins to SPEC-C. The trace left by the second movement violates the

ECP since it is neither antecedent-governed nor head-governed.

In this way, Watanabe (1991) reduces anti-superiority effects to a violation of the ECP. Given the anti-superiority condition (95), the 'argument-adjunct' sequence in (96a) is fixed by the ECP.

Now let us consider what problems arise in Watanabe's analysis. The first possible problem is that most of those principles and operations essential to his account are unavailable in the current minimalist framework. For instance, the ECP, covert movement, and adjunction movement no longer go along with the minimalist assumptions. The ECP cannot find its place under the copy theory, and there is no covert syntax under strict one cycle derivation.

Furthermore, some empirical problems arise. First, Watanabe's analysis does not distinguish the two possible interpretations, i.e. PL and SP readings. I have argued that a multiple *wh*-question should be assigned to two distinct LF representations in order to yield two different readings. Under his analysis, however, every multiple *wh*-question is reduced to the same LF representation in which all *wh*-phrases occupy SPEC-C and unified there. In consequence, his LF representations do not function as inputs to distinct semantic interpretations.

The second empirical problem concerns the acceptability of the following multiple adverbial *wh*-question:

(97) John-wa sono mooside-o *naze donoyooni* kotowatta no? (=(87))
John-top the offer-acc why how declined Q
'(Lit.) Why did John decline the offer how?'

Watanabe's analysis wrongly predicts that the sentence should be deviant since the higher *wh*-phrase (*naze* 'why' in this case) adjoins to SPEC-C, violating the ECP.

These problems do not arise in the present analysis. The difference in possible readings is reflected at different LF representations: a PL reading is obtained if the unified *wh*-phrases are interpreted at SPEC-Foc, and an SP reading is obtained if the unified *wh*-phrases are interpreted at other positions. Anti-superiority is accounted for as a failure of Absorption caused by the compositional asymmetry between nominal and adverbial *wh*-phrases. We can also predict that anti-superiority effects do not arise between two adverbial *wh*-phrases, since there is no compositional asymmetry: both of them contain only quantificational parts which are absorbed together.

4.4.2.2 Hornstein (1995) and Watanabe (1994) Let us consider next the WCO account by Hornstein (1995) and Watanabe (1994). Here I concentrate on Watanabe's discussion since Hornstein makes virtually the same argument. His analysis is summed up as below:

(98) a. WCO: a bound variable must be A-bound by its quantified antecedent at LF.
b. A *wh*-in-situ contains a bound variable.
c. A *wh*-phrase moved to SPEC-C serves as a generator (i.e. an antecedent).

Let us consider how his analysis accounts for anti-superiority effects. Consider the following sentence:

(99) *John-wa *naze nani-o* katta no?
John-top why what-acc bought Q
'(Lit.) Why did John buy what?'

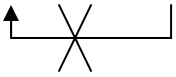
There are two possible derivations. First, adjunct *naze* 'why' undergoes LF

wh-movement and argument *nani-o* ‘what-acc’ is licensed in situ. Second, argument *nani-o* undergoes LF movement and adjunct *naze* is licensed in situ. Each derivation reaches the following LF representation, respectively:

(100) a. [$_{CP}$ *naze*$_1$ [$_{IP}$ .... t_1 ... [pro$_1$ *nani-o*] ...]]

*A-bind

b. [$_{CP}$ *nani-o*$_1$ [$_{IP}$ ... [pro$_1$ *naze*] ... t_1 ...]]



*A-bind

In (100a), the in-situ *wh*-phrase *nani-o* must be licensed by being A-bound by its quantificational antecedent. However, there is no such antecedent. *Naze* cannot be qualified as a generator, since, according to Watanabe, adverbial elements cannot be D-linked. (Another explanation might be possible. Since *naze* is not generated in the A-position, it cannot A-bind the bound pronoun in *nani-o*.) Consequently, (100a) is ill-formed. In (100b), too, licensing of the in-situ *wh*-phrase fails: since the argument position of *nani-o* (t_1) cannot c-command the bound pronoun in *naze*, *naze* cannot be licensed in situ. Example (99) is therefore deviant since it cannot be assigned any legitimate LF representations.

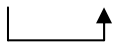
Compare (99) with the acceptable (101):

(101) John-wa *nani-o* *naze* katta no?
John-top what-acc why bought Q
‘(Lit.) What did John buy why?’

In this sentence, the object *nani-o* ‘what-acc’ has scrambled to the position preceding *naze* ‘why’. Since clause-internal scrambling is considered to be A-movement, it can

A-bind the bound variable in *naze*. The relevant LF representation is demonstrated below:

(102) [$_{CP}$ *nani-o*$_1$ [$_{IP}$ ... t_1 ... [pro$_1$ *naze*] ...]]



A-bind --> WCO ok

The success of licensing makes sentence (101) grammatical.

Watanabe provides some empirical evidence for his analysis. It should be noted that (101) is acceptable since the scrambled *wh*-phrase occupies an A-position. Then we can predict that A'-scrambling does not save anti-superiority. This prediction seems to be correct. Observe the following sentences:

(103) a. *Taroo-ga *naze* Mary-ni [anata-ga *dare-ni* atta to] itta no?
Taro-nom why Mary-dat you-nom who-dat met Comp said Q
'(Lit.) Why did Taro say to Mary that you met who?'

b. **Dare-ni*$_1$ Taroo-ga *naze* Mary-ni [anata-ga t_1 atta to] itta no?
who-dat Taro-nom why Mary-dat you-nom *t* met Comp said Q

(Watanabe (1994:396))

Example (103a) is deviant since, according to Watanabe, the higher *wh*-phrase, i.e. *naze* 'why' cannot serve as a licensor of the in-situ *wh*-phrase *dare-ni* 'who-dat'. Example (103b) is deviant for another reason. The higher *wh*-phrase that serves as a generator is *dare-ni*, which has scrambled out of the embedded clause. Following is the relevant LF representation:

(104) [$_{CP}$ *dare-ni*$_1$ [$_{IP}$ t_1 ... [pro$_1$ *naze*] ...]]

*A-bind

Dare-ni cannot A-bind the bound variable in *naze*, since, as pointed out above, it has undergone a long-distance, A'-scrambling. Therefore the in-situ *wh*-phrase *naze* is not A-bound and the sentence is correctly excluded.

The present analysis cannot provide a proper account for the ungrammatical status of (103b). It would predict that the sentence is grammatical since the lower *wh*-phrase *naze* is absorbed into the higher *wh*-phrase *dare-ni*. However, I doubt that this can really be a counterexample to the present analysis. Consider the following sentences:

(105) a. **Dare-ni*$_1$ *naze* John-wa [anata-ga t_1 atta to] itta no?
who-dat why John-top you-nom *t* met Comp said Q
'(Lit.) To who, why did John say that you met?'

b. (?)*Dare-ni*$_1$ John-wa [anata-ga t_1 atta to] *naze* itta no?
who-dat John-top you-nom *t* met Comp why said Q

The A'-scrambled *wh*-phrase *dare-ni* 'who-dat' does not save sentence (105a), as predicted from Watanabe's analysis. However, when the adverbial *wh*-phrase *naze* 'why' follows the embedded clause from which *dare-ni* has scrambled, the sentence is ameliorated, as shown in (105b). Watanabe's analysis cannot explain this acceptability, since the relation between the two *wh*-phrases is the same between (105a) and (105b): *dare-ni*, occupying an A'-position, does not license the in-situ *wh*-phrase *naze*.

The present analysis does not provide a proper account for the above sentences, either. However, I attempt to provide a tentative explanation here. Question (105b)

can be answered by (106a), but not by (106b):

(106) a. Mary-ni [(watasi-ga) *t* atta to] sitto site itta.
Mary-dat I-nom *t* met Comp jealousy do-and said.
'(He) said out of jealousy that I met Mary.'

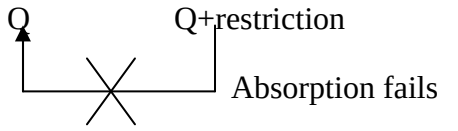
b. Mary-ni, sitto site itta.
Mary-dat jealousy do-and said
'(He) said Mary, out of jealousy.'

That is, we cannot omit the embedded clause when answering. If Nishigauchi (1991) is right in stating that the minimal answer to a *wh*-phrase corresponds to a quantifier of the question sentence, then what is unified with the lower *wh*-phrase *naze* in (105b) is not the *wh*-phrase *dare-ni*, but the whole embedded clause. Assuming that an interrogative clause containing a variable denotes a set of propositions, the clause bears a restriction part. Since *naze* follows the clause, Absorption is applied as shown below:

(107) ....[$_{CP}$ anata-ga *t*(*dare-ni*) atta to] <u>*naze*</u> ....
Q+restriction Q
Absorption

The lower *wh*-phrase *naze* makes its sole quantification part linked to the relevant part of the embedded clause. Absorption thus completes and the derivation (105b) converges. On the other hand, in (105a), since the c-commanding relation between CP and *naze* is reversed, Absorption takes place oppositely. The higher adverbial *naze* must absorb the lower embedded clause:

(108) .... *naze* [$_{CP}$ anata-ga *t*(*dare-ni*) atta to] ....



In (108) the restriction part of the CP fails to be absorbed, and Absorption fails. Since non-unified multiple quantifiers cannot be interpretable, the failure of Absorption in (108) inevitably leads to the ungrammaticality of sentence (105a).

Let us turn to Watanabe's second piece of evidence: a cancellation effect of WCO. It is well known that a WCO effect is cancelled if another bound pronoun is added, as exemplified below:

(109) a. **His*$_1$ mother gave *every boy*$_1$ a book.

b. *His*$_1$ mother gave *every boy*$_1$ *his*$_1$ book. (Watanabe (1994:403))

(110) a. **Soitu*$_1$-no hahaoya-ga *subeteno gakusee*$_1$-ni Mary-o shookaisita.

he-gen mother-nom every student-dat Mary-acc introduced

'His$_1$ mother introduced Mary to every student$_1$.'

b. *Soitu*$_1$-no hahaoya-ga *subeteno gakusee*$_1$-ni *soitu*$_1$-no atarasii

he-gen mother-nom every student-dat he-gen new

kateekyooshi-o shookaisita.

tutor-acc introduced

'His$_1$ mother introduced every student$_1$ his$_1$ new tutor.' (Ibid. p.396)

Each (a) sentence in (109) and (110) violates the WCO condition since the bound pronoun (*his* in (109a) and *soitu* in (110a)) is not bound by its antecedent. However, if

a bound pronoun is added to each sentence, as in the (b) examples, the resulting sentence becomes less ungrammatical. To generalize, a WCO effect is cancelled when another bound variable is added.[20] If, therefore, anti-superiority is really another case of WCO, we can expect the same cancellation effect in the multiple *wh*-question. Following are examples given by Watanabe:

(111) a. **Naze dare-ga* Mary-o [Tom-no uti]-ni tureteitta no?
why who-nom Mary-acc Tom-gen home-dat took Q
'(Lit.) Why did who take Mary to Tom's place?'

b. *Naze dare-ga* Mary-o [*soitu*$_1$-no uti]-ni tureteitta no?
why who-nom Mary-acc he-gen home-dat took Q
'(Lit.) Why did who 1 take Mary to his 1 own place?'

(Watanabe (1994:396-7))

(112) a. **Naze dare-ga* soko-ni itta no?
why who-nom there went Q
'(Lit.) Why did who go there?'

b. *Naze dare-ga* *doko-ni* itta no?
why who-nom where went Q
'(Lit.) Why did who go where?' (Ibid. p.402, slightly modified)

Each (a) example in (111) and (112) shows a typical anti-superiority effect. The bound pronoun in the in-situ *wh*-phrase (*dare-ga* 'who-nom') is not A-bound by its antecedent. However, addition of a bound pronoun to the sentence renders the sentence less ungrammatical, as shown by the (b) examples. Thus these sentences constitute evidence for Watanabe's (1994) WCO analysis.

In fact, however, the judgements for (111b) and (112b) are hard to confirm. First, not a single informant of mine has reported the improvement of grammaticality in (111b). Some even find (111b) worse than (111a). Second, whereas (112b) surely sounds better than (112a), it contains three *wh*-phrases. I have avoided so far dealing with questions containing three or more *wh*-phrases since such questions sound more like echo questions. For one thing, a triple *wh*-phrase question does not allow a PL reading. For a second, we cannot invent any situation in which a speaker utters (112b) as a non-echo question, requiring information unknown to him. Consider the following question-answer pairs:

(113) a. Watasi-no tomodati-wa minna sotugyoo ryokoo-ni ikimasita.
I-gen friend-top all graduation travel went
'My friends all went on a trip on the occasion of graduation.'

b. **Naze dare-ga doko-ni* itta no? (=(112b))
why who-nom where went Q
'(Lit.) Why did who went where?'

c. Cf. *Dare-ga naze doko-ni* itta no?/ *Dare-ga doko-ni naze* itta no?
who-nom why where went Q/ who-nom where why went Q

(114) a. Yappari itta rasii yo.
as I thought went seem modal
'(Someone) seems to have gone (somewhere), as I thought.'

b. **Naze dare-ga doko-ni* itta no (=(112b))
why who-nom where went Q
'(Lit.) Why did who go where?'

c. Cf. *Dare-ga naze doko-ni* itta no?/ *Dare-ga doko-ni naze* itta no?
who-nom why where went Q/ who-nom where why went Q

Sentence (113a) provides a discourse where each of the individuals went to some place. Then in questions (113b, c), the speaker wants to clarify who went where and why each one chose his/her trip. That is, (113b, c) are pair-list questions. The sentence in (113c) with the adverbial *wh*-phrase *naze* following the nominal *wh*-phrase is grammatical, whereas (113b), with the adverbial *wh*-phrase preceding the other two nominal *wh*-phrases does not serve as an appropriate question. The same contrast is observed in (114). Sentence (114a) provides a discourse where there is at least one person who went somewhere for the reason which the speaker knows. If the hearer does not know either the person, his destiny or the reason and wants to know about them, he might ask a question like (114b) or (114c). That is, they are single pair questions that aim to identify each gap. In this case, too, the sentence in (114c) is an appropriate question whereas (114b) is not. To sum up, the question (112b) is not used as a genuine question by which the speaker asks for information totally unknown to him. (I discuss the grammatical status of (113c) and (114c) soon.)

Rather, example (112b) is an echo question, used when someone fails to hear some part of the preceding utterance and wants the speaker to repeat the relevant part. Since echo questions have properties different from those of non-echo questions discussed so far, example (112b) cannot be considered evidence for Watanabe's analysis, nor against the present analysis.

As the third piece of evidence, Watanabe provides other cancellation examples such as the following:

(115) a. *John-wa *naze nani-o* tabeta no?

John-top why what-acc ate Q

'(Lit.) Why did John eat what?'

b. *Dare-ga naze nani-o* tabeta no?

who-nom why what-acc ate Q

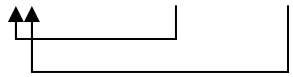
'(Lit.) Who ate what why?' (Watanabe (1994:406))

A WCO-cancelling bound pronoun can be inserted as the highest *wh*-phrase, as in (115b), and the contrast in grammaticality in (115) stands as another piece of evidence for the WCO analysis.

The grammatical status of (115b) can be accounted for in the present analysis, too. The relevant LF representation for (115b) is demonstrated below:

(116) ... dare-ga naze nani-o .....

Q+restr Q Q+restr



When applying Absorption, *naze* 'why' relates its sole quantification part to the relevant part of the higher *wh*-phrase, *dare-ga* 'who-nom'. *Nani-o* 'what-acc' has two possible goals for its linking: *naze* and *dare-ga*. The first possibility, however, does not arise since the adverbial *naze* cannot absorb the restriction part of *nani-o*. Therefore, *nani-o* relates its Q and restr(iction) to the relevant parts of *dare-ga*. This linking is successful, and Absorption completes. Then example (115b) is acceptable with a single pair interpretation.

Now that I have observed his empirical arguments, I consider problems with Watanabe's (and Hornstein's) analysis. First, the bound pronoun analysis is originally

developed to explain a PL reading of English multiple *wh*-questions. The value of a *wh*-in-situ is made dependent on each value of a moved *wh*-phrase, hence generating a PL reading. Watanabe and Hornstein extend this analysis to Japanese multiple questions which contain an adverbial *wh*-phrase. However, as I discussed in section 4.3.3, such Japanese questions do not allow a PL reading. When a sentence contains an adverbial *wh*-phrase, it can only have an SP reading. Relatedly, it is not clear how an adverbial *wh*-phrase, which does not denote any kind of restriction, bears a bound pronoun. The second problem, which I have already pointed out arguing against Watanabe (1991), is that this analysis does not distinguish the two different interpretations, PL and SP. It just provides a uniform account for any kind of multiple questions. The third problem is empirical. Consider the following example again:

(117) John-wa sono mooside-o *naze donoyooni* kotowatta no? (=(97))
John-top the offer-acc why how declined Q
'(Lit.) Why did John decline the offer how?'

Watanabe's analysis would wrongly predict that (117) is deviant, since neither of the two adverbial *wh*-phrases can serve as a generator to license the in-situ *wh*-phrase.

To sum up, the WCO analysis proposed by Hornstein and Watanabe poses several conceptual and empirical problems that do not arise in the present analysis. The crucial point is that an adverbial *wh*-phrase *can* be a generator, as the grammatical 'adverbial-adverbial' *wh*-sequence in (117) indicates. This fact undermines their proposal that an adverbial *wh*-phrase cannot precede a nominal *wh*-phrase since the former cannot serve as a generator for the latter. I have also shown that evidence Watanabe provides can be either refuted ((103), (111), (112)) or accounted for under the present analysis ((115)).

4.4.2.3 Kuno and Takami (1993) Lastly I consider Kuno and Takami's (1993) functionalist analysis. According to them, the acceptability of a multiple *wh*-question depends on whether the interpretation or the answer is pragmatically appropriate or not. They assume the following functional constraint:

(118) *Sorting Key Hypothesis*

> In a multiple *wh* question, the leftmost *wh*-word represents the key for sorting relevant pieces of information in the answer. (Kuno and Takami (1993:112))

This condition is sensitive to the linear order of *wh*-phrases, not their structural relations. Let us consider the following sentences for the illustration of their account:

(119) a. *What students* did they give A's to *in which subjects*?

b. *In which subjects* did they give A's to *what students*? (Ibid. p.112)

Given (118), we expect that (119a) should get a PL answer in which the leftmost *wh*-phrase *what students* serves as a sorting key and the subject(s) is sorted out under the name of each student. On the other hand, the sorting key in (119b) is *(in) which subjects*. The answer will then be a list of subjects with which the students who got the grade A in the subject are accompanied. Examples (119a, b) can therefore be answered by (120a, b), respectively:

(120) a. They gave A's to Peter Hanson in geometry, biology, and English, to Mary Murphy in history and music, ...

b. In geometry, they gave A's to Peter Hanson, Martha Mooney, and Dave Isenberg, in history to Mary Murphy and Alice Jamison, ... (Ibid. p.113))

Both (119a) and (119b) are acceptable since they can be mated with appropriate answers like above.

According to Kuno and Takami, anti-superiority effects (and superiority effects as well) can be accounted for as a failure of this kind of sorting. Consider the following anti-superiority examples:

(121) a. John-wa *nani-o* *naze* katta no?
John-nom what-acc why bought Q
'(Lit.) What did John buy why?'
b. *John-wa *naze nani-o* katta no?[21]
John-nom why what-acc bought Q

The expected answer to (121a) will be a list of purchased items each of which is associated with a reason why John bought the item. Such listing is pragmatically acceptable, so the question that elicits the acceptable answer is acceptable, too.

On the other hand, the expected answer to (121b) will be a list of reasons why John bought something, each of which is associated with a purchased item which John bought for that reason. Then an answer as shown in (122) is expected:

(122) Mary-e-no purezento-ni tokei-o, Bill-e-no purezento-ni T-shatu-o katta.
Mary-dat-gen present-for watch-acc Bill-dat-gen present-for T-shirt-acc bought
'(He) bought a watch as a present to Mary, and a T-shirt as a present to Bill.'

Since such sorting is pragmatically odd, question (121b) that elicits the odd answer sounds odd, too.

However, sorting as in (122) can be improved if an appropriate discourse is given.

Consider the following multiple question:

(123) John-wa kinoo *dooyuu riyuu-de* *nani-o* katta no?
John-top yesterday what reason-for what-acc bought Q
'For what reason did John buy what yesterday?'

Kuno and Takami argue that marked adverbial *wh*-phrases like *dooyuu riyuu-de* 'for what reason' imply the context in which there is a definite set of reasons. In that case, the precontext validates matching each reason with each of the purchased items. Therefore the answer (122) and the eliciting question (123) are both acceptable.

Now let us consider problems with Kuno and Takami's analysis. A first problem concerns the interpretation of multiple *wh*-questions containing adverbial *wh*-phrases. Kuno and Takami state that questions like (121a) elicit a PL answer, but it is questionable. As discussed in section 4.3.3, any multiple *wh*-question containing an adverbial *wh*-phrase has only an SP reading. The same observation is made by Nishigauchi (1999a). A special precontext would be required for (121a) to elicit a PL answer: e.g. the speaker knows that John bought more than one item and that he bought the items for different reasons. Since (121a) does not elicit a PL answer, Kuno and Takami's analysis would wrongly predict that (121a) as well as (121b) should be excluded.

A second problem is that their analysis does not explain the 'scrambling' effect discussed in section 4.3. Since Kuno and Takami assume that the precedence relation between *wh*-phrases is the only determinant for the possible reading(s) of the sentence, they cannot predict that movement of *wh*-phrases out of VP changes the possible readings for the multiple *wh*-question.

A third problem is related to the second one. Although Kuno and Takami

suggest that a multiple *wh*-question should be acceptable if it elicits a pragmatically appropriate PL answer, we have already seen that Japanese multiple *wh*-questions are acceptable even when they elicit an SP answer. It is not clear how their analysis accounts for this fact.

A fourth problem is a multiple adverbial *wh*-question which is raised in sections 4.4.2.1 and 4.4.2.2 ((97) (=(117))). The grammaticality of (97) cannot be predicted by Kuno and Takami's analysis, since neither of the *wh*-phrases is an appropriate sorting key.

Lastly, if pragmatic judgment determines the acceptability of a multiple *wh*-question in Japanese, then the same judgment will hold true in other languages, since it is unlikely that some languages are regulated by pragmatics, and others by syntax. Kuno and Takami actually propose that English multiple questions are also subject to the sorting key hypothesis. Let us consider the following multiple *wh*-questions:

(124) a. **Why* did John buy *what*?[22]

b. *Who* bought *what*?

c. **What* did *who* buy?

Example (124a) is excluded in the same way as Japanese anti-superiority sentences: the leftmost *wh*-phrase, *why*, is not an appropriate sorting key. Example (124b) is acceptable since the expected answer, a list of persons each of which is associated with his purchased item(s), is pragmatically appropriate. Then, what is responsible for the ungrammaticality of (124c)? The expected answer will be a list of purchased items each of which is associated with a buyer who bought the item. According to Kuno and Takami, such sorting is not natural, and hence (124c) is excluded. However, the

sorting is perfectly acceptable in Japanese. Compare (124c) with its Japanese counterpart (125):

(125) *Nani-o dare-ga* katta no?
what-acc who-nom bought Q
'(Lit.) What did who buy?'

The contrast between (124c) and (125) implies that the pragmatic account is not suitable for explaining cross-linguistic data.

To sum up, Kuno and Takami's functionalist analysis only covers typical multiple *wh*-question data, and it poses various empirical problems concerning the 'scrambling' effect, the interpretation possibility, the multiple adverbial *wh*-question, and its cross-linguistic validity.

Through a discussion and criticism of the previous analyses, it is now obvious that the present analysis covers a wider range of multiple *wh*-question data, and provides a correct account for the possible interpretation of the data. In Japanese, elements that receive an exhaustive reading must occupy SPEC-Foc ((68a)). Therefore identificational foci obligatorily move to SPEC-Foc, and *wh*-phrases optionally move to SPEC-Foc when the multiple *wh*-question bears an exhaustive (=PL) interpretation.

4.5 Conclusion

This chapter has provided further evidence for the present assumption that there is a third position for a *wh*-phrase, i.e. SPEC-Foc. In section 4.2, I noted the interaction

between a focus and a *wh*-phrase in a *wh*-clause. Case-marking of a *wh*-clause makes the clause a focus that agrees with Foc. Since a *wh*-clause also bears a Q-feature in its C position, then the Case-marked, i.e. focalized, *wh*-clause will bear two kinds of quantification features, i.e. Q and foc. A QUIB condition requires that two dependencies of the same type should not cross over. That means that a Case-marked *wh*-clause constitutes two QUIBs for Q- and foc-agreements. In consequence, a *wh*-phrase in the *wh*-clause can never make an agreement relation out of the clause, since either of its Q- or foc-agreement is blocked. In this way, a Case-marked *wh*-clause stands as a strong island for scope-taking.

In sections 4.3 and 4.4, I dealt with multiple *wh*-questions. To interpret a sentence containing more than one quantifier, the quantifiers must be somehow unified. As for multiple *wh*-questions, the unification is done by Absorption. Since Absorption is an asymmetrical operation in which the lower *wh*-phrase is absorbed into the higher one, the direction of Absorption must be taken into account, especially when the question contains a nominal and an adverbial *wh*-phrase. A nominal *wh*-phrase consists of a quantifier part and a restriction part, while an adverbial *wh*-phrase contains a quantificational part alone. Hence an adverbial *wh*-phrase cannot be an absorber of a nominal *wh*-phrase, which forces an adverbial *wh*-phrase to follow a nominal one. Anti-superiority effects are thus obtained. I argued that there is a 'scrambling' effect in Japanese multiple *wh*-questions involving two *wh*-phrases. That is, both *wh*-phrases must move out of v*P to SPEC-Foc in order for the question to bear a PL reading. I argue that SPEC-Foc is a position for an exhaustive reading in Japanese (and Hungarian). Since a PL reading is another kind of exhaustive reading, the *wh*-phrases must move there to yield a PL reading. When a question contains an adverbial *wh*-phrase, a PL reading is impossible. This fact can also be accounted for by the present analysis. Since an adverbial *wh*-phrase lacks a foc-feature to agree with Foc, it

cannot move to SPEC-Foc, a position for a PL reading.

It should be noted that all of the arguments developed here are based on the assumption that presumes Foc and a foc-feature. A foc-feature resides in an identificational focus and a nominal *wh*-phrase, but not on an adverbial *wh*-phrase which lacks a restriction part to be restricted by the discourse. That explains similarities of a focus and a nominal *wh*-phrase, and asymmetry between nominal and adverbial *wh*-phrases. The fact that we can account for the wide range of data we have observed in this chapter further strengthens the validity of Foc and a foc-feature.

NOTES

1. It must be noted that the judgment differs from person to person as to whether an in-situ *wh*-phrase can take a wide scope over the *wh*-island. It will be discussed in section 4.2 below.

2. Takahashi (1993) and Tanaka (1999) regard that when a *wh*-phrase undergoes a long-distance scrambling to an interrogative clause, the *wh*-phrase obligatorily take scope of that clause. However, it seems to me that the scrambled *wh*-phrase in (5c) can be 'undone' to its original position, and take embedded scope. My judgment is shared by Nishigauchi (1999b) and some of my informants.

3. Notice that what is to be regulated in a precise sense is an 'adverbial' *wh*-phrase, not an 'adjunct' *wh*-phrase. Nominal adjunct *wh*-phrases, e.g. temporal/locative *wh*-phrases, are irrelevant to anti-superiority effects. Consider the following examples:

(i) a. *Dare-ga itu/doko-de* sono hon-o katta no?
who-nom when/where the book-acc bought Q
'Who bought the book when/where?'
b. *Itu/doko-de dare-ga* sono hon-o katta no?
when/where who-nom the book-acc bought Q

(ii) a. *Dare-ga dooyuu riyuu-de* soko-e itta no?
who-nom what reason-for there went Q
'Who went there for what reason?'
b. *Dooyuu riyuu-de dare-ga* soko-e itta no?
What reason-for who-nom there went Q (Nishigauchi (1999a:184))

In each case above, the adjunct *wh*-phrase is composed of P+NP, hence it is nominal. Huang (1982) proposes that English temporal/locative *wh*-phrase, i.e. *when/where*, is generated as a sister of some null P: [$_{PP}$ P [$_{NP}$ *when/where*]]. They can thus behave like arguments, head-governed by the null Preposition. Therefore, argument nominal *wh*-phrases and adjunct nominal *wh*-phrases behave in a similar way.

4. There is a slight difference in grammaticality judgement between Miyagawa (1997) and Yanagida (1996a, b). Whereas Miyagawa judges the contrastive foci remaining in VP as '??', Yanagida judges them as '?*'. Actually, precise judgment seems hard since a slight change in pitch or pause makes the sentences in (9a) and (10a) sound better or worse. (9a), for example, sounds better when we take a pose after *isoide* 'quickly'.

Masayuki Higuchi (p.c.) has pointed out to me that (at least some) adverbials can be taken for verbs of a conjugated form. Putting a pause after *isoide* might cause this effect: *isoide* is not taken for 'quickly', but for 'hurry and...'. In that case, (9a) will be parsed as a VP-conjunction sentence like (i):

(i) John-wa [$_{VP}$ isoi]-de, *hon-wa* [$_{VP}$ katta].
John-top hurry-and book-foc bought
'John hurried, and bought A BOOK.'

Since the 'verb' *isoide* does not edge the VP-boundary, the focus phrase *hon-wa* 'book-foc' can appear outside the second VP. The amelioration effect obtained by a pause might be attributed to this kind of re-interpretation of the sentence.

5. There are two possible exceptional cases in which multiple foci are allowed in Japanese. First, it is allowed when morphologically-marked foci are part of multiple

subjects, as exemplified in (i) below:

(i) (?)Sensinkoku-wa *dansee-wa heekin jumyoo-wa* mijikai (, demo
developed country-top man-foc average life span-foc short but
heekin yomee-wa nagai).
average life expectancy-foc long
'(Lit.) In developed countries, MEN, (their) AVERAGE LIFE SPAN, is short
(, but (their) AVERAGE LIFE EXPECTANCY, is long.)'

A possible explanation is to assume that one focus percolates to the two elements in the subject. Multiple subjects are considered to be one constituent before the transformation: [$_{NP}$ (sensinkoku-no) [$_{N'}$ dansee-no [$_{N}$ heekin jumyoo]]] (average life span of men (in developed countries)). A focal feature is assigned to the whole phrase, and therefore both *dansee* 'man' and *heekin jumyoo* 'average life span' are marked with a focus particle *-wa*. If correct, then (i) is not a multiple-focus construction.

Multiple focus seems to be allowed in another case: when the sentence involves a negation, as shown in (ii):

(ii) Watasi-wa *gakkoo-de-wa* *tabako-wa* suwa-nai.
I-top school-loc-foc cigarette-foc smoke-not
'I do not smoke a cigarette at school.' (Mitsunobu Yoshida (p.c.))

However, what is contrastively focalized in (ii) is only *gakkoo-de-wa* 'at school', therefore implying that the speaker would smoke a cigarette somewhere else, say, at home. *Tabako-wa* 'cigarette-foc' does not serve as focus to be contrasted, but as something related to negation. Thus the sentence (ii) is not considered as a multiple focus construction, either.

6. Yanagida (1996a) proposes that there is another kind of focus which remains in VP but gets licensed by a (null) focus operator above VP. I do not deal with it since it is more like an information focus, which is not syntactic in nature.

7. A note is necessary on the awkwardness of (17b)/(19). Even for those who judge (17b)/(19) acceptable, (17b)/(19) sound somewhat awkward. This might be attributed to the fact that a local-scope reading like (17a) serves as a natural, and hence primary reading. Although the primary reading is being excluded in (19) by replacing ambiguous *ka* (Q or 'whether') with unambiguous *ka dooka* 'whether', the replacement does not work out very well: as Nishigauchi (1999a:39fn) points out, *ka dooka* can serve as a scope marker for a *wh*-phrase in actual speech. That is, (19) can sometimes be uttered to mean a local-scope reading like (17a). To completely exclude the local-scope reading, then, we need to prepare a suitable context for (17)/(19). Suppose that John is a detective investigating Mary's financial condition. One day a speaker sees John check some receipts, trying to find whether Mary bought some item or not. When uttered in this context, (17b)/(19) receives high acceptability, at least for those who accept (17b) and (19).

8. Interrogative CPs that appear in a position other than a complement position usually bear Case. Example (i) contains a subject interrogative CP, and example (ii) an adjunct interrogative CP:

(i) [Mary-ga *nani-o* katta ka] ?(**-ga**) John-niyotte hookoku-sareta.
[Mary-nom what-acc bought Q](-nom) John-by report-done-was
'It was reported by John what Mary bought.'

(ii) John-wa [Mary-ga *nani-o* katta ka] *(**-de**) kanojo-o hyooka-sita.
John-top [Mary-nom what-acc bought Q] (-with) she-acc evaluation-did

'John evaluated Mary from what she bought.'

I do not deal with these cases since the behavior as an island differs from that of the complement *wh*-island discussed in the main text. Specifically, Case-marking does not change the strength of island. To me, a *wh*-phrase in the *wh*-clause in (i) and (ii) can take matrix scope if the matrix is marked with Q-morpheme, regardless of whether Case is present or not.

There is another interrogative CP: a subject of Adjectival, exemplified as (iii):

(iii) a. [Mary-ga *nani-o* katta ka](??-**ga**) akiraka da.
[Mary-nom what-acc bought Q] (-nom) clear is
'It is clear what Mary bought.'

b. [Mary-ga *naze* okotta no ka] (??-**ga**) husigi da.
[Mary-nom why got-angry nml. Q] (-nom) mysterious is
'It is a wonder why Mary got angry.'

In this case, the presence of Case make the sentence sound odd, contrary to the cases (i) and (ii). However, sentences in (iii) show the same behavior with (i) and (ii) in scope-taking. That is, a (nominal) *wh*-phrase in the *wh*-clause can take matrix scope, regardless of whether Case is present or not. I do not consider the case, either.

9. To be precise, *noda* is morphologically decomposed into nominalizer *-no* and auxiliary verb *-da*.

10. The focus reading of a Case-marked *wh*-clause is verified by the following examples:

(i) John-wa Bill-to [Mary-ga nani-o katta ka] sirabeta noda.
John-top Bill-with [Mary-nom what-acc bought Q] investigated modal(focus)

a. It was with Bill that John investigated what Mary bought.

b. ??It was what Mary bought that John investigated with Bill.

(ii) John-wa Bill-to [Mary-ga nani-o katta ka]-**o** sirabeta noda.

John-top Bill-with [Mary-nom what-acc bought Q]-acc investigated modal(focus)

a. ??It was with Bill that John investigated what Mary bought.

b. It was what Mary bought that John investigated with Mary.

When the *wh*-clause lacks Case, it is hard to be a focus, as shown in (ib). When the *wh*-clause bears Case, on the other hand, the primal reading is (iib), in which the *wh*-clause is interpreted as a focus.

11. At present, it is not clear why a *wh*-clause marks its focal status with Case morphology. I just point out that Turkish employs a similar strategy: optional Case-morphology for (DP) objects makes them specific objects (Diesing (1992)). Focalizing with optional Case might be a cross-linguistic property.

12. Other weak islands might also be accounted for in the same line of discussion.

(i) Adjunct island:

a. John-wa [# *dare-ga* supiiti-suru mae-ni] heya-o deteitta *no*?

John-top who-nom make-speech before room-acc left Q

‘(Lit.) John left the room [before *who* made a speech]?’

b. *John-wa [# Mary-ga *naze* supiiti-suru mae-ni] heya-o deteitta *no*?

John-top Mary-nom why make-speech before room-acc left Q

‘(Lit.) John left the room [before Mary made speech *why*]?’

(ii) Complex NP island (relative clause):

a. John-wa [# [*e nani-o* kaita] hito]-ni atta *no*?
John-top what-acc wrote person -dat met Q
'(Lit.) John met a person [who wrote *what*]?'

b. *John-wa [# [*e naze* sono hon-o kaita] hito]-ni atta *no*?
John-top why that book-acc wrote person -dat met Q
'(Lit.) John met a person [who wrote that book *why*]?'

Suppose that each island contains a quantifier which serves as a QUIB for Q-dependency. Since the adverbial *wh*-phrase only creates Q-dependency, the QUIB completely blocks scope-taking of the adverbial *wh*-phrase. On the other hand, since the nominal *wh*-phrase creates foc-dependency as well, it can pass over the QUIB and take a matrix-scope reading. A similar discussion is developed in section 5.4 based on English data.

13. Nishigauchi (1999a:126fn) makes the same claim, based on similar, but not the same data:

(i) Dare-ga [Taroo-ga *nani-o* *doko-de* katta *ka*] oboeteiru *no*?
who-nom [Taro-nom what-acc where-loc bought Q] remember Q
a. For which *x y*, *x* a person and *y* a thing, *x* remembers where Taro bought *y*?
b. For which *x y*, *x* a person and *y* a place, *x* remembers what Taro bought at *y*?

In (ia) *nani-o* 'what-acc' takes matrix scope over the *wh*-clause, and in (ib) *doko-de* 'where-loc' does so. Although Nishigauchi himself judges both of them marginally acceptable, he also notes that there are several speakers who do not accept either reading at all. According to Nishigauchi, speakers of the Kansai-dialect have a

tendency not to accept a long-distance reading.

14. If Foc should undergo multiple agreement freely, it would wrongly rule in tyhe multiple focus construction.

(i) *John-wa *gakko-de-wa* *Mary-ni-wa* atta.
John-top school-loc-foc Mary-dat-foc met
'John met MARY, AT SCHOOL.'

The reader might suspect that multiple foci is prohibited since Foc can undergo agreement only once. However, it turns out to be wrong. See note 5 in this chapter. A multiple focus sentence, hence multiple foc-agreement, is acceptable as long as the foci can be unified into one focus in some way. This is what I will propose for a multiple *wh*-question in the discussion below. Although the *wh*-phrases in (61) create two foc-agreement relations, the relations are unified into one by the application of Absorption.

15. Yukio Oba (p.c.) pointed out that the question (63) only allows an SP reading once the temporal adverbial *kinoo* 'yesterday' is replaced with *kinoo dake* 'only yesterday'. Suppose that the sentence is assigned the following structure:

(i) [$_{FocP}$ *dare-ga* *kinoo* *dake nani-o* [$_{v*P}$ ...]] *no*?
who-nom yesterday only what-acc Q

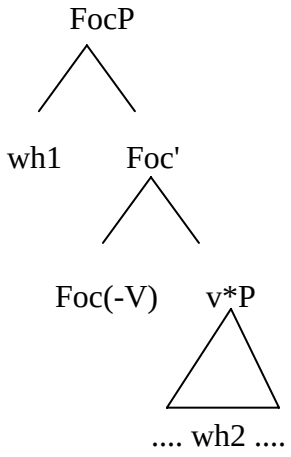
Since the condition (62) holds for the structure above, it is wrongly predicted that (i) can have a PL reading.

Relevant to this might be the discussion in section 5.2, in which I show that a *wh*-phrase (to be related with Foc) cannot cooccur with a focus with a semantic reason.

That is, when a focus appears, no other element can be related with Foc. Therefore the structure as in (i) is in fact impossible. Once a focus appeared, *wh*-phrases cannot appear in FocP. Accordingly, the *wh*-phrases occupy some other positions, which makes the sentence to have only an SP reading.

16. It should be noted that PL is a reading for 'two' *wh*-phrases. Therefore, the structure like (i) below is not mapped to a PL interpretation:

(i)



*Wh*1 is assigned an exhaustive reading, but it does not create a PL reading since the other *wh*-phrase, *wh*2, is not assigned an exhaustive reading.

17. A few points should be made regarding this example. First, *donoyooni* 'how' is morphologically decomposed into *dono* 'which' + *yoo* 'manner' + *ni* 'in'. Therefore, its structure can be regarded as P+NP ('in which manner'). If it was correct, the present analysis would predict that *donoyooni* should act just like nominal *wh*-phrases such as *dare-ga* 'who-nom' and *nani-o* 'what-acc' since they contain an NP that sets a restriction domain of the *wh*-phrase. However, in an actual use, we do not consider *donoyooni* to denote a restriction of any kind. Consider the following single *wh*-question:

(i) John-wa sono mooside-o *donoyooni* kotowatta no?

John-top that offer-acc (how) declined Q

'How did John decline the offer?'

In this question, we do not pick up an appropriate manner to decline an offer out of the set of possible manners. Rather, we just provide the sole manner in which the offer was declined. This means that, in spite of its morphological appearance, Japanese regard *donoyooni* as an adverb, just like *naze* 'why'. Japanese has another *wh*-adverb that corresponds to 'how': *doo* is morphologically one unit, unlike *donoyooni*. Compare the following example with (i) above:

(ii) John-wa sono mooside-o *doo* kotowatta no?

John-top that offer-acc (how) declined Q

'How did John decline the offer?'

Doo has virtually the same meaning as *donoyooni*.

However, there is a crucial point where the two *wh*-phrases differ. Consider the following contrast:

(iii) a. John-wa sono mooside-o *naze donoyooni* kotowatta no? (=(87))

John-top that offer-acc why how declined Q

b. ??John-wa sono mooside-o *naze doo* kotowatta no?

John-top that offer-acc why how declined Q

While 'naze-donoyooni' sequence is unproblematic, 'naze-doo' sequence degrades the acceptability. I am not sure what is responsible for the difference in (iii), and leave it

for future research.

The second note concerns the ordering constraint on the two adverbial *wh*-phrases. Whereas 'naze-donoyooni' sequence is acceptable, the reversed sequence is excluded, as shown in (iv):

(iv) *John-wa sono mooside-o *donoyooni naze* kotowatta no?
John-top that offer-acc how why declined Q

This is explained straightforwardly. Unlike other temporal/ reason adverbs which appear somewhere above v*P, a manner adverb adjoins to v*P and hence indicates the v*P boundary. The deviance of (iv) is then attributed to the presence of reason adverb *naze* within v*P, which is not a possible position for the element.

18. According to Yanagida (1996b:22), Watanabe, in his 1992 work, suggests that anti-superiority is derived from the following condition:

(i) Relation Preservation: A relation established at a certain point of derivation must be maintained throughout.

A 'relation' means 'c-commanding' here. I take up the anti-superiority condition (96) for simplicity's sake. Watanabe also assumes that a null operator of an in-situ *wh*-phrase moves at S-structure. I ignore this point since it does not have any direct effect on the present discussion.

19. Example (96a) is judged as '?' in Watanabe (1991).

20. See Hornstein (1995) for the explanation of this cancellation effect. It should be noted, however, that the cancellation effect in Japanese (as in (110)) is not supported by everyone. Some find (110a) and (110b) equally deviant.

21. Anti-superiority is judged as '??' in Kuno and Takami (1993).

22. A sentence like (124a) is judged as '?/??' in Kuno and Takami (1993).