CHAPTER 1

THE 'THIRD' POSITION FOR A *WH*-PHRASE: EVIDENCE FROM SYNTAX AND SEMANTICS

1.1 The Aim

Wh-questions establish an operator-variable relation that is overtly reflected in syntax of many languages. Consider the following sentence for instance:

(1) *What*$_1$ did John buy t_1 ?

Under the standard analysis, the *wh*-phrase has been moved from object position to SPEC-C, and this movement relation is mapped to semantic interpretation at LF representation. That is, the trace in object position is interpreted as a variable bound by the *wh*-operator in SPEC-C. Therefore, (1) has an interpretation like (2) below:

(2) which *x*, *x* a thing, John bought *x*

Most previous studies have assumed that only those two positions, and no other positions, are involved in syntax and semantics. However, a closer investigation of the relevant data in various languages suggests that there might be another position that has to do with the syntax (and also semantics) of *wh*-questions. The aim of the present

thesis is to claim that this is in fact the case, and to work out what role the third position plays in syntactic derivation and semantic interpretation. Specifically, the following claim is to be developed in this thesis:

(3) There is a syntactic position which is provided by 'Focus Phrase (FocP).'
SPEC-Foc is essential to a contrastive reading in the 'focus' construction and a pair-list reading in multiple *wh*-questions.

By the label of 'focus' I do not mean that the emphatic nuance or something should be involved in syntax, but that some information as to 'presupposition' should be realized in syntax, through making a syntactic relation with FocP. It should be noted that presupposition is different from the domain condition denoted by a *wh*-phrase. In the above example, *what* bears a lexical denotation like 'a set of things', as shown in (2). What 'presupposition' means is the subset of such a lexical denotation, which is restricted by the appropriate context. Suppose that the speaker of utterance (1) knows from the context that John bought one of the following, a book, a pencil, or an eraser. In this case, the domain of *what* ranges over the three-member set, {book, pencil, eraser}. This is what I call 'presupposed domain'. The answerer then selects one or more items from this presupposed domain and answers question (1). Therefore, (1) will receive the following interpretation under this context:

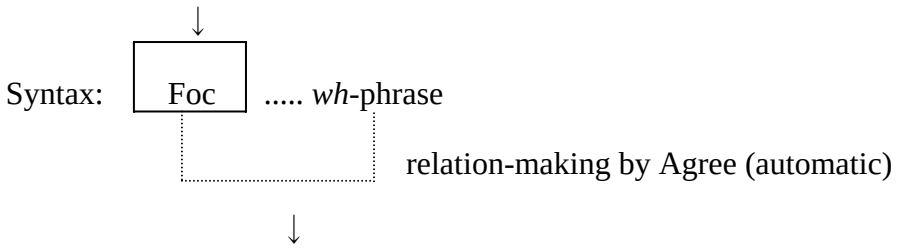
(4) which x, $x \in$ {book, pencil, eraser}, John bought x

As a matter of course, the contents of a presupposition set vary from context to context: some contexts may presuppose a broader set like 'a set of all purchasable items', or some may allow no presupposition at all. What is important is that there is a

syntactic position which defines the contextually-restricted domain of a *wh*-phrase. In other words, the position 'D-links' the domain of a *wh*-phrase if there is an appropriate context.

Pesetsky (1987) observes that the set of possible answers to a *wh*-phrase can be restricted by the discourse and that such a 'D-linked' *wh*-phrase exhibits somewhat different behavior as to locality, superiority and interpretation. Although D-linking obviously affects syntax, previous analyses do not make clear how D-linking is related to syntax. I propose that 'D-linking' of a *wh*-phrase should take place in the following manner:

(5) Context: presuppositional information (optional)



If the context restricts the domain condition of a *wh*-phrase, the restricting information is transferred into the head Foc. (A similar proposal is made by López (2000), who assumes that any functional head contains D-linking information.) In syntax, Foc and the *wh*-phrase establish a relation through 'Agree'. (The operation Agree is explained in the next chapter.) The syntactic relation established is then mapped to interpretation, yielding a D-linked reading. It should be noted that Agree is triggered by formal features, and therefore takes place with no consideration of outcome effects. In this case, Foc and the *wh*-phrase are automatically related to each other because of their matching features, even when there is no presuppositional information in the context.

It is unlikely that Foc and a *wh*-phrase bear matching features only when a D-linked reading is required. Foc and a *wh*-phrase always bear matching features as inherent features, and hence are automatically related to each other. When the context provides a presupposition, the established relation D-links the *wh*-phrase. When the context does not provide a presupposition, on the other hand, the established relation creates no semantic change in the *wh*-phrase.

The reader may raise some questions as to my claim. For example, isn't 'a presupposition restricted from the context' more likely information out of syntax? Or, does the introduction of a new syntactic projection, FocP, go against the minimal language design of the minimalist program? I would like to answer the questions by noting that in the minimalist framework, the only guarantee that a certain phrase should be a syntactic substance is that the phrase has an effect on semantic interpretation. For instance, although GB studies have assumed that syntactic formalism associates D with every NP, in the minimalist framework, there should not be an association of D if it has no semantic interpretation (cf. Chomsky (1998:55)). To put it differently, the existence of a semantic effect should guarantee the syntactic existence of the relevant phrase. And this is exactly what I would like to propose as to presupposition: a presupposed domain does have a semantic/truth-conditional effect on the interpretation of the sentence. If it bears an effect on LF representation, it must be realized in syntax.

In the remainder of this chapter, I survey syntactic and semantic evidence for the claim (3). Section 1.2 demonstrates cross-linguistic data that indicate that there should be the 'third' position for a *wh*-phrase. In section 1.3 I review several previous analyses that attempt to explain what the position is, and point out some problems with the analyses. In section 1.4 I concentrate on some previous studies about semantics of *wh*-questions. The semantic point of view also requires the `third' position for a *wh*-phrase. In section 1.5 I consider what a focus is, since a focus is very similar to a

wh-phrase in its syntactic behavior and semantic interpretation. Following É. Kiss (1998), I distinguish an identificational focus from an information focus, only the former of which has a semantic/truth-conditional effect.

1.2 A Brief Survey of the Relevant Data

Aside from my assumption, a closer look at the relevant data of various languages indicates the existence of the 'third' position for a *wh*-phrase. Although those data will be examined in detail in chapters 3-5, here I present some representative examples and consider where the third position for a *wh*-phrase is in each language and what properties the position bears.

Let us start with what I call 'focus' languages which will receive a detailed discussion in chapter 3. Among them are Hungarian, Basque, and (possibly) Serbo-Croatian. In 'focus' languages, a focus phrase undergoes obligatory syntactic movement to a position specified for focus. What is of interest with these languages is that a *wh*-phrase undergoes exactly the same movement to 'focus' position. Following are Hungarian sentences containing a (italicized) focus phrase (6) and a *wh*-phrase (7):

(6) Attila *a földrengéstól* félt.
Attila the earthquake-from feared
'Attila feared THE EARTHQUAKE.' (Horvath (1986:91))

(7) Nem emlékszem hogy Attila *mennyi pénzt*$_1$ vett ki t_1
not remember-1sg. that Attila how much money-acc took-3sg. out *t*
a pénztáqrcámból.
the wallet-1sg.poss-from

'I don't remember how much money Attila took out of my wallet.' (Ibid. p.44)

According to Horvath (1986), although Hungarian is a free word-order language, a focus phrase must be fixed in a position immediately before the verb: if the focus phrase occupies any other position in (6), the sentence will be deviant. The same is true for a *wh*-phrase. A *wh*-phrase appears immediately before the verb, as shown in (7), otherwise the sentence is deviant. It should be noted that in (7), the landing site of the *wh*-phrase is obviously below the complementizer *hogy* 'that', which indicates that the *wh*-phrase has been moved to some position below CP.

Example (7) obviously indicates that there is a 'third' position for a *wh*-phrase which is neither SPEC-C nor a theta-marked position. However, not all *wh*-phrases have to move to this position. According to Uriagereka (1999), adverbial *wh*-phrases do not have to appear immediately before the verb. Consider the following examples:

(8) a. *Miert* Janos ment haza?
why John went-3sg. home
'Why did John go home?' (adapted from Uriagereka (1999:437))

b. Cf. **Ki* az asztalra tette az edényeket?
who the table-onto put the dishes-acc
'Who put the dishes on the table?' (Horvath (1986:71))

In (8a), *Janos* intervenes between the adverbial *wh*-phrase and the verb, which nevertheless yields a grammatical sentence. It is not the case with the nominal *wh*-phrase in (8b): the intervener *az asztalra* 'the table-onto' causes the sentence to be ill-formed. In this respect, *wh*-movement in Hungarian shows argument-adjunct asymmetry.[1]

Secondly, let us turn to multiple *wh*-questions in Japanese, which are to be discussed extensively in chapter 4. It is well known that Japanese *wh*-phrases do not undergo operator movement but remain in situ. Hence in a multiple *wh*-question, both of the two *wh*-phrases can stay where they are merged: in (9a) below, both of the two nominal *wh*-phrases remain in VP whose boundary is edged with the VP-adverb *matigatte* 'mistakenly' (cf. Miyagawa (1997)). Alternatively, a *wh*-phrase can locate in a position outside VP, which has been considered as scrambling of the *wh*-phrase. Examples (9b) and (10) illustrate such '*wh*-scrambling'. In the former, one of the two *wh*-phrases has moved out of VP, and in the latter, both of them have moved out of VP.

(9) a. Kinoo [$_{VP}$ matigatte *dare-ga* *nani-o* katta] no?
yesterday mistakenly who-nom what-acc bought Q
'Who bought what by mistake yesterday?'

b. Kinoo *dare-ga* [$_{VP}$ matigatte *nani-o* katta] no?
yesterday who-nom mistakenly what-acc bought Q

(10) Kinoo *dare-ga* *nani-o* [$_{VP}$ matigatte katta] no?
yesterday who-nom what-acc mistakenly bought Q

If the movement of the *wh*-phrases shown in (9b) and (10) were in fact scrambling, it would bear no semantic import. However, the fact is that the movement does change the interpretation possibility of the multiple *wh*-question: both of the two *wh*-phrases must move outside VP to yield a pair-list (PL) reading of the sentence. As to the sentences above, therefore, only (10) can be answered by a PL answer like (11a) as well as a single-pair (SP) answer like (11b). Examples (9a) and (9b), on the other hand, only get a single-pair (SP) answer like (11b).

(11) a. 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. John-ga hon-o katta.
John-nom book-acc bought
'John bought a book.'

Since scrambling is considered as a semantically-vacuous step, VP-crossing movement of the *wh*-phrases in (10) cannot be a case of scrambling. Rather, it has a semantic import such as a PL reading. Note also that its landing site is obviously not SPEC-C. In consequence, Japanese data also indicate that the 'third' position for a *wh*-phrase is realized in syntax, though the movement to this position is not obligatory in Japanese.

A note is in order regarding movement of an adverbial *wh*-phrase and its interpretation possibility. Unlike the movement of nominal *wh*-phrases as shown in (10), the movement of an adverbial *wh*-phrase never contributes to a semantic interpretation. Consider the following examples:

(12) a. John-wa [$_{VP}$ matigatte *dare-ni* *doo* hanasikaketa] no?
John-top mistakenly who-dat how talked Q
'(Lit.) To whom did John mistakenly talk how?'

b. John-wa *dare-ni* *doo* [$_{VP}$ matigatte hanasikaketa] no?
John-top who-dat how mistakenly talked Q

In (12b), adverbial *wh*-phrase *doo* 'how' as well as nominal *dare-ni* 'who-dat' have moved out of VP. However, these movements do not contribute to a PL reading for (12b): example (12b) only allows an SP reading, which is just the same as (12a). From

the fact that the movement of an adverbial *wh*-phrase does not yield a semantic import, it is suspected that the movement is just an instance of scrambling, or, equivalently, the movement of an adverbial *wh*-phrase is different from that of a nominal *wh*-phrase which we have observed in (10). In this respect, too, the 'third' position for a *wh*-phrase exhibits argument-adjunct asymmetry.

As a third and final sample language, let us now consider English, which I discuss in chapter 5. Since a *wh*-phrase in English overtly moves to SPEC-C, English does not show such an obvious relation between a *wh*-phrase and its 'third' position, as Hungarian and Japanese do. However, the sentences shown below imply that there might be a position other than SPEC-C with which a *wh*-phrase makes some kind of relation.

(13) a. *Who *in Harvard Square* did you see?

b. *When *with Mary* did you go to Boston?

c. Why *in 1960* did you come to the United States?

d. How *in five minutes* can you solve the problem?

(Kuno and Takami (1993:91))

The italicized phrases in the above examples are foci. The above examples indicate that a nominal *wh*-phrase cannot cooccur with a focus phrase, and that it is not the case with an adverbial *wh*-phrase such as *why* and *how*.

Argument-adjunct asymmetry shown above may be explained with syntactic notions: assume that there is the `third' position in English syntax. Like the 'third' position in Hungarian and Japanese, it makes a relation with a nominal *wh*-phrase and a focus phrase. A focus occupies the position, and a nominal *wh*-phrase makes a more tacit relation with the position (e.g. by Agree). Therefore, there arises a syntactic

conflict when both a focus and a nominal *wh*-phrase occur and try to make a relation with the position. Hence it yields an unacceptable sentence, as in (13a) and (13b).

It should be noted that in Hungarian and Japanese, the 'third' position shows argument-adjunct asymmetry: adverbial *wh*-phrases do not seem to make a relation to the 'third' position. If it is also the case with English, the acceptability of (13c, d) is easily predicted: there is no syntactic conflict between the adverbial *wh*-phrase and the focus phrase, since the adverbial *wh*-phrase does not make a relation with the 'third' position.

It is true that this is just a possibility: the grammaticality contrast in (13) might be attributed to some purely semantic conflict which has no relevance to syntax. However, if we follow this line of reasoning, we can grasp the similarity with the Hungarian data we have seen above. That is, just like in Hungarian, (only) nominal *wh*-phrases establish a relation with a focus position, though the relation is covert in English.

Logically, since each of the three languages has just provided evidence for the 'third' position for a *wh*-phrase, it does not have to be the 'same' position. It is possible that each 'third' position is distinct from each other. However, the chance to account for their common properties in a uniform way would be missed.

Therefore, let us assume that those 'third' positions exhibited in the three languages are the same position. If so, the properties of the 'third' position can be summed up as follows:

(14) a. The position is realized somewhere below CP and above VP.

b. A nominal *wh*-phrase can be related to the position by moving there (in Hungarian and Japanese), or by making some more tacit relation (in English).

c. An adverbial *wh*-phrase cannot be related to the position.

d. The position also makes a relation with a focus phrase (from Hungarian and English).

e. The position has to do with a semantic interpretation of a *wh*-phrase, which contributes to a PL reading of the question (from Japanese).

What I argue in the chapters to follow is that it is exactly the case, and that the 'third' position should be identified with SPEC of Focus Phrase, which is responsible for setting a presupposed domain and making a contrast between 'focused' and 'non-focused' entities.

The next two sections give brief reviews of several previous analyses that assume the 'third' position for a *wh*-phrase, and attempt to clarify what the position is. I also point out their problems. Those previous analyses rely on fragmental data and fail to provide a general picture of the syntactic/semantic behavior of the 'third' position.

1.3 Previous Analyses from a Syntactic Point of View

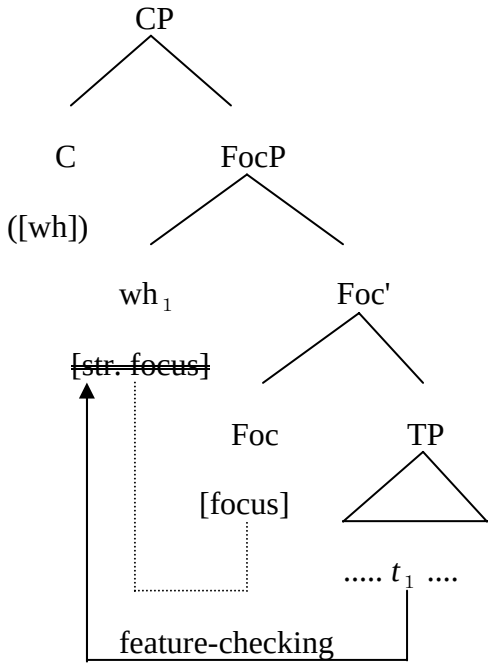
In the recent studies, several linguists have proposed that there should be a position other than SPEC-C that a *wh*-phrase makes a relation to. I review those analyses briefly and argue that they are not sufficient in dealing with the full range of the relevant data some of which I have already shown in the previous section.

1.3.1 FocP: Rizzi (1995)/ Yanagida (1996a, b)/ Kim (1997)/ Bošković (1998a)

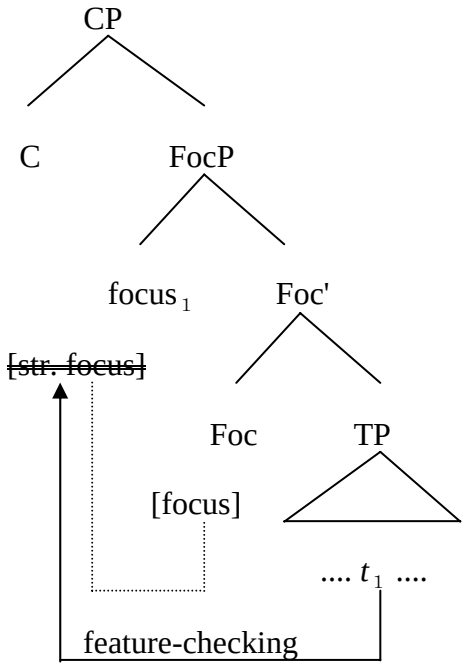
Some linguists think highly of the fact that there are languages in which a *wh*-phrase undergoes exactly the same movement as a focus phrase. For example, as I have shown in the previous section, in Hungarian both a *wh*-phrase and a focus phrase must move to a position immediately before the verb. Each of the analyses deals with

a different language, though: Rizzi (1995) observes Italian, Yanagida (1996a, b) Japanese, Kim (1997) Korean, and Bošković (1998a) Serbo-Croatian. From the similarity between a *wh*-phrase and a focus phrase, they propose that a *wh*-phrase is a kind of focus and undergoes a 'focus' movement to SPEC of Foc(us). According to Bošković, a *wh*-phrase bears a strong [focus]-feature, which forces overt movement of the phrase to SPEC-Foc in order to undergo feature checking with Foc.[2] Since the movement is motivated by the same feature, both *wh*- and focus phrases undergo the same movement:

(15) a. *wh*-movement



b. 'focus' movement



Let us now consider the problems with the 'focus' analysis. The first problem concerns the substantiality of a focus-feature. Even if we see a *wh*-phrase and a focus phrase undergo the same movement, it is a logical leap to think that *wh*-movement is assimilated to 'focus' movement motivated by a focus-feature. For this conclusion, it must be assured that [focus] (and not other features) is an atomic feature for both *wh*-

and focus phrases. It must also be shown how a *wh*-phrase establishes its peculiar interpretation as an interrogative operator with the two syntactic features, i.e. [focus] and [wh].

The second problem is that it does not account for argument-adjunct asymmetry. As shown by Hungarian data ((8)) in the previous section, an adverbial *wh*-phrase does not undergo such 'focus' movement. However, an adverbial *wh*-phrase should also bear a focus-feature, since an adverbial can be focused (e.g. John speaks VERY SLOWLY.). If so, it would be predicted that an adverbial *wh*-phrase should behave just the same way as a nominal *wh*-phrase. Specifically, in Hungarian both nominal and adverbial *wh*-phrases should bear an obligatory strong [focus]-feature and undergo obligatory overt movement to the 'focus' position which is immediately before the verb. This is obviously an incorrect prediction. To guarantee the asymmetry, an additional stipulation might be required such that an adverbial *wh*-phrase is not a (syntactic) focus. However, such a stipulation inevitably raises a question why. (Note, however, that this stipulation is not irrational if we follow the assumption proposed by É. Kiss (1998). I discuss this assumption in section 1.5.)

The third is a potential problem. Yanagida (1996a, b) argues on Japanese data that a *wh*-phrase moving out of VP should be 'focus' movement to SPEC-Foc. She also suggests that an adverbial *wh*-phrase such as *naze* 'why' is a pure operator which undergoes obligatory movement to SPEC-Foc, whereas a (D-linked) nominal *wh*-phrase need not move there. In the previous section I have shown that movement of a nominal *wh*-phrase has an effect on the interpretation of multiple *wh*-questions ((9)-(10)), but it is not the case with an adverbial *wh*-phrase ((12)). If we follow Yanagida and assume that both adverbial and (non-D-linked) nominal *wh*-phrases undergo 'focus' movement, how can we explain the interpretational asymmetry between them? To put it differently, if a nominal *wh*-phrase contributes to a PL reading by

moving to a focus position, why is it not the case for an adverbial *wh*-phrase moved to the same focus position? Although the question might be answered by adding a stipulation, that stipulation to distinguish argument-adjunct focus movements would weaken the validity of the 'focus' movement analysis.

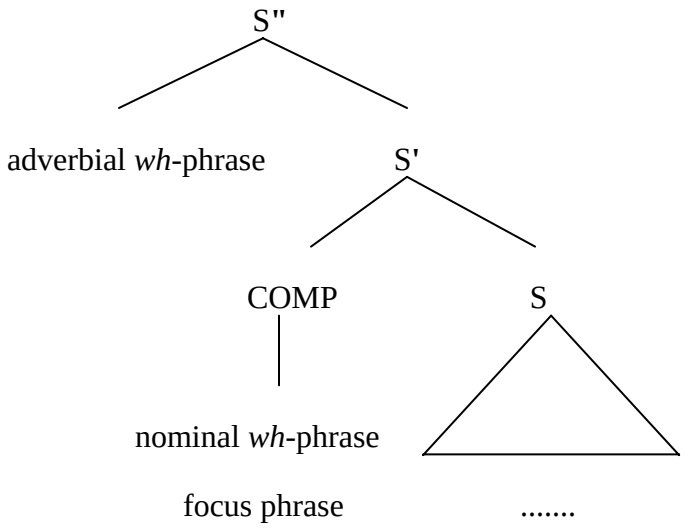
To sum up, the previous 'focus'-movement analyses have shown that there is a third position for a *wh*-phrase in various languages. However, their concern ends with assimilating a *wh*-phrase to a focus phrase. They do not consider why a *wh*-phrase moves to a focus position, or whether the focus movement of a *wh*-phrase is just an accident in some languages, or a realization of some universal properties of a *wh*-phrase.

As shown in (3), I also name the third position for a *wh*-phrase 'Focus Phrase'. However, my terminology is not the same as that of the previous analyses. I clarify the notion of 'focus' in section 1.5, and then argue that the focal property is also relevant to (nominal) *wh*-phrases.

1.3.2 S" and S': Kuno and Takami (1993)

Let us now consider Kuno and Takami's (1993) analysis which assumes two different landing sites for *wh*-phrases. Based on English and Japanese data, they assume the following landing sites for *wh*- and focus phrases:

(16)



Given the above assumptions, the argument-adjunct asymmetry in English observed in section 1.2 will receive a straightforward account. The examples to be explained are (13), repeated here as (17):

(17) a. *Who *in Harvard Square* did you see?

b. *When *with Mary* did you go to Boston?

c. Why *in 1960* did you come to the United States?

d. How *in five minutes* can you solve the problem?

Examples (17a) and (17b) are deviant due to the syntactic conflict between the nominal *wh*-phrase and the focus phrase. Since both should occupy the same position, i.e. COMP, they just cannot cooccur. In examples (17c) and (17d), on the other hand, the adverbial *wh*-phrase and the focus can occur since there arises no such conflict: the former occupies the daughter position of S", and the latter occupies COMP.

Kuno and Takami provide various pieces of evidence for their analysis. Since I will consider their analysis extensively later in chapter 5, here I just point out that their analysis is not fully satisfactory to draw a general picture of the *wh*-construction. First

of all, it is not clear why nominal and adverbial *wh*-phrases should occupy distinct positions. Second, although they regard the focus position as COMP, they do not distinguish between a topic and a focus. In fact, they refer to those fronted PPs in examples (17) above as 'topics' and provide supporting evidence from genuine topic constructions. However, as I will argue later, those PPs in (17) should be foci, and therefore evidence from the topic constructions is irrelevant to the discussion of the focus position. Lastly, their analysis does not explain semantic effects shown by Japanese multiple *wh*-questions. As will be seen in chapter 4, although they propose how a PL reading is achieved from a functionalistic consideration, the proposal does not correctly predict when a PL reading is/isn't allowed, or how an SP reading is achieved.

Kuno and Takami's analysis seems to have the same problem as the 'focus' movement analysis in the previous section. Given their syntactic assumptions, it can (at least to some extent) give an account of 'how so', but not an account of 'why so'.

1.3.3 Q- and wh-features: Miyagawa (1999a)

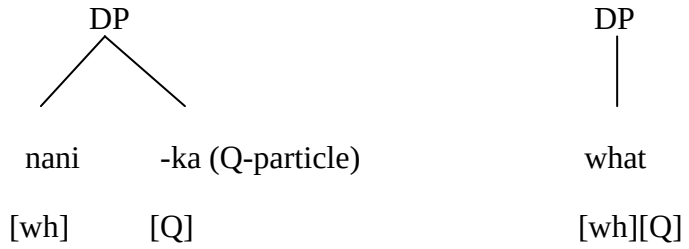
In this section I consider Miyagawa's (1999a) analysis involving two features [Q] and [wh] in a *wh*-question. His analysis is based on the semantic decomposition of a *wh*-question proposed by Hagstrom (1998). Observing the morphology and interpretation of *wh*-phrases and indefinite pronouns in Japanese and Sinhala, Hagstrom proposes that a *wh*-phrase can be decomposed into two parts.[3] One is an indefinite pronoun part which denotes a set of individuals. The other is an existential quantifier over choice functions. Miyagawa suggests that each part bear its feature, i.e. [wh] and [Q], respectively.

Since it is not Miyagawa's purpose to investigate the 'third' position for a *wh*-phrase, he does not say anything about such positions and argument-adjunct asymmetry observed in section 1.2 above. Nevertheless I consider his analysis here

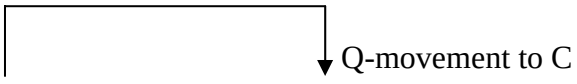
because his assumption is applicable to the data of the current concern.

According to Hagstrom, a Japanese *wh*-phrase consists of two parts which correspond to two distinct detachable morphemes, whereas an English counterpart is realized as one unit. I demonstrate this contrast with *nani* 'what' and *what* in (18):

(18) a. Japanese *wh*-phrase: b. English *wh*-phrase:



Let us assume that interrogative C uniformly bears a Q-feature and an EPP-feature. The former feature is deleted by the agreement with a matching feature on a *wh*-phrase. It agrees with Q-particle *-ka* in Japanese, and with the whole *wh*-phrase in English. Since C needs to delete an EPP-feature, too, the agreed element must move to C. Therefore, *-ka* is moved to C in Japanese, and the whole *wh*-phrase is moved to SPEC-C in English. In other words, the difference in morphology derives the different syntactic behavior in Japanese and English. In this sense Japanese also exhibits overt *wh*-movement, but it is realized by movement of a Q-particle. Following are sample question sentences of each language:

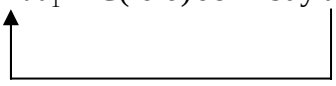


(19) a. John-wa [$_{DP}$ *nani* t_1]-o kaimasita C *ka*$_1$?

John-top [what *t*]-acc bought-polite. Q

'What did John buy?'

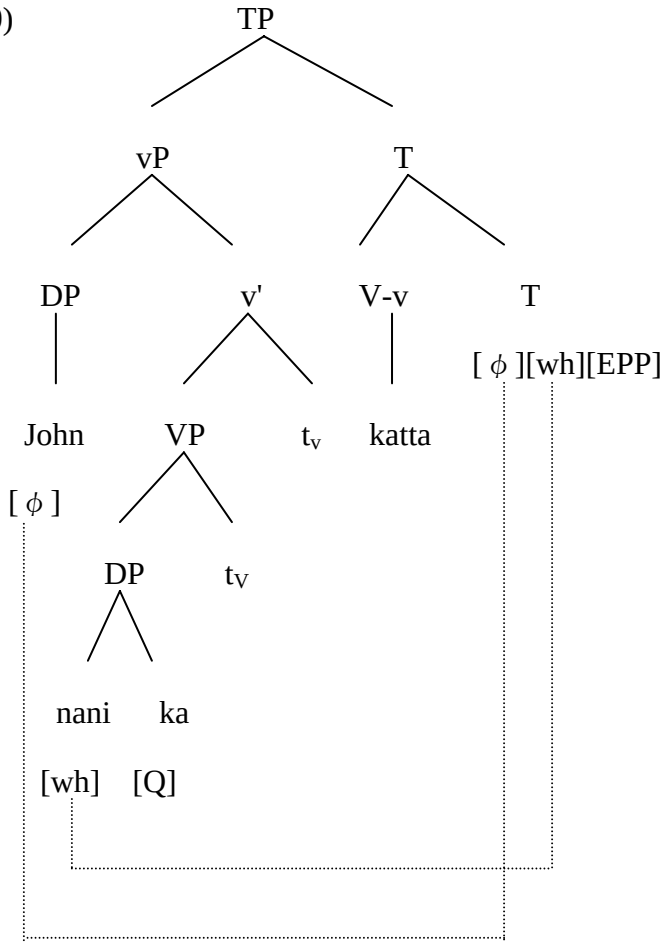
b. *What*$_1$ C(-did) John buy t_1?



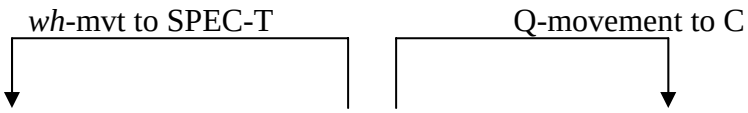
phrasal movement to SPEC-C

Miyagawa develops Hagstrom's original idea and assumes that the other feature, [wh], also plays a role in syntax. He argues that interrogative C bears a *wh*-feature as well as a Q-feature, and that the *wh*-feature agrees with the matching feature on a *wh*-phrase. Since Agree is completed without movement, it alone does not cause any explicit change in the derivation. This is indeed the case in English. He argues, however, that in Japanese, a syntactic change can be brought about with a *wh*-feature, given the assumption that a *wh*-feature can appear on T as well as on C. Let us consider what happens when a *wh*-feature is realized on T. Following the standard assumption, suppose that T bears ϕ- and EPP-features. Also, Miyagawa assumes that V-to-T raising takes place in Japanese, rendering subject and object positions equidistant from T. With these assumptions in mind, consider the following structure:

(20)



[ϕ]-features on T agree with the matching features on subject DP (or, object DP that is equidistant from T). Also, [wh] on T agrees with a matching feature on the indefinite part (*nani*) of object DP. Since the EPP-feature on T is deleted by movement of an agreed goal, T will have two candidate attractees to delete its EPP-feature: subject or object. If the latter candidate is selected, the *wh*-phrase moves to SPEC-T. Since this movement follows the agreement of a *wh*-feature, it can be regarded as a kind of *wh*-movement. The *wh*-movement in (20) then yields the following sentence:



(21) $[_{TP}$ *nani-o*$_1$ $[_{vP}$ John-ga $[_{DP}$ t_1 $t_2]$ $t_v]$ T-katta] C *no*$_2$?

what-acc John-nom bought Q

'What did John buy?'

Miyagawa observes scopal interaction between a *wh*-phrase and other quantifiers to support the above assumption, which I do not review here. What is of my concern here is to consider what can be said about the 'third' position for a *wh*-phrase and argument-adjunct asymmetry if we adopt Miyagawa's assumptions.

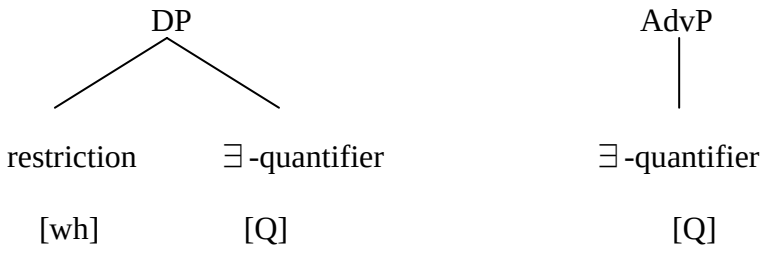
As far as Japanese is concerned, the 'third' position for a *wh*-phrase should be identified as SPEC-T: the movement to SPEC-T is motivated by *wh*- and EPP-features on T.

Then, how does the movement to SPEC-T bear a semantic import such as a PL reading observed in Japanese? Some previous studies have pointed out that subject position is related to certain semantic interpretation such as topicality and specificity (cf. Kratzer (1989)). If correct, then, a *wh*-phrase moved to subject position will bear such a special semantic assignment, and it might be responsible for a PL reading in a multiple *wh*-question. Although I am not sure what exact mechanism is at work in such a semantic interpretation, it is possible that Miyagawa's 'subject' movement analysis can account for the semantic effect caused by *wh*-movement to the 'third' position.

Miyagawa's analysis might also account for argument-adjunct asymmetry observed in section 1.2. Remember that Miyagawa-Hagstrom's *wh*-decomposition is semantic. It assumes that a *wh*-phrase is divided into an indefinite pronoun part and an existential quantifier. This semantic decomposition is fully applied to a nominal

wh-phrase. However, an adverbial *wh*-phrase should not consist of the two parts. Since an adverbial does not denote a set of individuals, it should not have an indefinite pronoun part, which in turn implies that a *wh*-feature is not present in an adverbial *wh*-phrase, since the feature is associated with the indefinite pronoun part. Hence, there is a compositional asymmetry between nominal and adverbial *wh*-phrases in the first place.

(22) a. a nominal *wh*-phrase: b. an adverbial *wh*-phrase



I am not stating that in (22b), an adverbial *wh*-phrase consists only of an existential quantifier, but that the only part relevant to interrogative quantification is an existential quantifier. There may be other formal and semantic features that do not have to do with quantification.

If this assumption is correct, then, argument-adjunct asymmetry in syntax can be attributed to their compositional asymmetry. Let us examine this point with the examples mentioned above. Consider Japanese multiple *wh*-question examples (10) and (12b) again, repeated here as (23a) and (24a), which are assigned structures such as (23b) and (24b), respectively (with word order irrelevant):

(23) a. Kinoo *dare-ga* *nani-o* [$_{VP}$ matigatte katta] no?
yesterday who-nom what-acc mistakenly bought Q
'Who bought what by mistake yesterday?'

b. [$_{CP}$ C-*no* [$_{TP}$ kinoo [$_{TP}$ *dare-ga*$_1$ *nani-o*$_2$ T [$_{vP}$ matigatte t_1 t_2 katta]]]

(24) a. John-wa *dare-ni* *doo* [$_{VP}$ matigatte hanasikaketa] no?
John-top who-dat how mistakenly talked Q
'(Lit.) To whom did John mistakenly talk how?'

b. [$_{CP}$ C-*no* [$_{TP}$ John-wa *dare-ni*$_1$ T [$_{XP}$ *doo*$_2$ [$_{VP}$ matigatte t_1 t_2 hanasikaketa]]]

Since T optionally bears a *wh*-feature and agrees with nominal *wh*-phrases, an EPP-feature on T can select the *wh*-phrases as candidates to its SPEC position. When such an option is taken, in (23a), the two nominal *wh*-phrases occupy SPEC-T, as (23b) shows. Assuming that SPEC-T is responsible for a PL reading for a multiple *wh*-question, the structure demonstrated in (23b) will surely yield a PL reading. On the other hand, example (24a) does not bear a PL reading even if the two *wh*-phrases are moved out of VP. Of the two *wh*-phrases, the first *wh*-phrase *dare-ni* is nominal and hence bears a *wh*-feature associated with its indefinite pronoun part. However, the second *wh*-phrase *doo* lacks a *wh*-feature since it is adverbial. That means that, even if T bears a *wh*-feature, the adverbial *wh*-phrase cannot agree with it because of the lack of a matching feature. Therefore, the EPP-feature on T never attracts the adverbial *wh*-phrase to SPEC-T. Rather, the adverbial *wh*-phrase just undergoes 'scrambling' to some position other than SPEC-T. Example (24b) contains XP as a landing site for scrambling. Anyway, since the position is irrelevant to a PL interpretation, the adverbial *wh*-phrase can never contribute to a PL reading.

Miyagawa's assumption seems to account for a wide range of *wh*-phenomena, such as why there is a 'third' position for a *wh*-phrase, and how argument-adjunct asymmetry arises. Nevertheless, his analysis is not sufficient to account for the full

range of the relevant data. Firstly, his assumptions are made in order to account for Japanese data. One of his assumptions, i.e. one that T optionally bears a *wh*-feature, is not applicable to other languages like English, as stated by Miyagawa himself. To account for *wh*-phenomena in English observed in section 1.2, other assumptions would be required, which surely is not a welcome situation. Moreover, feature decomposition is assumed only for the purpose of explaining *wh*-questions. It could say nothing about the focus construction or the similarity between a focus and a *wh*-phrase, since a focus phrase is irrelevant to *wh*- nor Q-features.

To sum up, although Miyagawa's two feature analysis based on a semantic decomposition of a *wh*-phrase works well to account for some of the relevant *wh*-phenomena in Japanese, it is not sufficient to deal with similarity between *wh*- and focus phrases or cross-linguistic similarity/variation.

In the next section, I briefly review some previous analyses that consider the interpretation of a multiple *wh*-question. I demonstrate that semantics also requires a 'third' position for a *wh*-phrase.

1.4 Previous Analyses from a Semantic Point of View

In this section I review briefly how generative studies have explained the interpretation of a multiple *wh*-question, and show that semantics also requires a 'third' position for a *wh*-phrase.

Let us consider an English multiple *wh*-question (25a) and its interpretation (25b):

(25) a. *Who*$_1$ t_1 bought *what* ?

b. which <x, y>, *x* a person & *y* a thing, *x* bought *y*

In (25a), only the first *wh*-phrase has undergone *wh*-movement. However, it has an interpretation like (25b), where *what*, the in-situ *wh*-phrase, is interpreted as an operator as well and binds its variable *y*. Moreover, the two variables, *x* and *y*, must be somehow unified to yield a PL reading. But, how is this unification made possible?

The unification might be syntactic, or representational. Actually, there have been both approaches in previous studies. In section 1.4.1, I review both syntactic and representational approaches in turn and consider their problems. Then, in section 1.4.2, I review Reinhart's (1998) choice-function analysis which is purely semantic. Although it is not quite clear whether a choice function is a syntactic substance or just an interpretation tool, it can be said that the 'third' position for a *wh*-phrase is required to ensure a proper interpretation of a multiple *wh*-question. If the discussion is on the right track, then the 'third' position for a *wh*-phrase is also required for semantic interpretation.

1.4.1 Syntactic and Representational Analyses of *Wh*-in-Situ and Their Problems

The syntactic analysis of *wh*-in-situ has been proposed by many researchers such as Chomsky (1976), Higginbotham and May (1981), Huang (1982), Lasnik and Saito (1984, 1992), Watanabe (1991), Pesetsky (1998). It assumes covert *wh*-movement of the in-situ *wh*-phrases. In (25a), for instance, *what* undergoes movement to SPEC-C in covert syntax. Although the movement is not phonetically reflected, it licenses the in-situ *wh* as an operator. When the derivation reaches an LF representation, the operation *Absorption* takes place and unifies the two *wh*-phrases into one quantifier:

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

The application of Absorption is considered to be obligatory, since, as Chierchia (1991)

suggests, to interpret two quantifiers separately complicates the interpretation of the sentence and should be avoided. If we assume that Absorption unifies the operator parts of the *wh*-phrases, we obtain the interpretation of one unified quantifier as shown in (25b).

Others have proposed that in-situ *wh*-phrases do not undergo covert movement and that they are licensed in situ by some LF-interpretation operation such as *unselective binding*. (Cf. Baker (1970), Pesetsky (1987), Watanabe (1994), Hornstein (1995), among others.) Baker (1970) proposes that at an LF representation, both moved and in-situ *wh*-phrases take the same scope if they are coindexed by the Q morpheme on Complementizer. Since unselective binding not only licenses a *wh*-in-situ as an operator, but also unifies the moved and in-situ *wh*-phrases by coindexation, we can expect that it generates a PL reading like (25b). Although both Absorption and unselective binding are LF-interpretation operations, the former needs a preceding (covert) syntactic operation and the latter does not. In this regard, the former approach can be syntactic and the latter purely representational.

Of these two approaches, which one provides a better account for the behavior and the interpretation of *wh*-in-situ? Recent researches suggest that neither of them is satisfactory.

Let us first consider problems with the syntactic approach. The biggest problem that is often pointed out is that it entails the asymmetry between overt and covert movements. Consider the following contrast for this illustration:

(27) a. ?* *What*$_1$ did you see [$_{NP}$ the man that bought t_1] ?

b. *Who*$_1$ t_1 saw [$_{NP}$ the man that bought *what*] ?

(adapted from Lasnik and Saito (1992:167))

A relative clause is a strong island that blocks the extraction of any kind of *wh*-phrase. Hence (27a) is deviant. Then, what makes (27b) grammatical? Under the syntactic approach, the in-situ *wh*-phrase, i.e. *what* in (27b), must undergo covert *wh*-movement out of the relative clause. If the relative clause were a strong island, (27b) would also be as deviant as (27a). This is an incorrect prediction. To explain the contrast between overt and covert *wh*-movement over an island, some have stipulated that the Subjacency Condition is applicable only at S-structure. According to them, LF movement can pass over islands, and hence the covert *wh*-movement in (27b) does not degrade grammaticality. It remains unclear, however, why Subjacency is not applicable at LF. Moreover, this stipulation is impossible in the minimalist framework. Chomsky (1995) assumes that overt/covert distinction is but a relative notion. The distinction only depends on whether it is before or after the Spell Out. It is not appropriate, then, to stipulate that the overt/covert syntax should bear different conditions on a derivation.[4]

The other problem concerns scopal ambiguity of a *wh*-in-situ. Consider the following example:

(28) *Who* knows *where* to find *what*? (Reinhart (1998:33))

This sentence is ambiguous since the in-situ *wh*-phrase, *what*, can take matrix as well as embedded scope. Reinhart (1998) argues that if scope is determined by covert *wh*-movement to its scope position, Economy would not allow *what* to move past its potential scopal position, i.e. embedded SPEC-C. Therefore, we cannot expect the matrix-scope reading, contrary to fact.

Then let us consider problems with the representational approach. The representational approach does not need any kind of movement of an in-situ *wh*-phrase

since it is licensed by unselective binding from a Q morpheme on Complementizer. The first problem is that it cannot account for argument-adjunct asymmetry. Consider the following contrast of in-situ *wh*-phrases:

(29) a. Who bought *what*?

b. *Who came to the party *why*?

In each sentence, the Q morpheme on C would bind the in-situ *wh*-phrase at an LF representation. So both *what* in (29a) and *why* in (29b) would be licensed in the same way. What is responsible for the contrast in grammaticality, then?

The other problem concerns the position where the in-situ *wh*-phrase is interpreted. Reinhart (1998) observes that when *wh*-in-situ appears in a conditional clause and gets a pair-list interpretation with the matrix *wh*-phrase, the in-situ *wh*-phrase must set its restriction outside the subordinate clause. Consider the following example:

(30) *Who* will be offended if we invite *which philosopher*?

(31) a. for which <x,y>, if we invite *y* and *y* is a philosopher, then *x* will be offended

b. Lucie will be offended if we invite Donald Duck.

(32) for which <x,y>, *y* is a philosopher, and if we invite *y*, *x* will be offended

(Reinhart (1998:36))

In example (30), the in-situ *wh*, *which philosopher*, appears in a conditional clause. If the *wh*'s restriction were interpreted in its in-situ position, the setting of its restriction

would be included in the conditional, as (31a) indicates. Therefore, we wrongly expect that an answer like (31b) would be appropriate where Donald Duck is not a philosopher. (If a conditional is a false proposition, then the whole proposition is always true.) However, the fact is that when we try to find an answer to (30), we set the restriction of philosophers as possible offenders and make a list of offendee-offender's pairs. Therefore, the right interpretation is the one like (32), where the restriction of *which philosopher* is set outside the *if*-clause. This interpretation would not be possible under the representational approach since the in-situ *wh*-phrase is licensed without any kind of movement.

In this way, we have reached an ambivalent conclusion. In order to explain its insensitivity to locality constraints, *wh*-in-situ should stay in its surface position. On the other hand, in order to explain its interpretation position, *wh*-in-situ should move from its surface position.

1.4.2 Reinhart's (1998) Choice-Function Analysis

Reinhart (1998) proposes an alternative analysis to disentangle the problem. She stipulates that an in-situ *wh*-phrase can be interpreted with its *choice function*, i.e. a function 'applying to a non-empty set and yielding an individual member of the set.' (Reinhart (1998:39)) Given the notion of choice function, we obtain the following denotation for example (30):

(33) {P| (∃ <x,f> (CH(f) & P=^((we invite f(philosopher) → (x will be offended)) & true(P))} (Reinhart (1998:41))

Although the restriction of *which philosopher* is interpreted within the *if*-clause, it sets the choice function (CH(f)) outside the *if*-clause. It selects a value from the set of

philosophers. Since each value selected from the set of philosophers is pair-listed with the value of *x*, i.e. the value of the set of possible offendees, the answer to (30) will be a list of offendee-offender's pairs where all the offenders are philosophers. In this way, Reinhart's analysis gives the answer to the ambivalent demand mentioned above. *Wh*-in-situ is insensitive to locality since it in fact does not move, and it can be interpreted in some position other than its surface position since it can set a choice function which is interpreted somewhere else. (As for the argument-adjunct asymmetries exemplified by (29), Reinhart argues that an adverbial *wh* cannot set its choice function since it does not denote a set of individuals, and that an adverbial *wh* is not interpreted 'in situ'.) As a matter of course, the invention of choice function tells us nothing essential unless its validity is independently supported by some other evidence. Reinhart provides some pieces of empirical evidence that calls for the choice-function analysis: e.g. (un)availability of specific reading of an existential quantifier. I do not go into her supporting discussion any further. It suffices to say that her invention of choice function has its supporting ground independently of the in-situ *wh* data mentioned above.

At this point, one question can be raised. Although Reinhart states that her choice function analysis assures a wide-scope reading of a literally in-situ *wh*-phrase in (30), the logic in (33) indicates that the choice function itself should be set and interpreted outside the *if*-clause. And this poses a question: How is it ensured? Is a choice function involved in syntax and mapped to semantics? Or, is a choice function something beyond syntax in that it is added to an LF representation after the whole syntactic derivation is completed? Reinhart does not refer to this point clearly. Therefore, we come back to the starting point. How can we guarantee the interpretation position of choice function without moving the in-situ *wh*-phrase?

As long as we are concerned with such data as we have seen in this section, both

approaches are possible. A choice function can be syntactic, or purely semantic. Although the interpretation of a multiple *wh*-question requires the 'third' position outside the *if*-clause, it remains unclear whether it is syntactically realized or not. Now let us remember those data we have observed in section 1.2: we have seen that the 'third' position for a *wh*-phrase is syntactically realized in some languages and has certain effects on the interpretation of the *wh*-phrase. With these considerations together, it seems to me quite reasonable to pursue a syntactic analysis. A choice function or something like that is realized in syntax as a syntactic projection and mapped to semantic interpretation. In such languages as Hungarian and Japanese, the relation between the projection and *wh*-phrases are overtly reflected by *wh*-movement. If we adopt this approach, syntax (section 1.2) and semantics (section 1.4) of the 'third' position for a *wh*-phrase can receive a unified account.

In chapters 3-5, I will show how this approach accounts for various syntactic properties of *wh*-questions and focus sentences in a uniform way, and how the 'third' position contributes to the interpretation of a *wh*-phrase and a focus phrase. Before concluding this chapter, however, let us make clear what kind of focus is a purely syntactic focus and what semantics is to be formulated for the interpretation of focus.

1.5 Syntactic Focus and Its Semantics

The definition of a focus has always been a controversial issue. One definition is that a focus is information new to the discourse. Consider the following question-answer pair for example:

(34) a. What did John buy?

b. He bought *a book*.

When the answerer utters (34b), both questioner and answerer knows that 'John bought something'. On the other hand, John's purchase is unknown to the questioner. Hence *a book* in (34b) serves as focus. Since the defining property is newness to the discourse, the focal status is not relevant to syntax.

However, there is an argument against such treatment of focus. É. Kiss (1998) argues that there are two kinds of foci, i.e. an information focus and an identificational focus, and that only the latter should be regarded as a syntactic focus. What makes an identificational focus a syntactic substance is the fact that it denotes a presupposed domain which contributes to the truth-condition of the focus sentence. On the other hand, an information focus is marked just for its *newness* in the discourse. Since what is new depends on the discourse, an information focus is unlikely to be syntactic.

1.5.1 Identificational Focus: É. Kiss (1998)

É. Kiss (1998) defines an identificational focus as follows:

(35) 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. (É. Kiss (1998:245))

What she suggests is that only foci that constitute an exhaustive reading should be syntactic. Although É. Kiss does not deal with Japanese focus constructions, her definition seems to be applicable to Japanese focus sentences straightforwardly. Consider the following two sentences containing the italicized focus phrases:

(36) a. John-wa *Mary-wa* sukida.

John-top Mary-foc like

'John likes MARY.'

b. John-wa *Mary-ga* sukida.

John-top Mary-nom like

'John likes MARY.'

In Japanese, a focus can be expressed by the attachment of *-wa* particle ((36a)), or by the assignment of a pitch accent ((36b)).[5] The two focus sentences are distinct as to their presupposition or implication. In (36a), the speaker not only says that *John* likes *Mary*, but also implies that *John* does not like anyone else.[6] (The domain of implication, i.e. who *John* does not like, depends on the context of the utterance.) That is, (36a) is true only if *Mary* is the only person that *John* likes. On the other hand, in (36b), the speaker just says that a person *John* likes is *Mary*. *Mary* can be the sole one, but she can be one of the girls that *John* likes. Utterance (36b) is not responsible for this kind of implication. In this respect, only the morphologically-marked focus bears an exhaustive reading. If we follow É. Kiss's definition (35), it can be said that only morphologically-marked foci as in (36a) are the syntactic focus in Japanese.

É. Kiss herself provides Hungarian data to support the definition (35). Although I have shown in section 1.2 that a focus phrase in Hungarian undergoes obligatory movement to 'focus' position, É. Kiss points out that it holds only for an identificational focus. Consider the following examples from Hungarian:

(37) a. Tegnap este *Marinak* mutattam be Pétert.

last night Mary-dat introduced-1sg. perf. Peter-acc

'It was to Mary that I introduced Peter last night.'

b. Tegnap este be mutattam Pétert *Marinak.*
last night perf. introduced-1sg. Peter-acc Mary-dat
'Last night I introduced Peter TO MARY.' (adapted from É. Kiss (1998:247))

The focus phrase *Marinak* 'Mary-dat' in (37a) is moved to 'focus' position, i.e. an immediate pre-V position, whereas the same phrase in (37b) is focalized in situ. According to É. Kiss, the two foci have different meanings as to tacit implication. That is, only the moved focus phrase bears an exhaustive reading such that 'I introduced Peter to Mary, but not to anyone else.' To put it differently, only the focus of an exhaustive reading requires the syntactic focus position. We can therefore say that the syntactically-moved focus in Hungarian is similar to the morphologically-marked focus in Japanese in that both contribute to an exhaustive reading.[7]

Since only an identificational focus contributes to a truth-conditional interpretation and syntactic movement, the present thesis adopts É. Kiss's definition (35) and assumes that only foci of an exhaustive reading are syntactic. In the next section, then, I propose the semantic type of syntactic focus.

1.5.2 The Semantic Type of Identificational Focus: A Proposal

Let us make clear what exact semantic implication a syntactic focus bears, based on a Japanese focus example. Suppose that Mary had asked John to go to a supermarket and buy an apple, an orange, and a peach for her. When John returned, Mary wanted to take what she had asked for. And then, John, instead of giving her the fruits she requested, uttered (38a) or (38b):

(38) a. Boku-wa *ringo-wa* katta.
I-top apple-foc bought

'I bought an APPLE.'

b. Boku-wa *[ringo-to mikan]-wa* katta.
I-top [apple-and orange]-foc bought
'I bought an APPLE and an ORANGE.'

Mary would guess from (38a) that John did not buy an orange or a peach, and from (38b) that he did not buy a peach. To generalize, the following kinds of information are required for an exhaustive reading:

(39) a. A context specifies a presupposed domain: what John should have bought.
b. A focus indicates that the proposition holds true with the focused entity: what John actually bought.
c. The alternative set indicates that the proposition does not hold true with any other remnant: (a)-(b) = what John did not buy

Therefore, if a focus is a syntactic substance realized as a syntactic projection, then, the projection must guarantee the above information with a syntactic composition with other categories.

I basically follow Roberts (1998) and Bush and Tevdoradze's (2000) claim that an exhaustive interpretation is achieved by contrasting a focus with its alternative entities, and propose the following procedure of focus interpretation:

(40) For a given focus sentence P (e.g. P = John-wa [*ringo-to mikan-wa*]$_F$ katta (John bought [an apple and an orange]$_F$.)), the following function and sets are created.
a. f_P: f_P is a function that is obtained by replacing a focus constituent in P with a variable. (e.g. f_P = John-wa *x*-o katta)

b. $FOCUS_P$ = {x: x is an entity expressed as focus in P} (e.g. $FOCUS_P$ = {ringo, mikan})

c. ALT_P = {y: y is an entity available in the discourse} (e.g. ALT_P ={ringo, mikan, momo})

(41) The truth condition for a focus sentence P:

P is true iff

(i) for every $x \in FOCUS_P$, f_P (x) is true, and

(ii) for every $y \in ALT_P$, if f_P (y) is true then $y \in FOCUS_P$.

Given (41), the exhaustive interpretation of P = *John-wa [ringo-to mikan-wa]*$_F$ *katta* 'John bought [an apple and an orange]$_F$.' is obtained. The sentence conveys a true proposition if and only if John bought both of an apple and an orange, but did not buy anything else.

In the discussion to follow, I maintain (41) as the truth condition for a sentence containing an identificational focus. I will also show that the interpretation of a multiple *wh*-question can be explained with this condition.

1.6 The Organization of the Present Thesis

The aim of the present thesis is to attest to the presence of the 'third' position for a *wh*-phrase, and investigate the syntactic/semantic role of the third position within the framework of the minimalist program. In chapter 2, I make clear the theoretical framework that the present thesis relies on. I place a special attention on the two notions newly introduced by Chomsky (1998, 1999). He proposes feature-checking by *Agree*, and a derivation by *phase*. I also make a reference to the notion of 'occurrence'

and consider its potential problems. As a locality condition in the minimalist framework, the present thesis adopts Beck's (1996) quantifier-induced barrier (QUIB).

In chapter 3, I discuss 'focus' languages such as Hungarian and Basque. As shown in section 1.2 above, in 'focus' languages a *wh*-phrase undergoes movement to the same position as a focus phrase. I show how well the present assumption can explain the relevant data without posing problems. I also refer to Slavic *wh*-questions, which, according to Bošković (1997, 1998a), involve focus-driven movement. I argue that the Slavic data are also accounted for by the present analysis.

In chapter 4, I show how the present analysis accounts for various facts as to *wh*-questions in Japanese. Firstly, I discuss a locality effect observed in a *wh*-island construction. In the discussion, I provide a new kind of data which has not been discussed in previous studies. That is, a *wh*-clause can be optionally Case-marked and the Case-marked *wh*-clause is converted from a weak island to a strong island for long-distance scope taking of a *wh*-phrase within the island. Then I take up the data already mentioned in section 1.2, which show that movement of a *wh*-phrase out of VP changes the interpretation possibility of a multiple *wh*-question. After that, it will be shown that the present analysis can account for the ordering constraint known as 'anti-superiority'. I propose that the constraint should be attributed to the interpretation mechanism between the two *wh*-phrases.

In chapter 5, several phenomena concerning English *wh*-questions are considered. The present analysis provides a rather straightforward account for the (im)possibility of cooccurrence of *wh*- and focus phrases, which is observed in section 1.2. I also discuss argument-adjunct asymmetry in semantic interpretation and locality. For instance, a question of why an adverbial *wh*-phrase cannot remain in situ, or why an adverbial *wh*-phrase cannot move out of weak islands. Relatedly, I consider why a multiple *wh*-question in English has a PL reading but not an SP reading, whereas its

Japanese counterpart allows both PL and SP readings.

Through the discussion in chapters 3-5, a focus-feature and Foc(us) projection play a crucial role, which in turn will support the substantiality of presupposition as a syntactic component.

NOTES

1. Note that ‘argument-adjunct’ asymmetry is used as a conventional term. What is in asymmetry is nominal-adverbial in a precise sense. See note 3 in chapter 4.

2. Bošković's (1998a) assumption that a *wh*-phrase, a moved element, can bear a strong feature may sound odd, since it contradicts Chomsky's (1995) assumption as to the strength of features. Chomsky (1995:234) defines that “D is canceled if α is in a category not headed by α”, where the “derivation D has formed Σ containing α with a strong feature F.” Bošković argues that this is just a stipulation and that there is no independent need to crash such D. He then modifies the assumption into the one that a strong feature must be checked off as soon as possible. In the case mentioned, a *wh*-phrase with a strong focus-feature must undergo overt movement as soon as an appropriate checker, i.e. Foc, is merged into the derivation. His analysis on Serbo-Croatian data is discussed in detail in chapter 3.

3. See Kuroda (1968) for a similar proposal.

4. In Chomsky's (1995) minimalist framework, overt and covert movement is paraphrased as ‘categorial+feature’ and ‘feature’ movement, respectively. Ochi (1998) tries to attribute the contrast in Subjacency to this movement asymmetry. Specifically, overt movement needs to form a categorial chain as well as a feature chain, whereas covert movement forms only a feature chain. Ochi assumes that Subjacency is a constraint on categorial chains, which entails that only overt movement is restricted by Subjacency conditions.

However, his analysis is not without problems. Ochi himself admits that this analysis cannot deal with argument-adjunct asymmetry: if covert *wh*-movement were just a feature movement, both nominal and adverbial *wh*-phrases should undergo the same kind of movement. Therefore, his analysis would make incorrect predictions as

to their distinct behavior in locality and so-called ECP effects.

5. The particle *-wa* is used to mark a topic phrase as well as a focus phrase. When there appear two phrases marked with *-wa*, just as shown in (36a), the first one is usually considered as topic and the second one as focus. Kuno (1973) originally points this out. I am not sure how or why this distinction is made. See Kitagawa (1982) for the relevant discussion.

6. Jun Yamada (p.c.) has pointed out to me that the actual conversation does not always allow such a clear-cut bisection. Consider the following example:

(i) John-wa *[A-to B]-wa* katta.
John-top [A and B]-foc bought
'John bought A AND B.'

In this sentence the purchased items *A* and *B* are contrastively focalized. Suppose that John was supposed to buy C and D as well as A and B. Under this condition the above sentence may imply (I) that John did not buy C and D. Or, the sentence may imply (II) that the speaker is not certain about whether John bought C and D. In the reading (II), the focalized and non-focalized items cannot be said to be contrasted as to the denotation of the predicate *katta* 'bought'.

I assume that in the reading (II), the contrast involves the speaker's attitude/belief. Speaker's attitude/belief is expressed with a sentential adverbial, with a modal, or with some more tacit nuancing outside syntax. Depending on the preceding discourse or something, therefore, the example (i) can mean that the speaker *remembers/assures* that John bought A and B. In that case, the contrast will be as follows:

(ii) a. λ x.the_speaker_assures_that_John_bought_x' = A and B

b. λ x.¬(the_speaker_assures_that_John_bought_x')= C and D

Therefore, with the reading (II), what is contrasted in (i) is not purchased items that John bought, but purchased items that the speaker *can assure* that John bought.

7. Miyagawa (1997) and Yanagida (1996a, b) point out that morphologically-marked foci in Japanese must move out of VP, as shown in the following examples:

(i) ??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.'

(ii) John-ga *Hanako-ni-wa*$_1$ [$_{VP}$ isoide t_1 hon-o ageta].
John-nom Hanako-dat-foc quickly *t* book-acc gave
(adapted from Miyagawa (1997:10))

Therefore, just like in Hungarian, a syntactic focus must undergo obligatory 'focus' movement in Japanese, too. See chapter 4 for a detailed discussion of syntactic foci in Japanese.