CHAPTER 3

WH-QUESTIONS IN FOCUS LANGUAGES

3.0 Introduction

This chapter deals with focus languages, including Hungarian and Basque. Focus languages are peculiar in that focal elements undergo an obligatory movement to a position specified for focus, and that *wh*-phrases undergo movement to exactly the same position.

These properties of the focus languages receive a rather straightforward account once we adopt the assumption which has been mentioned in chapter 1. That is, such phrases as denote their presupposed domain bear a focus-feature and agree with a head Foc(us). Therefore, both focus and *wh*-phrases bear the common feature. In the focus languages, an EPP-feature is obligatorily associated with focus/*wh*-phrases, so that the agreement relation with Foc and focus/*wh*-phrase is followed by movement to SPEC-Foc.

Section 3.1 provides relevant data from various focus languages. I show (i) that focus and *wh*-phrases undergo the same movement, (ii) a relative pronoun does not undergo 'focus' movement, and (iii) that an adverbial *wh*-phrase does not undergo 'focus' movement.

Section 3.2 considers how the present analysis accounts for the properties of the focus languages observed in the previous section. I also show that the present analysis

accounts for not only the syntactic properties, but also the semantic interpretation to be achieved by 'focus' movement.

In section 3.3, I review previous analyses that account for 'focus' movement in terms of a [focus]-feature. Most of the analyses do not make clear what the focus-feature is, nor why a (nominal) *wh*-phrase establishes its interrogative interpretation with focus- and Q- features. I point out that the formal feature 'focus' is relevant to an exhaustive reading, and that only those phrases which have a potential for the reading bear a focus-feature.

In section 3.4, I briefly discuss multiple *wh*-questions in the focus languages. Hungarian and Serbo-Croatian share two properties as to multiple *wh*-questions. First, there are no superiority effects. Second, all the *wh*-phrases undergo 'focus' movement (although it is optional in Hungarian). I show that both properties are accounted for by the assumption that a feature responsible for 'focus movement' resides on *wh*-phrases, as suggested by Bošković (1998a). I briefly refer to the fact that the presence/absence of 'focus' movement of the second *wh*-phrase in Hungarian affects the interpretation possibility of the multiple *wh*-question. The issue will be discussed extensively in chapter 4, based on Japanese data.

3.1 Movement of Foci and *Wh*-Phrases in Focus Languages

Previous studies have observed that there are languages in which focus phrases undergo obligatory movement to a position specified for focus. The relevant languages include the following:

(1) Hungarian: A focus occupies an immediate pre-V position.

    a.   Attila *a   földrengéstól*   félt.

        Attila the earthquake-from feared

        'Attila feared THE EARTHQUAKE.'

    b. * Attila   félt   *a   földrengéstól*.

        Attila   feared   the earthquake-from

    c. Cf. Attila   félt   <u>a   földrengéstól</u>.   (No focus contained)

        Attila   feared   the earthquake-from   (Horvath (1986:91-2))

(2) Basque: A focus occupies an immediate pre-V position.

    a.   Miren   *Jonek*   maite   du.

        Miren-abs   Jon-erg   loved   3-have-3

        'JOHN has loved Mary.'

    b. * *Jonek*   Miren   maite du.

        Jon-erg   Miren-abs loved 3-have-3

    c. Cf. <u>Jonek</u>   Miren   maite   du.   (No focus contained)

        Jon-erg   Miren-abs loved   3-have-3

                          (adapted from Uriagereka (1999:405-6))[1]

(3) Aghem[2]: A focus occupies an immediate post-V position.

    a.   A   mɔ́ zi   *à-fin*   bɛ́-'kɔ́.

        DS   P2   eat   friends   fufu

        'THE FRIENDS ate the fufu.'

    b. Cf. <u>Fil</u>   á   mɔ́   zi   ki-bɛ́.   (No focus contained)

        friends SM P2   eat fufu   (Horvath (1986:125))

(4) Chadic languages[3]

    a. Western Bede (Type A): A focus occupies an immediate post-V position.

       Zaneenaa,   tləmpətə-gə   _dəmaan_.

       gown-my   tore   wood

       'WOOD tore my gown.'   (Tuller (1992:303))

    b. Kanakuru (Type B): A focus occupies an immediate post-[V+DO] position.

       Are   lowi   _jewoi_   la lusha.

       bury boy-the   slave-the   in bush

       'THE SLAVE buried the boy in the bush.'   (Ibid. pp.307-8)

    In these languages, once a phrase is marked with focus, it must occupy a syntactic position specified for focus.   In other words, focus must be marked *syntactically*.   If this is not met, the sentence is ungrammatical, as (1b) and (2b) show.

    In these languages, *wh*-phrases move to exactly the same position.

(5) Hungarian: A *wh*-phrase occupies an immediate pre-V position.

    a. _Ki_   tette   az asztalra   az   edényeket?

       who   put   the table-onto   the dishes-acc

       'Who put the dishes on the table?'

    b. *_Ki_   az asztalra   tette az   edényeket ?

       who   the table-onto put   the dishes-acc   (Horvath (1986:71))

(6) Basque: A *wh*-phrase occupies an immediate pre-V position.

    a. _Zer_   bidali   dio   (Jonek)   (Mireni) ?

       what-abs   sent   3-have-3-3   (Jon-erg) (Miren-dat)

       'What did John sent to Mary?'

b. *<u>Zer</u>   Mireni   bidali   dio   (Jonek) ?

   what-abs Miren-dat   sent   3-have-3-3 (Jon-erg)   (Uriagereka (1999:407))

(7) Aghem: A *wh*-phrase occupies an immediate post-V position.

   a. A   mɔ̀   niŋ   <u>ndúghɔ́</u> ?

     DS   P 2   run   who

     'Who ran?'

   b. *<u>Ndúghɔ́</u>   mɔ́   niŋ ?

     who   P 2   run   (Horvath (1986:126))

(8) Chadic languages

   a. Western Bede (Type A): A *wh*-phrase occupies an immediate post-V position.

     (i) Saaku   aa   bəna   <u>kəm</u> *?*

        Saaku   Infl.   cook   what

        'What will Saaku cook?'

     (ii) Gafa-n   <u>ke</u>   viiriidgwarəm ?

        caught   who giant-rat

        'Who caught a giant rat?'   (Tuller (1992:303))

   b. Tangale (Type B): A *wh*-phrase occupies an immediate post-[V+DO] position.

    (i) Wa   pat *v* ayaba   <u>nuŋ</u>   ta luumo   dooji ?

       will   buy   bananas   who   at the market   tomorrow

       'Who will buy bananas at the marked tomorrow?'

    (ii) Mela   pad   k landan   <u>tu nuŋ</u>   ta luumo ?

       Mela   buy   the gown   for who   at the market

       'Who did Mela buy the gown for at the market?'   (Ibid. p.307)

Wh-phrases in each language occupy just the same position as focus phrases. As the ungrammatical examples above show, movement to this position is obligatory, just like the case of movement of a focus phrase.[4]

Let us then consider if the same argument holds true for adverbial *wh*-phrases. As mentioned in chapter 1, there is argument-adjunct asymmetry in *wh*-movement.

Firstly, let us take Hungarian for this illustration. Consider the following contrast with a *wh*-question with a nominal *wh*-phrase in (9) and a *wh*-question with an adverbial *wh*-phrase in (10):

(9)(=(5))

   a. <u>*Ki*</u>   tette   az asztalra   az   edényeket?

      who   put   the table-onto   the dishes-acc

      'Who put the dishes on the table?'

   b. *<u>*Ki*</u>   az asztalra   tette az   edényeket ?

      who   the table-onto put   the dishes-acc

(10) <u>*Miert*</u>   Janos   ment   haza ?

    why   John-nom   go-past-3   home

    'Why did John go home?'   (Uriagereka (1999:437))

As (9) indicates, a nominal *wh*-phrase must occupy a 'focus' position, i.e. an immediate pre-V position. If an element intervenes between the *wh*-phrase and the verb, the sentence is deviant, as shown in (9b). However, this does not hold for an adverbial *wh*-phrase. As (10) shows, the adverbial *wh*-phrase *miert* 'why' need not occupy the 'focus' position, and an element (*Janos*, in this case) can intervene between the *wh*-phrase and the verb.

The same argument-adjunct asymmetry is observed in Basque, too.   Examples (11) and (12) illustrate Basque *wh*-questions:

(11) (=(6))

    a. *Zer*   bidali   dio   (Jonek)   (Mireni) ?

    what-abs   sent   3-have-3-3   (Jon-erg) (Miren-dat)

    'What have John sent to Miren?'

    b. * *Zer*   Mireni   bidali dio   (Jonek) ?

      what-abs   Miren-dat   sent   3-have-3-3 (Jon-erg)   (Uriagereka (1999:407))

(12) *Zergatik*   zaldunak   herensugea   hil   zuen ?

    why   knight-the-erg dragon-the-abs   killed   3-had-3

    'Why did the knight killed the dragon?'   (Ibid. p.412)

As in Hungarian, the focus position in Basque is an immediate pre-V position.   A *wh*-phrase as well as a focus must occupy the position.   Example (11b) is deviant since the condition is not met.   However, example (12) shows that this positional condition does not apply to an adverbial *wh*-phrase *zergatik* 'why'.   Other elements can intervene between the *wh*-phrase and the verb.

    Let us now consider the movement of a relative pronoun.   Observe the following Hungarian examples:

(13) a. A gyerek *akit*$_1$ a   tanár   kiküldött   *t*$_1$ a szobából   elkezdett   sírni.

         the child who-acc the teacher out-sent-3sg. *t* the room-from began-3sg. cry-Inf.

         'The child whom the teacher had sent out of the room began to cry.'

b. Ez   az   a   hely   *ahol*$_1$ Attila   elvesztette az   óráját t_1.

    this that the   place   where Attila   lost-3sg.   the watch-3sg.poss-acc   *t*

    'This is the place where Attila lost his watch.'   (Horvath (1986:36-9))

(14) Cf. Embedded *wh*-question:

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   pénztárcámból.

the wallet-1sg.poss-from

'I don't remember how much money Attila took out of my wallet.' (Ibid. pp.44-5))

A relative pronoun in Hungarian is considered to move to SPEC-C since it does not cooccur with Complementizer *hogy*.   This is not the case for an interrogative *wh*-phrase, as shown in (14).   A *wh*-phrase appears in the c-commanding domain of *hogy* 'that'.

To sum up the discussion in this section, we obtain the following generalization as to the positional constraints on foci and *wh*-phrases:

(15) a. Focus phrases and nominal interrogative *wh*-phrases move to the same

     position which is distinct from C.

   b. Adverbial interrogative *wh*-phrases move to IP-initial position, seemingly to CP.

   c. Relative pronouns move to SPEC-C.

In the next section, I consider how the data shown in this section can be accounted for by assuming Focus Phrase as a syntactic substance.

3.2 An Explanation

In this section, I show how the data in the previous section can be accounted for by the present analysis. Remember that I assumed in section 1.5 the following truth condition of a focus sentence P.

(16) 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$_P$.
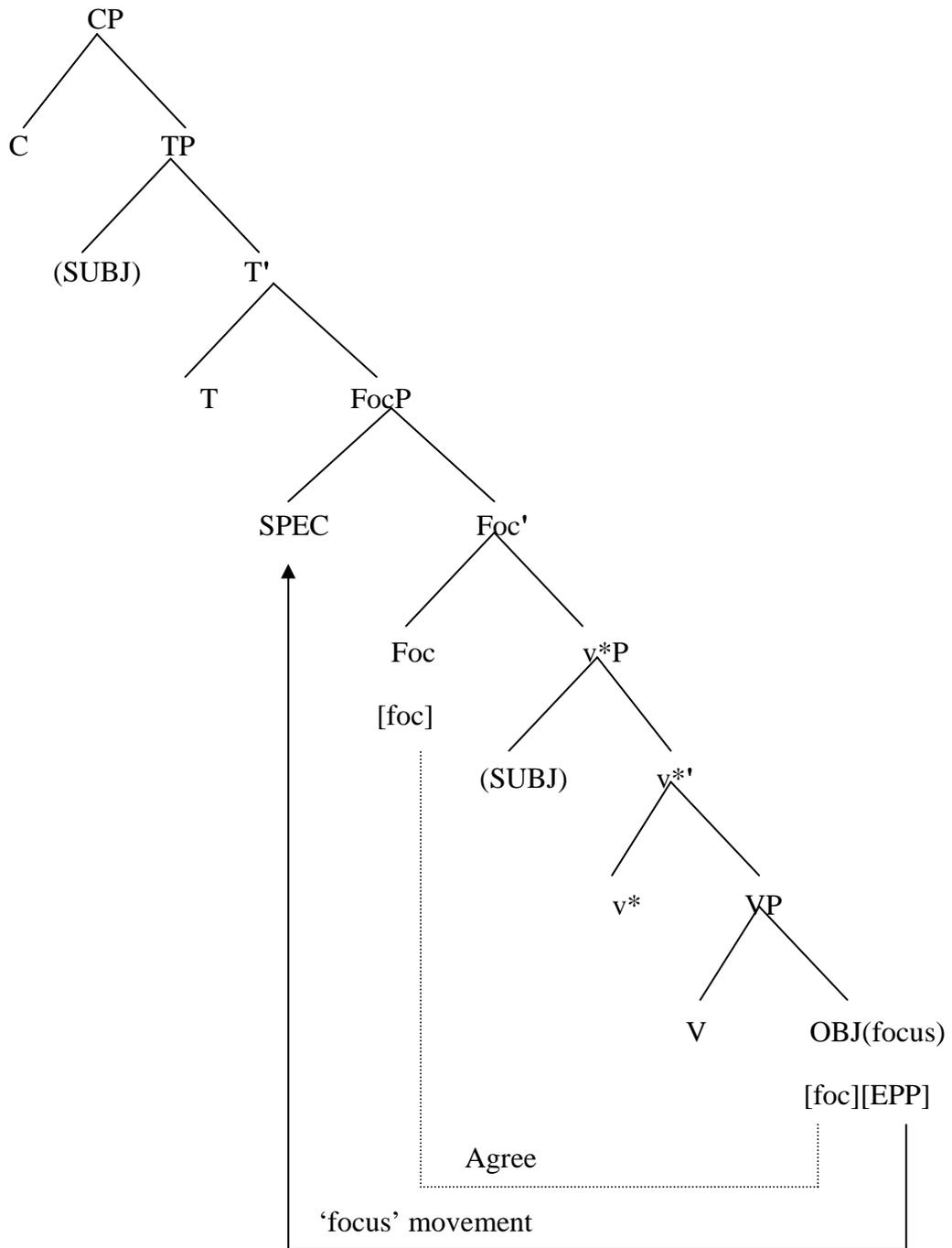
(f_P: a function that is obtained by replacing a focus phrase in P with a variable

FOCUS$_P$ = {x: x is an entity expressed as a focus in P}

ALT$_P$ = {y: y is an entity available in the discourse})

Given (16), P (e.g. John bought [an apple]$_F$.) is true only if John bought an apple, and he did not buy anything else that he should have bought. If we assume that the focus interpretation is syntactically related to a head Foc(us), then the syntactic structure of a Hungarian focus construction will be like the following:

(17)

```
                CP
               /  \
              C    TP
                  /  \
            (SUBJ)   T'
                    /  \
                   T    FocP
                       /    \
                    SPEC     Foc'
                     ↑      /    \
                          Foc     v*P
                          [foc]   /  \
                             (SUBJ)   v*'
                                     /   \
                                    v*    VP
                                         /  \
                                        V    OBJ(focus)
                                              [foc][EPP]

                              Agree
                    'focus' movement
```

Under matching of foc-features, Agree holds between Foc and the focus in object position.   The agreement/displacement created in syntax is maintained and mapped to semantics.   Therefore the object is assigned a focus interpretation and the sentence is assigned the interpretation as shown in (16).   It should be noted that [foc] is an uninterpretable feature: the 'effect' which the feature creates is mapped to semantics.

The 'effect' is displacement of the focus to SPEC-Foc.   I assume that the focus phrase in Hungarian bears an EPP-feature, as shown in (17).   Bošković (1998a) assumes that strong features (or, an EPP-feature in the present framework) can reside on a goal as well as a probe.   Once Agree holds, Move must follow immediately and delete the EPP-feature involved, which is required in order to '[m]aximize matching effects' (Chomsky (1999:12)).   Therefore, if a focus bears an EPP-feature, it agrees with Foc and moves to SPEC-Foc to eliminate its own EPP.

To recapitulate the point, the peculiarity of the focus languages lies in the fact that a focus phrase obligatorily bears an EPP-feature so that it should undergo a syntactic movement to SPEC-Foc.
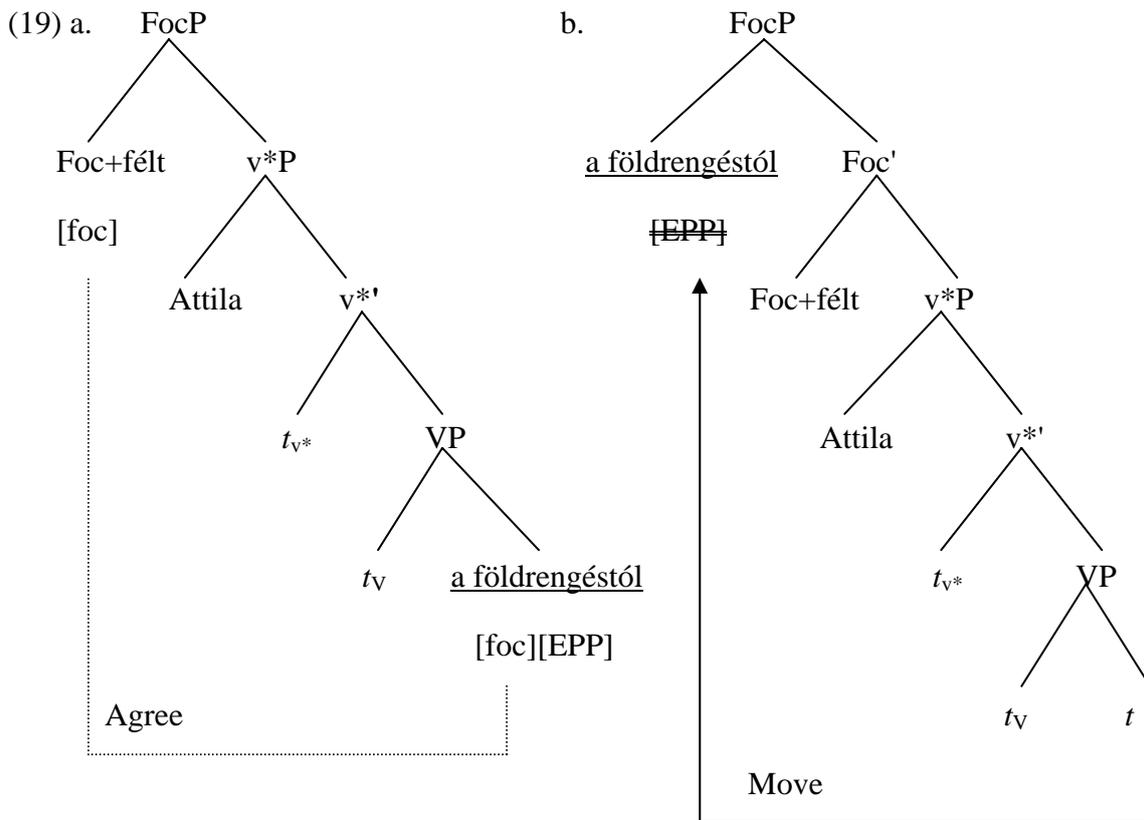
Let us consider the same point with a real example.   Observe again Hungarian example (1a), repeated here as (18):

(18) Attila *a   földrengéstól*   félt.

    Attila the earthquake-from feared

    'Attila feared THE EARTHQUAKE.'

Since the focus appears in the immediate pre-V position, it is considered that the verb has been moved to Foc.[5]   The focus phrase (*a földrengéstól*) is base-generated in object position.   Since it bears a foc-feature, it agrees with the matching feature on Foc, as shown in (19a):

(19) a.

```
              FocP
             /    \
     Foc+félt      v*P
      [foc]       /   \
              Attila    v*'
                       /   \
                    t_v*     VP
                            /   \
                          t_V    a földrengéstól
                                 [foc][EPP]

              Agree
```

b.

```
                    FocP
                   /    \
      a földrengéstól    Foc'
          [EPP]         /    \
                  Foc+félt    v*P
                             /   \
                         Attila   v*'
                                 /   \
                              t_v*    VP
                                     /   \
                                   t_V    t

                    Move
```

(To be precise, the focused object should have been moved to the edge position of the phase v*P to be visible from the probe Foc.   The movement is motivated by an optional EPP-feature assigned to v*.   For the simplicity's sake, I ignore the movement in this chapter.)   Since the focus also bears an EPP-feature, the focus must move to SPEC of the agreed probe, i.e. SPEC-Foc, to delete the feature ((19b)).   Therefore, the focus ends up in an immediate pre-V position, as shown in (18).

Then let us turn to *wh*-questions.   Various linguists have argued that a nominal *wh*-phrase is decomposed into two parts, i.e. a quantification part and an indefinite pronoun part (cf. Kuroda (1968), Szabolcsi and Zwarts (1993), Ambar et al. (1998), Basilico (1998), Reinhart (1998), Hagstrom (1999b), Uriagereka (1999)).   The indefinite pronoun part denotes a domain over which the value of a variable ranges. Although the domain can be further restricted by a given context, it can be said that a nominal *wh*-phrase denotes its restriction domain in the first place.   For example, *what*

denotes a set of things, and *who* denotes a set of people even if there is no preceding discourse. Therefore, let us assume that a nominal *wh*-phrase obligatorily bears its domain over which the value of its variable ranges, and that a focus feature is associated with the restriction part. The following illustrates the decomposition of nominal *wh*-phrases:
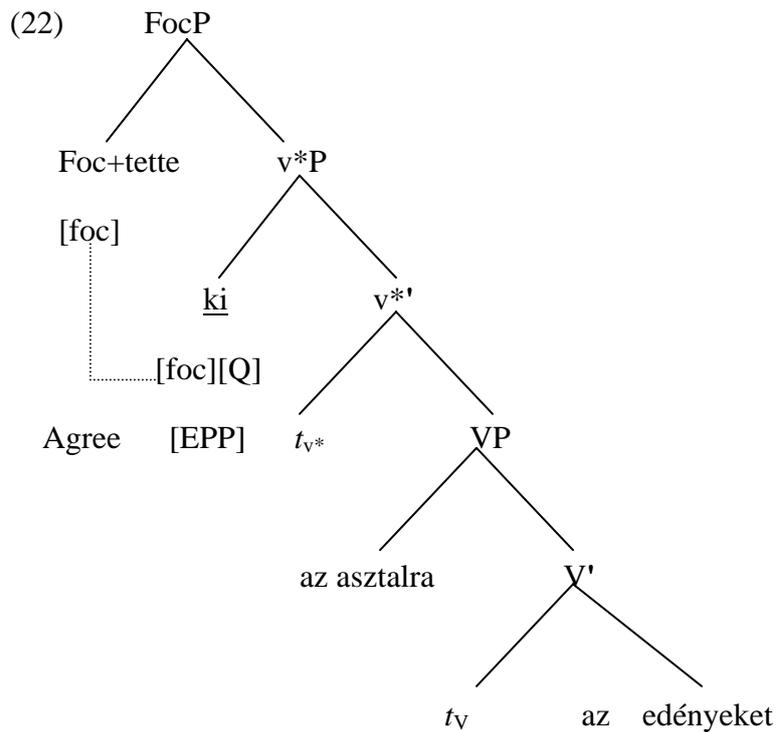
(20) a.　　　　　what　　　　　　　　　b.　　who

　　　quantifier　　indefinite pronoun　　　quantifier　　indefinite pronoun

　　　　[Q]　　　　　[foc]　　　　　　　　[Q]　　　　　[foc]
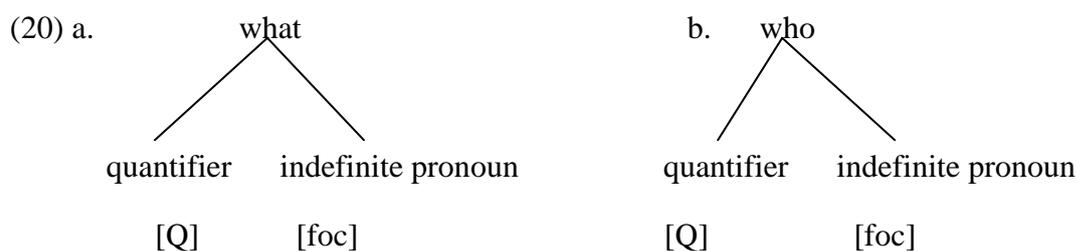
When no context is given, the presupposed domain for each nominal *wh*-phrase is its domain condition, i.e. a set of things or a set of people. If some context is given, the domain can be further restricted, like {apple, orange, peach} or the set of Americans. In either case, a foc-feature is associated with its indefinite pronoun part.

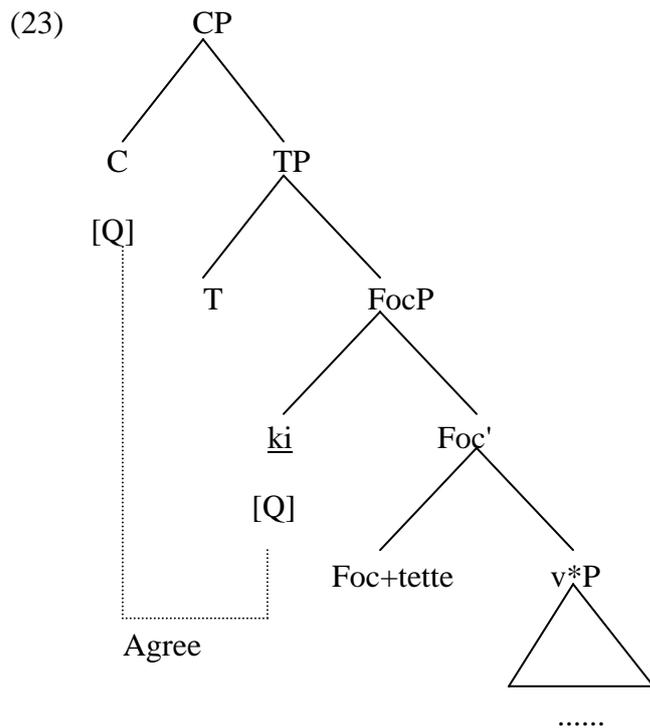Then let us consider the computation with a real example. Observe (5a), repeated here as (21):

(21) *Ki*　　tette　az asztalra　　az　edényeket?

　　who　put　the table-onto　the dishes-acc

　　'Who put the dishes on the table?'

Suppose that the derivation has reached the following stage:

(22)

```
                    FocP
                   /    \
           Foc+tette    v*P
                       /    \
            [foc]    ki      v*'
                            /    \
         .......[foc][Q]  t_v*    VP
                                 /    \
    Agree   [EPP]      az asztalra    V'
                                     /    \
                                   t_V   az  edényeket
```

The foc-feature on Foc agrees with the matching feature on the *wh*-phrase in subject position.   At this point, the EPP-feature on the *wh*-phrase must be deleted by moving itself to SPEC-Foc.

After the agreement and movement of the focus phrase, the derivation reaches the following stage:

(23)

```
                    CP
              ┌──────┴──────┐
              C            TP
             [Q]      ┌─────┴─────┐
              ┊       T          FocP
              ┊              ┌─────┴─────┐
              ┊             ki          Foc'
              ┊            [Q]      ┌────┴────┐
              ┊         Foc+tette      v*P
              └┈┈┈┈┈┈┈┈┈┈┘             △
                 Agree                ......
```

The EPP-feature on T is optional in Hungarian, since a subject can remain in VP. In this case, T should not bear EPP, since it would generate an improper movement: if the *wh*-phrase moves from SPEC-Foc to SPEC-T, it would be an improper A'-A movement. When C merges with TP, the subject *wh*-phrase occupies SPEC-Foc. Then the agreement holds between C and the *wh*-phrase.

Assume that Hungarian [+wh] C does not bear an EPP-feature of its own. Hence it does not require the agreed *wh*-phrase to move to SPEC-C. As for the *wh*-phrase, its EPP-feature has been deleted by moving to SPEC-Foc. Therefore, the agreement with C is not followed by movement of the *wh*-phrase, and the *wh*-phrase ends up in SPEC-Foc. Therefore a *wh*-phrase exhibits the same movement as an identificational focus.

Having observed how the syntactic derivation is achieved, let us now consider how the focus construction is mapped into the semantic interpretation. Given the truth condition for a focus sentence ((16)), example (21) will be interpreted as follows:

(24) Example (21)(P = _ki_ tette az asztalra az ed nyeket 'Who put the dishes on the

 table?') 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$_P$.

(25) a. f_P = x tette az asztalra az ed nyeket 'x put the dishes on the table.',

 b. FOCUS$_P$ = {x: x is a true answer to _ki_}

 c. ALT$_P$ = {y: y is a possible answer to _ki_})

When interpreting (21), then, the _wh_-phrase _ki_ 'who' in SPEC-Foc functions as a focus and constitutes the set _FOCUS_$_P$ which contains true correct answers to the _wh_-phrase. Accordingly, the truth condition (24) requires that P should denote all the true propositions to the question.

 Now let us turn to the derivation of a _wh_-question involving an adverbial _wh_-phrase.   Unlike a nominal _wh_-phrase, an adverbial _wh_-phrase does not denote a set over which the value of its variable ranges.   For example, when we say 'Why did John come to the party?', we do not expect the answerer to pick up an answer out of the set of possible reasons like {because he wanted to see Mary, because he was invited by Mary, ...}.   In other words, an adverbial _wh_-phrase does not bear its domain condition, which means that in syntax, the restriction part and a foc-feature to be associated with the part are both absent in an adverbial _wh_-phrase.   Therefore, an adverbial _wh_-phrase only bears one formal feature, i.e. [Q]:

(26) a.   why   b.   how

           | |

    quantifier   quantifier
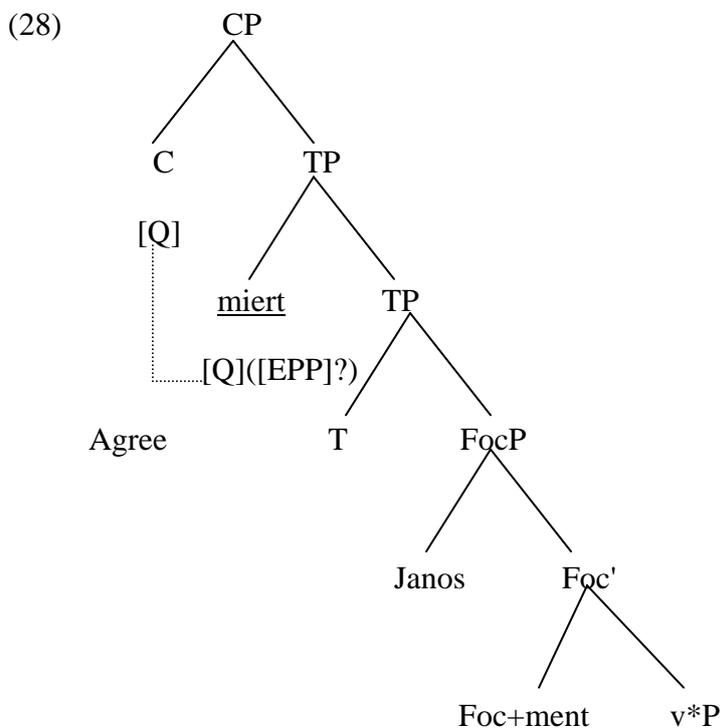
      [Q]   [Q]

With this in mind, let us consider an adverbial *wh*-question in Hungarian. Observe (10) again, repeated here as (27).

(27) *Miert*   Janos   ment   haza ?

    why   John-nom   go-past-3   home

    'Why did John go home?"

I have assumed that Hungarian *wh*-phrases bear their own EPP-features. More precisely, however, there are two possible ways of how the EPP-feature is associated with a *wh*-phrase. One way is to assume that EPP is directly associated with a *wh*-phrase, as I have assumed so far. In that case, adverbial *wh*-phrases as well as nominal *wh*-phrases equally bear an EPP-feature. The other way is to assume that EPP is associated with a foc-feature of a *wh*-phrase. In that case, adverbial *wh*-phrases that lack a foc-feature never have an EPP-feature. It is easy to determine which assumption is correct, since the two assumptions make different predictions as to the landing site for an adverbial *wh*-phrase.

Observe (27). The *wh*-phrase *miert* 'why' has been base-generated outside v*P, since a reason modifies the whole proposition (maybe including a tense or other modifiers). It may be base-generated above TP. The *wh*-phrase and Foc do not Agree since the *wh*-phrase is adverbial and hence lacks a foc-feature. An adverbial *wh*-phrase only bears a Q-feature, and enters into an agreement relation with C, as

demonstrated below:

(28)

```
                    CP
                   /  \
                  C    TP
                 [Q]  /  \
                  ┊ miert  TP
                  ┊[Q]([EPP]?)/  \
                  ┊          T    FocP
               Agree             /   \
                              Janos   Foc'
                                     /    \
                               Foc+ment    v*P
```

If an EPP-feature is not associated with *miert*, no movement occurs after Agree.   If, on the other hand, an EPP-feature is associated with *miert*, Agree between C and *miert* is followed by movement of *miert* to SPEC-C in order to eliminate the EPP-feature.

It is not clear whether *miert* in (27) has moved to SPEC-C or not.   However, embedding a question makes clear the landing site of an adverbial *wh*-phrase.   Observe the following examples:

(29) a.   Nem eml kszem [*hogy* Attila *miert   a   földrengéstól*   félt].

      Not remember   that Attila   why   the earthquake-from feared

      'I don't remember why Attila feared the earthquake.'

  b. *Nem eml kszem [*miert hogy* Attila *a   földrengéstól*   félt].

      Not remember   why   that   Attila the earthquake-from feared

In (29a), *miert* seems to remain in its base-generated position. In (29b), on the other hand, *miert* has moved to SPEC-C, which causes the sentence to be deviant. Consequently, adverbial *wh*-phrases do not bear an EPP-feature which motivates movement of the *wh*-phrase to SPEC-C. The ungrammaticality of (29b) shows that the second assumption for an EPP-feature is correct. An EPP-feature is associated with a foc-feature, and an adverbial *wh*-phrase which lacks a foc-feature does not bear an EPP-feature.[6]

Now let us consider the interpretation of an adverbial *wh*-question. Since there is no agreement relation between Foc and an adverbial *wh*-phrase, the semantics formulated for Foc ((16)) is irrelevant. The adverbial *wh*-phrase just agrees with C, which is responsible for an interrogative quantification. Therefore, the logic form for adverbial *wh*-question (27) will be like the following:

(30) $?\exists x.[John\_went\_home\_for\_x'(x)]$

The answerer cannot have access to a presupposed domain of reasons for John's going home. S/he creates a possible proposition suitable for an answer and answers with it.

Then let us consider the derivation of a relative clause. A relative pronoun moves to SPEC-C, not to `focus' position (SPEC-Foc). Observe (13a) again, repeated here as (31):

(31) A gyerek *akit*$_1$ a tanár kiküldött t_1 a szobából elkezdett sírni.

　　the child   who-acc the teacher out-sent-3sg. *t*   the room-from began-3sg. cry-Inf.

　　'The child whom the teacher had sent out of the room began to cry.'
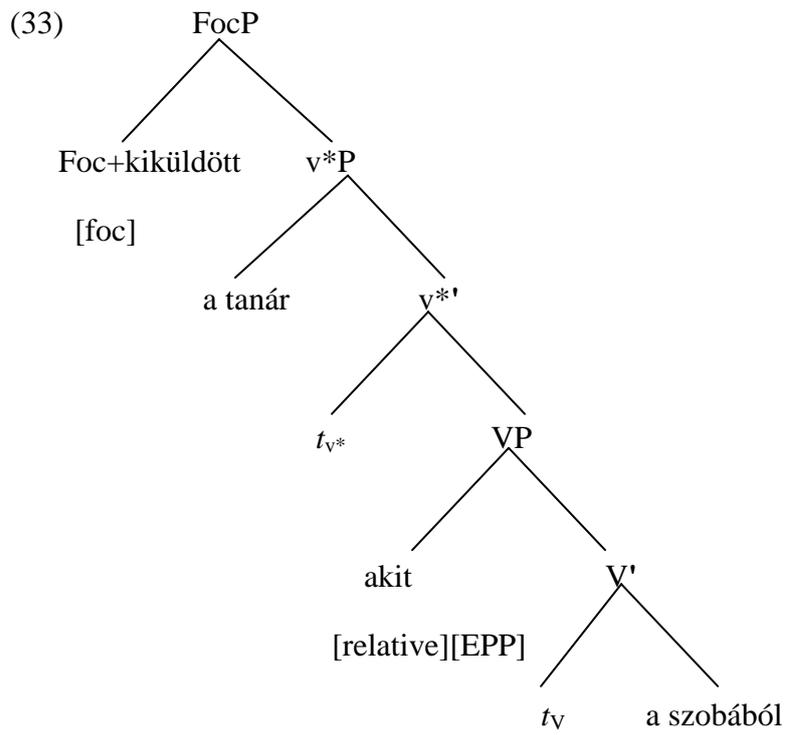
A relative pronoun *akit* 'who-acc' seems to bear its restriction part, i.e. a set of people,

just like an interrogative (nominal) *wh*-phrase.   However, the part for a relative pronoun is different from that of an interrogative *wh*-phrase in that the former does not contribute to an exhaustive interpretation.   Rather, it just prepares a set from which an appropriate entity is picked up, as shown by the following illustration:
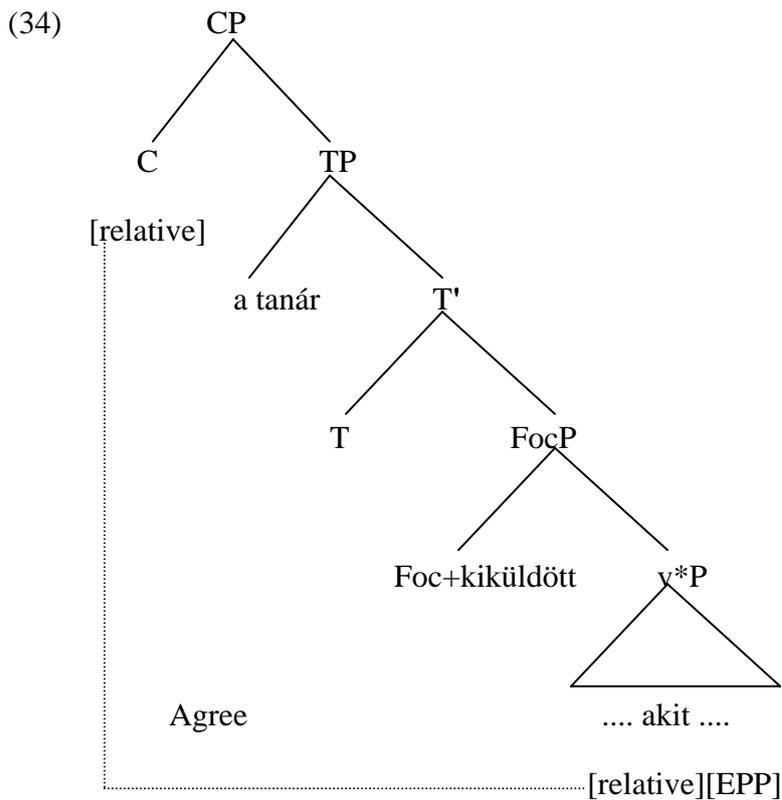
(32) λ x.child'(x) λ y.the_teacher_sent_y_out_of_the_room'
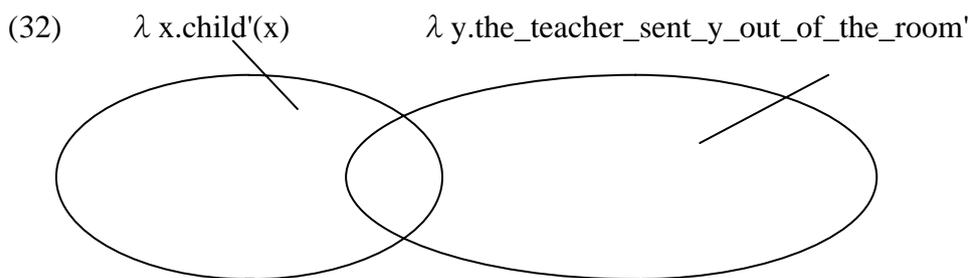
If the intersection between the two sets contains only one entity, then the definite entity is obtained.   However, the definite description is merely accidental.   There is no constraint that forces the intersection above to bear only one entity.   In this sense, the interpretation of a relative pronoun has no relevance to an exhaustive reading.

With no potential for an exhaustive reading, a relative pronoun lacks a foc-feature. I assume that it bears a [relative]-feature and an EPP-feature, as shown below:

(33)

```
                    FocP
                   /    \
          Foc+kiküldött  v*P
             [foc]      /   \
                   a tanár   v*'
                            /   \
                          t_v*   VP
                                /  \
                             akit   V'
                      [relative][EPP]  / \
                                     t_V  a szobából
```

Since *akit* 'who-acc' does not Agree with Foc, it does not move to SPEC-Foc. Suppose that C has merged with TP, yielding (34):

(34)

```
                    CP
                  /    \
                 C      TP
            [relative]  /  \
                  a tanár   T'
                          /   \
                         T     FocP
                              /    \
                       Foc+kiküldött  v*P
                                      /\
                                     /  \
              Agree              .... akit ....
                                  [relative][EPP]
```

(The subject *a tanár* 'the teacher' has undergone movement to SPEC-T.)   Under matching of [relative], C and the relative pronoun enter into an agreement relation. After Agree, the relative pronoun must move to SPEC-C in order to delete its EPP-feature.   Hence the linear order in (31) obtains.

To sum up, the uniqueness of focus languages is attributed to the obligatory EPP-assignment to a foc-feature.

(35) In focus languages, an EPP-feature is obligatorily associated with the foc-feature of
     a focus/ *wh*-phrase.

A foc-feature is a feature associated with a restriction part of a nominal *wh*-phrase and an identificational focus.   An adverbial *wh*-phrase bears neither a foc-feature nor an

EPP-feature since it does not contain its restriction part. Therefore, only nominal *wh*-phrases and identificational foci bear an EPP-feature. Since EPP is deleted by moving the goal to SPEC of the agreed probe, nominal *wh*-phrases move to SPEC-Foc. In this way, the present analysis can account for various syntactic properties in the focus/*wh*-construction with the minimal assumption (35). The fact that *wh*-phrases move to the same position as foci, argument-adjunct asymmetry in *wh*-questions, and the fact that relative pronouns do not move to 'focus' position are derived from (35). Moreover, I have shown that the semantics of a focus interpretation ((16)) will assure the proper interpretation not only for the focus construction, but also for *wh*-questions.

3.3 The 'Focus' Movement Analyses and Their Problems

In this section, I review two previous analyses that deal with focus movement. One is a pre-minimalist approach proposed by Horvath (1986), and the other is a minimalist approach that assumes a focus-feature and a projection Focus. I point out that both approaches bear problems. All the problems stem from an unclear notion 'focus'. To explain a full range of the relevant data, it should be made clear what role the focus plays in syntax and semantics, and how the focus feature relates to the interpretation of a *wh*-phrase.

3.3.1 Horvath (1986)

Here I review how Horvath (1986) provides a syntactic explanation with 'focus' position. Horvath assumes that a focus feature is assigned to a phrase by V^0. The assignment operation should observe the following locality condition:

(36) *Locality Condition on Feature-Assignment*

In a configuration [... α ... β ...] or [... β ... α ...], where $\alpha = X^0$, α

can assign a syntactic feature γ to β only if

(i) α governs β, and

(ii) α and β are adjacent.   (Horvath (1986:131))

Following this condition, a focus position can only be immediate pre-V or post-V, which depends on the 'direction' parameter of government. Hence, focus phrases in these languages above are adjacent to V^0 (though in Type B Chadic languages exemplified in (4b) and (8b), a focus is adjacent to [V+DO]).

Horvath further assumes the following interpretation constraint:

(37) *The FOCUS Constraint on the Wh-Q Operator*

A non-echo question interpretation can be derived only if the Wh-Q operator bears

the feature FOCUS at LF.   (Horvath (1986:118))

Horvath assumes that the similar syntactic behavior of a focus and a *wh*-phrase is reduced to the constraint (37) that requires a *wh*-phrase to be a focus. As a focus, *wh*-phrases undergo the same kind of movement as other focus phrases, as we have seen in (1)-(4) and (5)-(8).[7]

To put it simply, Horvath stipulates that a *wh*-phrase and a focus are of the same kind ('FOCUS'), and therefore undergo the same movement. However, it does not solve the question: Why are a *wh*-phrase and a focus (and not other phrases) of the same kind? Her 'FOCUS' is just a convenient label, and does not explain anything by itself.

3.3.2 The Minimalist Analysis with a Focus-Feature

As I have reviewed in chapter 1.3.1, some linguists have developed a minimalist account for the focus construction assuming a focus-feature. [focus] is a feature relevant to both a focus and a *wh*-phrase: hence both undergo the same movement to SPEC-Foc.

Let us assume that Hungarian bears the following phrase structure:

(38)

```
              FocP
             /    \
          Foc      v*P
         /   \    /    \
      Foc    Vb  ....  focus/wh ...

    [focus]            [strong focus]
```
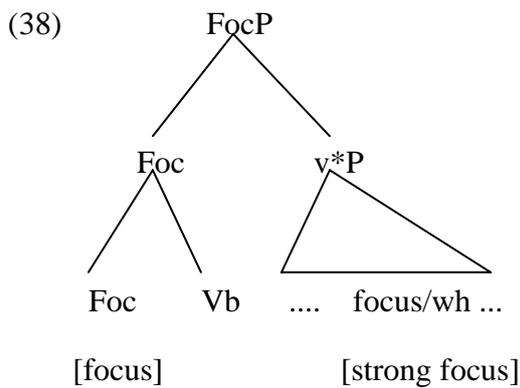
V raises and adjoins to Foc. In this structure, Foc needs to have its focus-feature deleted and hence attracts a focus/*wh*-phrase to its SPEC. The attraction takes place in the overt syntax since there involves a strong focus-feature (or, an EPP-feature) associated with the focus/*wh*-phrase. Therefore, both phrases undergo overt movement to SPEC-Foc.

To simplify, a focus and a *wh*-phrase undergo the same movement since they bear the same feature, i.e. a strong focus-feature. This is essentially the same analysis as Horvath's. Hence the same criticism holds for this analysis. Why should a focus and a *wh*-phrase be of the same kind? Just stipulating a common feature and putting a name 'focus' on it does not solve the question.

Although the present thesis also adopts the name 'focus', its notion is clear. It is a feature which is associated with a restriction part of a phrase and contributes to an exhaustive reading. Since an identificational focus and a nominal *wh*-phrase contain

their own restriction parts, they obligatorily bear a focus-feature. Given (35), the feature causes obligatory 'focus' movement to SPEC-Foc. It also explains why an adverbial *wh*-phrase does not undergo such `focus' movement. Since it does not contain a restriction part, it does not bear a focus-feature to agree with Foc.

3.4 Some Notes on Multiple *Wh*-Questions

In this final section, I consider some properties of multiple *wh*-questions in the focus languages. Section 3.4.1 is devoted to multiple *wh*-questions in Hungarian. When a sentence contains two *wh*-phrases, the second *wh*-phrase can either move to 'focus' position just like the first *wh*-phrase, or it can remain in situ. However, the two options yield different interpretations. Moreover, Hungarian multiple *wh*-questions are not subject to the Superiority Condition. I consider how the present analysis accounts for the facts.

Section 3.4.2 observes multiple *wh*-questions in Serbo-Croatian. After reviewing Bošković's (1998a) analysis, I show that his analysis is incorporated into the present analysis.

3.4.1 Multiple *Wh*-Questions in Hungarian

We have seen in section 3.1 that a nominal *wh*-phrase obligatorily moves to an immediate pre-V position in Hungarian. Here let us consider what happens when a sentence contains two *wh*-phrases.

The most natural multiple question is one in which both *wh*-phrases move to 'focus' position. Consider the following examples:

(39) a. *Kinek   mit*   adott el   János?

who-dat what-acc sold part John

'What did John sell to whom?'   (Ambar et al.'s (1998) (48))

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.'   (Horvath (1986:227))

We see that both *wh*-phrases move to an immediate pre-V position which is 'focus' position in Hungarian.

　　Alternatively, one of the two *wh*-phrases can remain in VP. Consider the following example.

(40) *Ki*   látotto *kit*?

who   saw   whom

'Who saw whom?'   (É. Kiss (1998:263fn))

　　From examples (39) and (40), we can generalize that one of the two *wh*-phrases can undergo 'focus' movement or remain in situ.   However, according to É. Kiss, the two options generate different interpretations.   When both *wh*-phrases move, as shown in (39), it will yield a pair-list (PL) interpretation.   On the other hand, when only one of them moves, as shown in (40), it will allow only a single-pair (SP) interpretation.

　　The other property observed in Hungarian multiple *wh*-questions is the fact that they are not subject to the Superiority Condition.   It is exemplified by the following example:

(41) Marinak, *ki*   *mit*   adott/ *mit*   *ki*   adott ?
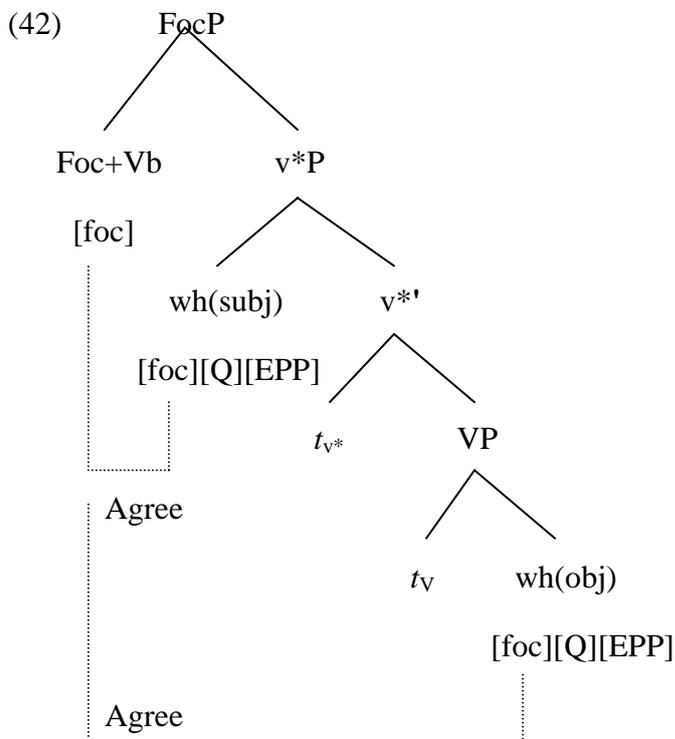
    Mari-dat who-nom what-acc give/ what-acc who-nom give

    'To Mary, who gave what?'   (Uriagereka (1999:439))

According to Uriagereka (1999), either of 'wh(subj)-wh(obj)' or 'wh(obj)-wh(subj)' is allowed.

    Of the two properties observed above, the lack of superiority can receive a rather straightforward account.   Remember that an EPP-feature resides not on a probe (Foc), but on a goal (focus/*wh*-phrase).   This assumption originates from Bošković (1998a) whose original assumption I review in the next section.   Following the assumption, the agreement relations between Foc and the two *wh*-phrases will be like the following:

(42)

```
                FocP
               /    \
          Foc+Vb     v*P
          [foc]     /   \
            ┊   wh(subj)  v*'
            ┊  [foc][Q][EPP] / \
            ┊        t_v*    VP
            ┊  Agree        /  \
            ┊             t_V   wh(obj)
            ┊                  [foc][Q][EPP]
            ┊  Agree
```

The foc-feature on Foc undergoes the first agreement with the closer goal, subject *wh*. The uninterpretable (part of) features in both the probe and the goal are deleted under

Agree. However, the deleted foc-feature on Foc can undergo the second agreement with the lower goal, object *wh*, since Chomsky (1999) assumes that a deleted feature remains visible until the phase level.[8,9] Hence both the subject and the object agree with Foc.

In (42), both subject and object *wh*-phrases must have their EPP-features deleted by moving to SPEC-Foc. Since all syntactic operations should be optimal, we should consider which *wh*-phrase must be moved first. If EPP resides on a probe, the optimal step is to attract the closest goal, i.e. subject *wh*-phrase. In (42), however, since EPP is on the two goals, both *wh*-phrases must move to SPEC-Foc. Therefore it will take the same cost, regardless of whether the subject moves first, or the object moves first. In consequence, either *wh*-phrase can move first. In this way, we can explain the fact that there is no superiority effect in multiple *wh*-fronting in Hungarian.

Let us then turn to the first property. The fact that movement of the second *wh*-phrase is optional, we are forced to assume that the assignment of an EPP-feature to the second *wh*-phrase is optional. When EPP is present, both *wh*-phrases undergo focus movement, as shown in (39). On the other hand, when EPP is absent, only one of the two *wh*-phrase undergoes focus movement and the other remains in VP-internal position, as shown in (40).

However, one might raise a question like the following. Why is it possible that EPP is (optionally) dropped in multiple *wh*-questions? I have assumed in (35) that the distinct property of the focus languages is that nominal *wh*-phrases obligatorily bear an EPP-feature. I suppose that this asymmetry between single and multiple *wh*-questions stems from the fact that multiple *wh*-questions basically allow two kinds of interpretations, PL and SL. In other words, the optionality is required to yield two different LF representations for each interpretation.

I do not provide a detailed argument as to how to process the two readings here,

since I consider the same point extensively in the next chapter, based on Japanese data. Here I just show how the interpretation differences (PL vs. SP) are related to the different surface representations ((39) vs. (40)).

In (39), both *wh*-phrases are structurally related to Foc, which is responsible for an exhaustive reading. Therefore, every (true) value to each *wh*-phrase should be answered. The answer hence should be a pair-listing of all the answers. On the other hand, in (40), the second *wh*-phrase is not structurally related to Foc. Hence, the *wh*-phrase does not contribute to an exhaustive reading at the LF representation. That is, picking out one of the all possible answers suffices. It serves as an SP answer. A detailed processing is developed in chapter 4.[10]

3.4.2 Multiple *Wh*-Question in Serbo-Croatian

The *wh*-data that are suspected to be another instance of 'focus' movement are 'multiple *wh*-fronting constructions' observed in a certain group of Slavic languages. In a multiple *wh*-question, all *wh*-phrases must move to a sentence-initial position. If one (or more) *wh*-phrase does not move and remain in situ, the sentence is deviant, even as an echo question. This point is exemplified by the Serbo-Croatian sentences from Bošković (1998a:55):

(43) a.　　*Ko sta* kopuje?

　　　　who what buys

　　　　'Who buys what?'

　　b. ?**Ko* kupuje *sta*?

　　　　who buys what

　　c. ?**Jovan kupuje *sta*?

　　　　John　buys　what

Rudin (1988) divides multiple *wh*-fronting languages into two types: languages that exhibit superiority effects and those that do not. The former include Bulgarian and Romanian, and the latter include Serbo-Croatian, Polish, Czech, and Russian. The examples in (44) are Bulgarian multiple *wh*-questions:

(44) a. *Koj kogo* e vidjal?

    who whom is seen

    'Who saw whom?'

  b. *Kogo koj e vidjal?

    whom who is seen   (Bošković (1998a:51))

When both of the two *wh*-phrases move, the higher *wh*-phrase must move before the lower one. Hence the subject-object order in (44a) is acceptable, while the reversed order in (44b) is not. This ordering constraint is accounted for by the Superiority Condition, or by an economy principle in the minimalist framework. Since C first attracts the closer candidate, the higher *wh*-phrase moves first and substitutes in SPEC-C.[11]

  Multiple *wh*-fronting languages of the other type do not exhibit superiority effects.[12] Consider the following Serbo-Croatian multiple *wh*-fronting examples:

(45) a. *Ko* je *koga* vidio?

    who is whom seen

    'Who saw whom?'

  b. *Koga* je *ko* vidio?

    whom is who seen

c. *Ko   gdje   spava?*

who where sleeps

'Who sleeps where?'

d. *Gdje   ko   spava?*

where who sleeps   (Bošković (1998a:52-3))

As is clear from the observation of the examples, any *wh*-phrase can precede the other. This cannot be explained by Attract F under which the attractor, C with a Q-feature, only sees the 'closest' candidate with a matching feature.

Bošković (1998a) explains the absence of superiority effects in Serbo-Croatian as follows: *wh*-frontings in (45) are all focus movements motivated by a 'strong' focus-feature that each *wh*-phrase bears. Take (45a, b) for this illustration. They share the following structure before the *wh*-fronting:

(46)   Foc   [TP   *ko*   ....   *koga* ....]

       [focus]   [focus]   [focus]

       weak   strong   strong

Since strong features must be erased by overt movement, both *wh*-phrases with a strong feature undergo obligatory overt movement to SPEC-Foc.   At this point, let us estimate and compare the cost of two possible derivations: one derivation involves movement of the subject *ko* 'who' first and then the object *koga* 'whom', and the other involves movement of the object *koga* first and then the subject *ko*. Obviously, the resultant movement paths are the same, which makes both derivations equally economical and hence acceptable.   This accounts for the absence of superiority effects in Serbo-Croatian.   Focus movement is not an attraction from C, which would entail superiority

effects, but it is movement motivated by a strong feature on the moved elements.

In this way, Bošković explains how both *wh*-phrases move, and why there are no superiority effects in Serbo-Croatian multiple *wh*-questions.

To repeat the explanation in section 3.4.1 briefly, I have assumed that EPP resides on each (nominal) *wh*-phrase. Therefore, Bošković's (46) will be minimally modified into (47) below:

(47) [$_{FocP}$ Foc   [$_{v*P}$ wh$_1$ ....   wh$_2$ ....]]

       [foc]   [foc][EPP]   [foc][EPP]

Foc agrees with both *wh*-phrases. Since both *wh*-phrases must move to SPEC-Foc to have their EPP-features deleted, the order of movement does not change the cost of derivation. Therefore, either *wh*-phrase can move first, and hence either word order will be acceptable. In this way, the two properties in Serbo-Croatian multiple *wh*-questions, i.e. multiple *wh*-fronting and the absence of superiority effects, can be explained in a uniform way.

The sole difference between Hungarian and Serbo-Croatian is the fact that while in the former, one of the two *wh*-phrases can remain in situ, in the latter all the *wh*-phrases must undergo focus movement. To put it differently, an EPP-feature must be assigned to all the *wh*-phrases in Serbo-Croatian. It might be that the optionality of EPP-assignment is parameterized in each focus language. I will refer back to this parameter in chapters 4-5.

The notion 'focus' used in Bošković's analysis is unclear, and therefore subject to the critique given in section 3.3. That is, why should a focus and a *wh*-phrase (and no other phrases) be of the same kind? However, as shown above, his argument based on Serbo-Croatian *wh*-questions is incorporated into the present analysis, given a modified

notion of a focus-feature and an EPP-feature. A focus and a *wh*-phrase both bear a foc-feature for their potential for an exhaustive reading. Assuming that Serbo-Croatian is another focus language, (35) holds true for Serbo-Croatian: an EPP-feature is obligatorily associated with every *wh*-phrase. Accordingly, Serbo-Croatian multiple *wh*-questions exhibit a structure as in (47). Foc Agrees with both *wh*-phrases, and the agreements are followed by movement of the two *wh*-phrases to SPEC-Foc in order to delete their EPP-features. In this way, Serbo-Croatian exhibits obligatory multiple *wh*-fronting, and no superiority effects.

Explanation of the focus languages is straightforward. The common property, i.e. potential for an exhaustive reading, enables a focus and a nominal *wh*-phrase to bear the same feature [focus], and induces the same movement driven by the EPP-feature associated with [focus]. In the next chapters, I consider more complicated properties observed in Japanese and English.

NOTES

1. Uriagereka's (1999) original data do not exhibit any focus information. I have added the relevant focus indication in the above cited examples, following the generalization by De Rijk (1978), cited in Horvath (1986:123).

2. Aghem is a Bantu language, spoken in Cameroon. According to the description in Horvath (1986:124), Aghem has a rather rigid SVO word order in unmarked sentences.

3. Chadic is a branch of the Afro-Asiatic languages which also contain Arabic, Hebrew, Berber. Chadic is spoken mainly in Niger.

4. The reader might suspect that a focus and a *wh*-phrase really move to the same landing site. For example, although the Hungarian examples in (1) and (5) show that both phrases appear at an immediate pre-V position, that does not necessarily guarantee that they should be at the 'same' position. The same sequence can be obtained even if they occupy distinct positions as shown in (i):

(i)　　[$_{CP}$　<u>WH</u>　C(phonetically-null) [$_{FocP}$　<u>FOCUS</u>　Foc-V [$_{VP}$ .....]]]

However, there is evidence that shows that Hungarian *wh*-phrases do not occupy SPEC-C. Example (14) below obviously indicates that the *wh*-phrase should appear below C (*hogy*).

5. Following Chomsky (1999), I assume that head movement is a phenomenon outside syntax, triggered by a phonological EPP-feature.

6. In (27) and (29a), the subjects appear different positions: the subject in the former example follows *miert*, and one in the latter precedes *miert*. This does not mean that the adverbial *wh*-phrase does not have a fixed position. Hungarian involves topic position, and a subject optionally appears at the position. The ordering variety in

(27)and (29a) might stem from this fact.

7. Horvath also refers to those languages that need no focus movement, e.g. English. She assumes that there should be a parameter of FOCUS feature assignment.

(i) It can be an entity freely assigned to categories (at S-structure), the same way as indices are assumed to be in the Government-Binding framework.

(ii) Alternatively, 'FOCUS' is an entity similar in status to Case. (...) It can get assigned by V, and only by V, to other categories, and its assignment is subject to the Locality Condition on Feature-Assignment ...　　　　(Horvath (1986:132))

Those 'focus' languages like Hungarian have set the parameter (ii), while other languages like English have set the parameter (i). Therefore, in English, focus need not be syntactically marked, and can appear virtually in any position.

8. A deleted feature must be accessible to derivational operations such as Agree and Move, given the following successive A-movement of an expletive *there*:

(i) *There*$_1$ T1-is likely [t'_1 T2-to be expected [t_1 T3-to be someone in the room]].

There is assumed to bear only an uninterpretable [person]-feature. When it is merged with the mostly embedded T3, its [person] is checked off under Agree with T3. When the derivation continues and T2 with a defective set of ϕ-features are merged into the syntactic object, T2 and *there* enter into an agreement relation (and *there* moves to SPEC-T2 to eliminate the EPP-feature on T2). This means that the deleted [person]-feature of *there* is still accessible to T2. Moreover, when T1 is merged and seeks its goal, it finds out *there* in SPEC-T2 and agrees with it. (After Agree, *there* moves to SPEC-T1 to eliminate an EPP-feature on T1.) Therefore, agreed and deleted

features must remain *active* until the phase (v*P or CP) is completed.

9. Since I assume that both *wh-* and focus phrases bear [foc]-features, there should be other combinations of two foc-agreements. That is, (i) a sentence involving two foci, and (ii) a sentence involving a focus and a *wh-*phrase should also involve two foc-agreements. I will discuss these cases in chapters 4 and 5 based on Japanese and English data.

10. At present, it is not clear how an EPP-feature of a *wh-*phrase is optionally dropped. Here I just present a tentative proposal. Chomsky states that dislocation generates a semantic effect. If it holds for every dislocation, then the presence/absence of an EPP-feature might be directly or indirectly required by semantics. In other words, there are no 'obligatory' EPP-features, and every EPP is optionally assigned to yield an effect on output. For example, an apparently-obligatory EPP-feature on a Hungarian *wh-*phrase is in fact optional, but the optional EPP-assignment is required for every *wh-*phrase to yield an appropriate interpretation on output. Thus an 'optional' EPP-feature can be dropped in a multiple *wh-*question since the sentence can have a proper interpretation (an SP reading) without movement of the second *wh-*phrase.

11. As for the second *wh-*movement, Rudin considers that it right-adjoins to the SPEC-C: thus, both *wh-*phrases are moved to CP. A similar proposal is made by Richards (1997) and Pesetsky (1998). Bošković (1998a), on the other hand, argues that the second *wh-*fronting is an instance of focus movement to SPEC-C. Since focus movement is motivated by a strong feature of a *wh-*phrase itself, as discussed below, the second and the following *wh-*frontings do not show superiority effects even in Bulgarian.

12. There are cases where Serbo-Croatian must observe Superiority Condition: one such case is an embedded question. See Bošković (1997) for exact cases of Superiority effects and an attempted explanation.