Syntactic Determinants of Quantifier Scope

A Dissertation
Submitted to the University of Tsukuba
In Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy in Linguistics

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ABSTRACT

This thesis is on the syntax of quantifier scope in Japanese and English, and is concerned with what syntactic factors serve as determinants of the scope of Quantifier Phrases (henceforth, QPs).   Specifically, it seeks answers to the questions of how the difference of QP types contributes to the determination of QP scope, how syntactic operations affect QP scope and why Japanese and English exhibit a difference with respect to QP scope.

In Chapters 2 and 3, we show that it is the presence of a quantifier in [Spec, DP] of a QP that allows the QP to undergo a syntactic operation responsible for the determination of the QP's scope.   In so doing we argue against the claim in the past literature that the applicability of the relevant syntactic operation for QP scope is conditioned by a semantic property of the QP.

In Chapter 4, we argue, assuming the framework of Miyagawa (2010), that the topic and

the focus feature, two kinds of grammatical feature that drives movement of the subject and the scrambled object to [Spec, TP] in Japanese, play the key role as determinants of QP scope in Japanese. We show that Type 1 QPs, those QPs with a quantifier in [Spec, DP], may bear the topic/focus feature, while Type 2 QPs, those without a quantifier in [Spec, DP], may not. Then we argue that the difference between these two types of QP with respect to scope is ascribed to the (un)availability of the topic/feature to these QPs.

Chapter 5 continues the discussion in Chapter 4 and challenges the view that Japanese is a rigid scope language. We point out that some particular syntactic environments allow liberal scope in Japanese as well, and argue that it is the absence of the topic feature that permits two QPs to take liberal scope in Japanese.

In Chapter 6 we extend our analysis to English cases and provide a principled account of the various facts observed in the past literature. We argue that the liberality of scope in English comes from the fact that the movement of the subject to [Spec, TP] is driven by the Φ-feature in English, as opposed to the topic feature that plays this role in Japanese. Thus the rigid vs. liberal difference between English and Japanese is ascribed to the difference between them in the kinds of grammatical feature responsible for movement to [Spec, TP].

Chapter 7 discusses what we call Caseless *zen*-QPs. A discussion of their syntactic property, which is different from that of the two types of QP discussed in the previous chapters, provides additional support to our claim in Chapter 4 that the topic feature serves as a crucial determinant of QP scope.

In Chapter 8 we discuss two cases apparently problematic to our analysis developed in the previous chapters. Firstly, we suggest a solution to the variability of judgment concerning the scope of NP-FQs involving a strong quantifier. Secondly, we attempt to capture the scope relation between the object NP-FQ and negation. We suggest that there is a functional projection midway between the subject position and VP, and that this projection

is also responsible for determining the QP scope of object QPs including NP-FQs.

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Abbreviations

The following is a list of abbreviations used in the glosses in this thesis.

Acc	accusative
Cl	classifier
Comp	complementizer
Cont	contrastive
Cop	copula
Dat	dative
Foc	focus
Gen	genitive
Infl	inflection
Mod	modal
Neg	negation
Nom	nominative
Pass	passive
Past	past
Pl	plural
Pol	polite
Pres	present
Q	question
Top	topic
1sg	first person singular

3sg   third person singular

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Chapter 1

Introduction

1.1 Quantifier Scope

This is a study on the linguistic phenomenon called *quantifier scope* in natural language. In natural language, quantifiers such as *every* and *san-nin* 'three-Cl' denote a particular amount or number of objects. In addition, they can also affect the interpretation of another quantificational expression.

(1) *Every boy* met *a girl*.

In (1), the use of the quantifier *every* conveys that the boys that the speaker is referring to are from a particular set of boys and that the boys referred to exhaust that set: There are no boys left unmentioned in the same set. The use of *every* in (1) also affects the interpretation of *a girl* in the object position. While *a girl* is grammatically singular, the number of girls mentioned in (1) may actually be more than one, and may match the number of boys introduced by the subject *every boy*. Thus if the set of boys associated with *every boy* contains five boys, the girls mentioned in (1) may be distributed to each member of the boys in the way illustrated in (2):

(2)   *every boy*   *a girl*
              B_1 ——————— G_1
              B_2 ——————— G_2
              B_3 ——————— G_3
              B_4 ——————— G_4
              B_5 ——————— G_5

If (1) is intended to describe the situation in (2), we say that the quantified DP (henceforth,

QP) *every boy* takes *wide scope* over the other QP *a girl*.   Sentence (1) may also be

interpreted to describe the following situation:

(3)   *every boy*   *a girl*
        B$_1$ ————————⌐
        B$_2$ ————————|
        B$_3$ ————————├— G$_1$
        B$_4$ ————————|
        B$_5$ ————————⌐
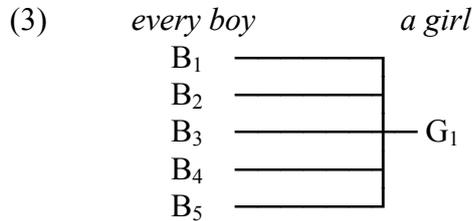
In this situation the number of girls does not match that of boys.   Rather, the situation

involves only one girl who met every boy.   In other words, *every boy* does not affect the

interpretation of *a girl* in the way it does in (2).   In this case we say that *every boy* takes

narrow scope under *a girl*.   Moreover, since (1) has the two readings just illustrated, we say

that sentence (1) is *ambiguous* with respect to quantifier scope.

1.2   Why do Syntacticians Study Quantifier Scope?

While the example in (1) is ambiguous in the sense described above, the ambiguity of

this sort is not always present (May (1977), among others):

(4) *Some boy* believes that John kissed *every girl*.

[unambiguous: ∃ > ∀, *∀ > ∃]

This example is not understood to be ambiguous in the relevant sense.   It can be understood

to describe a situation involving only one particular boy who believes John to have kissed

every girl, but it cannot be taken to mean that each of the girls is such that she is believed by a

boy to have been kissed by John.   This fact suggests that while quantifier scope itself may be

characterized as a semantic phenomenon, the difference between (1) and (4) with respect to

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the interpretation in the above sense tells us that the interpretive possibilities of sentences involving quantifiers can be affected by syntactic factors.   In (4) the two QPs are in two distinct clauses while (1) involves two QPs in a single clause.   Facts like this lead us to say that it is one of the important tasks in linguistics to discover what syntactic factors play essential roles as determinants of quantifier scope.

   While the English example in (1) "liberal" with respect to QP scope in the sense that it allows either of the two scope interpretations, other languages exhibit "rigid" scope in that a sentence corresponding to (1) only allows one of the two potential interpretations.   It has been widely observed that a Japanese simple sentence containing two QPs does not display the ambiguity (Kuroda (1969/70), Hoji (1985), among others).

(5) *Dareka-ga*   *daremo-o*   mi-ta

   someone-Nom everyone-Acc see-Past

   'Someone saw everyone.'

   [unambiguous: $\exists > \forall$, $*\forall > \exists$]

Although the English sentence containing two QPs in (1) is ambiguous, the Japanese counterpart in (5) allows only one of the two interpretations.   The subject QP *dareka-ga* in (5) may take wide scope over the object *daremo-o*, but the inverse scope order is impossible. Sentence (5) may be taken to describe the situation in (6a), but it cannot be taken to describe the one in (6b):

(6) a.   *dareka-ga*   *daremo-o*
         'someone'   'everyone'
                                        O_1
                                        O_2
         S_3 O_3
                                        O_4
                                        O_5

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b.   *dareka-ga*   *daremo-o*
      'someone'   'everyone'
         S_1 ——————— O_1
         S_2 ——————— O_2
         S_3 ——————— O_3
         S_4 ——————— O_4
         S_5 ——————— O_5

While Japanese exhibits rigidity of scope interpretation in the way just described, the scrambled counterpart of (5) does display the ambiguity:

(7)   *Daremo-o$_i$*   *dareka-ga e$_i$*   mita

     everyone-Acc someone-Nom see-Past

     Lit. 'Everyone, someone saw.'

     [ambiguous: $\exists > \forall$, $\forall > \exists$]

In (7), either of the two QPs may take scope over the other, and therefore the sentence may describe either of the two situations in (6).

    Thus these facts pose two important questions below for the study of syntax:

(8)   a.   Why does English display liberal scope while Japanese exhibits rigid scope?

     b.   Why does scrambling affect QP scope in the way it does in (7)?

The fact in (7) justifies syntactic approaches to quantifier scope since in (7) the interpretive possibility with respect to QP scope is affected by a syntactic operation, namely scrambling. Furthermore, an analysis of the cross-linguistic variation with respect to quantifier scope, the issue addressed as question (8a), must be sought by a syntactic approach to quantifier scope. The rationale for taking this approach to interpretive aspects of language is summarized in the

following statement in Higginbotham (1985), which has been a widely held view among generative linguists.[1]

This point of view may be put in terms familiar from Chomsky (1980). The principles of language variation, or *parameters* in this terminology, should have the property that the child can find evidence in the linguistic environment that settles the question of which formal structures are admissible, expressed in terms of the values of these parameters. To speak and understand the language, the child must know about meaning, including both the meanings of words and the principles of interpretation of syntactic structures. Obviously, words must be learned. Suppose that we conjecture that lexical learning is all that is required to distinguish one language from another. Then the principles of interpretation of structures cannot differ from language to language, and the parameters of meaning are confined to the meanings of words.

   If our conjecture is correct, then there are no language-particular rules of interpretation, apart from the lexicon. In this case, questions of scope, both within a single language and across languages, will be answered in just the way the questions raised in earlier sections were answered; in particular, scopal ambiguity will be structural, and nonambiguity will have a syntactic explanation. ...

(Higginbotham (1985: 581))

That is, for a child acquiring Japanese, for example, there is no clue in the interpretation of sentence (5) that would inform the child of the nonambiguity of (5). Likewise, nothing about the interpretation itself of sentence (1) tells an English-acquiring child that (1) is

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[1] See also Aoun and Li (1989, 1993), who state that "the LF interpretive component is not the locus of language variation since the language learner does not have direct access to this component (Aoun and Li (1989: 169-170))."

ambiguous.   All that is accessible to a child acquiring either of these languages comprises words and structures of sentences that they hear.   Given this view on the semantic interpretation of sentences in natural language, it is justifiable that one studies quantifier scope within a framework of a syntactic theory, in particular for seeking an explanation of variations of scope property among different constructions in a single language and among different languages.

In addition to the study of the phenomena discussed above which call for syntactic analyses, it is also an important task for the researchers in syntax to ask whether a generalization stated in semantic terms could also be captured by syntactic terms.   One such phenomenon has been studied by Diesing (1990, 1992).[2]   Diesing is concerned with the different ways in which semantically different types of QPs contribute to the scope interpretation of sentences.   Consider, for example:

(9)   *Every cellist* played *some variations*.

   [ambiguous: $\exists > \forall, \forall > \exists$]   (Diesing (1992: 65))

Diesing (1992) observes that while (9) is ambiguous in the relevant sense, the wide scope interpretation of the object QP *some variations* is possible only under one of the two readings of the quantifier *some*.   *Some variations* may take wide scope only under the reading where *some* denotes a certain proportion, or a subset, of the objects in a set of objects denoted by *variations*.   On the other reading of *some*, in which it denotes a certain number of objects, the object *some variations* cannot take wide scope.

This observation may lead one to a generalization to the effect that only QPs with a

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[2] See also Homma et al. (1992) for essentially the same analysis of the scope property of floated quantifiers in Japanese.

particular type of meaning may take wide scope.   Though this generalization is stated in semantic terms, one may take a syntactic approach to an explanation of this generalization, as in Diesing (1990, 1992) and Homma et al. (1992), who have proposed that only QPs with a particular type of meaning may undergo a syntactic rule that gives wide scope to the QPs.

Since this proposal still adopts one *semantic* condition in the determination of an application of the relevant *syntactic* rule, one may go one step further and ask whether this semantic aspect of QPs may be recaptured in syntactic terms.   If this is possible, one may complete a syntactic analysis of quantifier scope that only relies on syntactic notions.

1.3   Goals of This Work

This work is on the syntax of quantifier scope in Japanese and English, and is concerned with what syntactic factors serve as determinants of quantifier scope.   Specifically, we seek answers to the following questions:

(10)   a.   How does the difference of QP types contribute to the determination of QP scope?

   b.   Why do syntactic operations such as scrambling affect QP scope?

   c.   Why do Japanese and English exhibit a difference with respect to QP scope?

These questions are not necessarily new ones.   (10a) has been addressed in such works as Diesing (1990, 1992) and Homma et al. (1992).   The effect of scrambling on QP scope has been noted by a number of linguists (Kuroda (1969/70), Hoji (1985), among others). Moreover, questions about the source of cross-linguistic difference with respect to scope, such as our question in (10c), have been addressed by such linguists as Huang (1982) and Aoun and Li (1989, 1993).

However, since the questions in (10) have been addressed rather separately, we may ask

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if we may go one step further to ask how these questions are interrelated to each other.   This work, therefore, brings these issues together on one single worktable.   It attempts to show how the structure of QPs contributes to the determination of QP scope, as well as the way in which the clause structure and syntactic operations affect the scope of QPs.   Furthermore, we discuss how the internal structure of QPs and the syntactic operations are interrelated.   Note that we are not attempting to argue that every semantic aspect of language can be dealt with in syntactic terms.   Rather, we are trying to reveal those aspects of semantic interpretation that syntactic structure/operation has important contribution to.

In Chapters 2 and 3, we discuss the way in which the internal structure of QPs determines QP scope.   In particular, we show that it is the presence of a quantifier in [Spec, DP] of a QP that allows the QP to undergo a syntactic operation responsible for the determination of the QP's scope.   In so doing we discard the claim that the applicability of the relevant syntactic operation for QP scope is conditioned by a semantic property of the QP.

In Chapter 4, we turn to an account of the scope of the two types of QP discussed in the previous chapters in terms of the syntactic factors external to these QPs.   Assuming the framework of Miyagawa (2010), we argue that the topic and the focus feature, the two kinds of grammatical feature that drives movement of the subject and the scrambled object to [Spec, TP] in Japanese, play the key role as determinants of QP scope in Japanese.   Then we argue that the difference between the two types of QP with respect to scope is ascribed to the (un)availability of the topic/feature for these QPs.

Chapter 5 continues the discussion in Chapter 4 and challenges the view that Japanese is a rigid scope language.   We point out that some particular syntactic environments allow liberal scope in Japanese as well, and argue that it is the absence of the topic feature that permits two QPs to take liberal scope in Japanese.

In Chapter 6 we extend our analysis to English cases and attempt to capture the

previously observed facts in a principled way.   Crucially we argue that the liberality of

scope in English in the above sense comes from the fact that the movement of the subject to

[Spec, TP] is driven by the Φ-feature in English, as opposed to the topic feature that plays this

role in Japanese.   Thus the rigid vs. liberal difference as noted above between English and

Japanese is ascribed to the difference between these languages in the kinds of grammatical

feature responsible for movement to [Spec, TP].

Chapter 7 discusses what we call Caseless *zen*-QPs.   A discussion of their syntactic

property provides additional support to our analysis in Chapter 4.

In Chapter 8 we discuss the scope of QPs and negation.   We suggest that there is a

functional projection midway between the subject position and VP, and that this projection is

identified as a position responsible for the presuppositional interpretation of object QPs and as

still another position that determines QP scope.

1.4   Framework

We adopt the version of the theoretical framework of the Minimalist Program known as

the *phase* theory in Chomsky (2001) and subsequent works.   In the phase theory, the

structure a sentence is built by way of the operation *merge*.   When the structure reaches the

point called *phase*, that structure is *transferred* to the semantic component to be assigned a

particular interpretation.   We assume that CP, vP and DP are phases, and that what is sent to

semantics is the complement of each phase head.   Thus, the structures to be sent to

semantics are illustrated as follows:

(11) Computation of syntactic structure in the phase theory

$\leftarrow$ merge

[$_{CP}$ ...Ⓒ [$_{TP}$ ....T [$_{vP}$ ... ⓥ [$_{VP}$ ... V[$_{CP}$ ...Ⓒ [$_{TP}$ ...T [$_{vP}$ ...ⓥ [$_{VP}$ ......]]]]]]]

↓ ↓ ↓ ↓

| semantics | semantics | semantics | semantics |
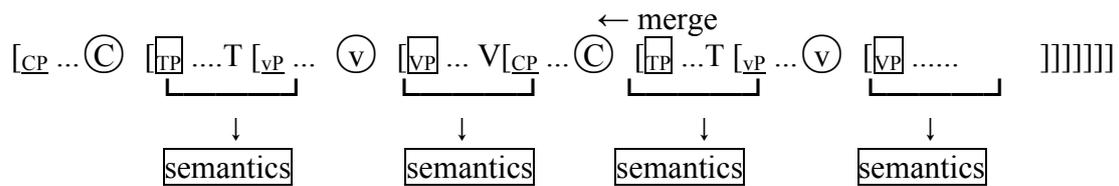
If we assume CP, vP DP to be phases, the structures to be transferred to semantics are TP, VP and NP, since they are head of the phase head C, v and D, respectively.

We also assume that the derivation of sentence structure involves only one single level of representation, as illustrated in (11). What is crucial is the assumption that the level of Logical Form (LF) is not a separate level of syntactic derivation. The movement that has been assumed to occur at LF in the pre-minimalist frameworks (the Government-and-Binding theory and the Principles-and-Parameters theory) takes the form of "the pronunciation of the lower copy" (Bobalijk (1995) among others). That is, overt and covert movements are essentially not distinguished and the only distinction between them is the site of the deletion of the phonetic feature. If the phonetic feature of the higher copy of a constituent is retained, it results in an overt movement. On the other hand, if it is the phonetic feature of the lower copy that is retained, it results in a covert movement. These two derivations are illustrated below:

(12) a. *The phonetic feature retained on the higher copy (the pronunciation of the higher copy):*

[... DP$_i$ ... [... D̶P̶$_i$ ...]]
  {π, F}   {π̶, F̶}   => overt movement
(π = the phonetic feature, F = a grammatical feature)

b. *The phonetic feature retained on the lower copy (the pronunciation of the lower copy):*

$$[\dots \cancel{DP_i} \dots [\dots DP_i \dots]]$$
$$\{\cancel{\pi}, F\} \qquad \{\pi, \cancel{F}\} \qquad \qquad => \quad \text{covert movement}$$

In the following chapters, however, we employ the notation of feature movement (Chomsky (1995)), simply for ease of exposition, alongside with the traditional notation for overt movement where movement leaves a trace. Thus the derivations in (12a) and (12b) are represented as (13a) and (13b), respectively, in what follows.

(13) a.   Overt movement:

$$[\dots DP_i \dots [\dots t_i \dots]]$$

    b.   Covert movement (movement of a feature):

$$[\dots [F]_i \dots [\dots DP_i \dots]]$$

1.5   Some Terminology for Types of QPs and Quantifiers

In this thesis we employ the following terms to refer to types and interpretations of QPs and quantifiers. Firstly, we use the terms *partitive* and *cardinal* to refer to the *meaning of a quantifier*. A partitive interpretation of a quantifier is one where the quantifier expresses a proportion of the referents among a particular set of objects. Thus we say that the quantifier *many* in *many students* has a partitive reading if it expresses a certain proportion of students in the set of students and that the proportion is quite large. On the other hand, a cardinal reading of a quantifier is one where the quantifier expresses a certain number of objects that the head noun refers to. Thus in the cardinal interpretation of *many* in *many students*, this quantifier expresses that the number of the students referred to is large.

Secondly, we use the terms *strong* and *weak* to refer to *types of quantifiers*. Strong quantifiers are those quantifiers that have only a partitive reading. This group of quantifiers

includes such quantifiers as *every*, *most*, *subete* 'every' and *hotondo* 'most.' On the other hand, weak quantifiers are those quantifiers that may have both a partitive and a cardinal reading, or have only a cardinal reading. These quantifiers include *many*, *some*, *two*, *three*, *hutari* 'two-Cl' and *san-nin* 'three-Cl.'

Thirdly, we use still another pair of terms in order to refer to the *meaning of QPs*. We say that a QP is *presuppositional* when the QP refers to a subset of a particular set of objects whose existence in the discourse that the speaker presupposes. Thus in the presuppositional reading of *many students*, this QP refers to a subset of students in the particular group of students that is assumed to exist in the discourse. On the other hand, we say that a QP is *nonpresuppositional* when the referents of the QP have been introduced into the discourse for the first time.[3]

Regarding the employment of these terms, one might say that the use of the latter two pairs *partitive/cardinal* and *presuppositional/nonpresuppositional* are redundant since the partitive meaning of a quantifier entails the presuppositional reading of the QP containing it, and that the nonpresuppositional reading of a QP is based on the cardinal reading of the quantifier contained in it. However, in noun phrases such as *the/my many students*, the quantifier *many* is taken to denote the number, not the proportion, of students, whereas the noun phrase as a whole refers to the students from the preceding discourse. Thus in this case the quantifier *many* is cardinal but the DP containing *many* is presuppositional. This presuppositional reading of *the/my many students* may be said to come from the presence of the definite article *the* or the possessive pronoun *my*. Thus, we employ these two different sets of terms in order to distinguish between the meaning of a quantifier and that of the QP

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[3] The terms *presuppositional* and *nonpresuppositional* have been originally employed in Diesing (1990, 1992). The relevant readings of QPs have also been called *quantificational* and *cardinal* in Milsark (1974, 1977) and *specific* and *nonspecific* in Enç (1991). Partee (1989) and Muromatsu (1998) point out a third reading in addition to the two dealt with in this thesis, but I do not discuss the third reading in this paper, however.

containing the quantifier.

Chapter 2

Quantifier Scope and DP Structure

2.1 Introduction

This chapter examines the scope property of the two types of QP in (1a-b) and bare noun phrases (henceforth, B-NPs) as exemplified in (1c), and shows how the scope property of these types of DP can be accounted for in terms of their syntactic structure.

(1) a.　Watasi-wa *san-dai-no kuruma-o* mokugekisi-ta

　　　　I-Top　　3-Cl-Gen　car-Acc　witness-Past

　　　　'I witnessed three cars.'

　　b.　Watasi-wa *kuruma-o san-dai* mokugekisi-ta

　　　　I-Top　　car-Acc　3-Cl　witness-Past

　　　　'I witnessed three cars.'

　　c.　Watasi-wa *kuruma-o* mokugekisi-ta

　　　　I-Top　　car-Acc　witness-Past

　　　　'I witnessed cars/a car.'

The object DP in (1a) consists of a head nominal *kuruma* 'car' preceded by a quantifier *san-dai-no*.　We call this type a Q-NP.　The QP in (1b) the quantifier follows both the head noun and the Case-particle.　Since the quantifier in this case has often been regarded as "floating" from its host noun phrase, it has been called a *floating quantifier* (henceforth, an FQ).　Accordingly, we call the sequence *kuruma-o san-dai* an NP-FQ.　The object DP in (1c) lacks the quantifier and thus is called a B-NP (Hasegawa (1991, 1993), Homma et al. (1992)).

In Section 2.2 we observe the difference in the scope property of each of the above three types of DP.   Section 2.3 provides reviews of the previous accounts of the observed scope properties and points out their problems.   In Section 2.4 we propose a generalization on the relation between the scope property of QPs/B-NPs and their internal syntactic structure. Specifically, we propose that it is the presence of a quantifier in the topmost Spec position in a QP, [Spec, DP], that may give rise to the wide scope of that QP.

2.2   Types of QP and Their Scope Property: Some Facts

As observed widely in the past literature on quantifier scope, a simple sentence with two clause-mate QPs yields an interpretive pattern shown in (2) and (3) (May (1977, 1985), Kuroda (1969/70), Hoji (1985) among others):[1]

(2)   *Someone* loves *everyone*.

   [ambiguous: ∃ > ∀, ∀ > ∃]

(3)   a.   *Dareka-ga   daremo-o   * mi-ta

          someone-Nom everyone-Acc see-Past

          'Someone saw everyone.'

          [unambiguous: ∃ > ∀, *∀ > ∃]

      b.   *Daremo-o$_i$ dareka-ga* t_i mi-ta

          everyone-Acc someone-Nom see-Past

          Lit. 'Everyone, someone saw.'

          [ambiguous: ∃ > ∀, ∀ > ∃]

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[1]   See also Homma (2004) for related discussions.

As shown in (2), a simple sentence with two clause-mate QPs in English allows either QP to take scope over the other.   In Japanese, on the other hand, the scrambled order of QP-*o* QP-*ga* yields ambiguity of scope interpretation, although QPs in the canonical order QP-*ga* QP-*o* do not.

However, it is not always the case that a scrambled object QP takes wide scope over a subject QP.   As observed in Hasegawa (1991, 1993), Homma et al. (1992), an NP-FQ cannot take wide scope over another QP.[2]   Consider:

(4)   a.   *Huta-tu-no booru-o* daremo-ga   ket-ta.

2-Cl-Gen   ball-Acc everyone-Nom kick-Past

'Everyone kicked two balls.'   [ambiguous: ∀ > 2, 2 > ∀]

b.   *Booru-o huta-tu* daremo-ga   ket-ta.

ball-Acc 2-Cl   everyone-Nom kick-Past

'Everyone kicked two balls.'   [unambiguous: ∀ > 2, *2 > ∀]

As (4b) shows, the NP-FQ *booru-o huta-tu* cannot take wide scope over the other QP in contrast to the Q-NP *huta-tu-no booru-o* in (4a).   (4a) may have the interpretation to the effect that there are two balls that everyone kicked, but (4b) lacks this reading and only has the reading in which each of the people kicked a different set of two balls.

It is also impossible for an NP-FQ to take wide scope over an opacity-inducing predicate such as –*tai* or -*tagaru* 'want' (Homma et al. (1992)):

(5)   a.   Hanako-ga   [*san-nin-no otoko-o*   syootaisi]-tagatte i-ru

Hanako-Nom 3-Cl-Gen   man-Acc invite-want   be-Pres

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[2] See also Watanabe (2000), Aoyagi (2010) and Shibata (2015) for observations to the same effect.

'Hanako wants to invite three men.'

b.   Hanako-ga   [*otoko-o*   *san-nin* syootaisi]-tagatte i-ru

Hanako-Nom man-Acc three-Cl invite-want   be-Pres

'Hanako wants to invite three men.'

As Homma et al. (1992) point out, the NP-FQ *otoko-o san-nin* in (5b) may only have the

opaque reading in (6b), the reading in which the NP-FQ takes narrow scope under the matrix

predicate *–tagaru* 'want', while the Q-NP in (5a) may also have the transparent reading in (6a),

where the QP takes wide scope over *–tagaru*, as well as the opaque (narrow scope) reading in

(6b).   In other words, (6a) may be taken to assert the existence of three men in the actual

world, whereas (6b) may only be taken to assert the existence of three men only in the mental

world of Hanako.

(6)   a. [$\exists x$: $x = 3$ & men(x)] Hanako wants (*PRO* to invite x))

b. Hanako wants ([$\exists x$: $x = 3$ & men(x)] (*PRO* to invite x))

This difference in scope between (5a) and (5b) is reflected in the possibility of being an

antecedent of a pronoun (Homma et al. (1992)):

(7)   *Karera/soitura-wa* minna gakusei-desu

they/the guys-Top all   student-is

'They are all students.'

While it is possible for the Q-NP *san-nin-no otoko-o* in (5a) to be an antecedent of the pronoun

karera/soitura in (7), the NP-FQ in (5b) cannot.   This is so since the QP may refer to a

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specific set of individuals in the real world by taking wide scope over the opacity-inducing predicate *-tagaru*, the NP-FQ may only refer to individuals in the possible world (in this case, Hanako's mental world) by being able to take only narrow scope under *–tagaru*.

Turning to B-NPs, we observe that they exhibit the same scope patterns as NP-FQs: B-NPs, as well as NP-FQs, can only take narrow scope with respect to other scope-taking elements (Homma et al. (1992), Hasegawa (1993)).   Consider:

(8)   a.   *Booru-o* daremo-ga   ket-ta

           ball-Acc everyone-Nom kick-Past

           'Everyone kicked balls.'

           [unambiguous: ∀ > ∃, *∃ > ∀]

      b.   *Ikutuka-no booru-o* daremo-ga   ket-ta

           some-Gen ball-Acc everyone-Nom kick-Past

           'Everyone kicked balls.'

           [ambiguous: ∀ > ∃, ∃ > ∀]

The B-NP *booru-o* in (8a) is understood to have an existential interpretation in such a way that the overt existential quantifier *ikutuka-no* in (8b) does, but differs from the latter in that the B-NP cannot take wide scope over the subject universal QP *daremo-ga* 'everyone', whereas the Q-NP *ikutuka-no booru-o* can.[3]

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[3] In addition to existential reading, B-NPs in Japanese may also be understood to have a definite reading.   Thus the B-NP *booru-o* may have a definite interpretation under an appropriate context such as the following.

(i)   Booru-ga korogat-te ki-ta.   Soositara, syoonen-ga *booru-o*   oikake-te ki-ta
      ball-Nom rolling   come-Past then   boy-Nom   ball-Acc chasing   come-Past
      'A ball came rolling.   Then a boy came chasing the ball.'

The second occurrence of the B-NP *booru* refers to back to the ball denoted by its first occurrence.

Moreover, a B-NP cannot take scope over an opacity-inducing predicate:

(9) Hanako-wa *gakusei-o* syootaisi-tagatte i-ru

    Hanako-Top student-Acc invite-want   be-Pres

    'Hanako wants to invite students.'   (Homma et al. (1992))

The only scope reading for the B-NP *gakusei-o* in (9) is the narrow scope reading represented as (10b).

(10) a. [∃*x*: student(*x*)] (Hanako wants (*PRO* to invite *x*))

    b. Hanako wants ([∃*x*: student(*x*)] (*PRO* to invite *x*))

    The narrow scope property of B-NPs in Japanese that we have observed is shared by bare plural NPs (henceforth, B-NPs) in English.[4]   Firstly, a B-NP takes only narrow scope under a QP whereas a QP with an overt quantifier takes either narrow or wide scope in the same environment:

(11) a. *Everyone* read *some books about giraffes*.

      [ambiguous: ∀ > ∃, ∃ > ∀]

    b. *Everyone* read *books about giraffes*.

      [unambiguous: ∀ > ∃, *∃ > ∀]   (Carlson (1977))

This means that its second occurrence is interpreted as the same way as the definite NP *the* + N in English.

    In this thesis we only deal only with the existential reading of B-NPs when we discuss their scope. For the definite reading of B-NPs, we briefly discuss the syntactic origin of it in Chapter 4.

[4] Henceforth we discuss only bare plural NPs as B-NPs in English.   The other kind of English B-NP is bare mass NPs, but we do not discuss them in this thesis.

Secondly, a B-NP cannot take scope over an opacity-inducing predicate such as *want*.

Observe the following examples:

(12) a.   Miles wants to meet *some policemen*.

   [ambiguous: ∃ > *want, want* > ∃]

   b.   Miles wants to meet *policemen*.

   [unambiguous: *∃ > *want, want* > ∃]   (ibid.)

Sentence (12a) is understood to have either of the following two readings:

(13) a.   [∃*x*: *x* = policemen] (Miles wants (*PRO* to meet *x*))

   b.   Miles wants ([∃*x*: *x* = policemen] (*PRO* to meet *x*)))

On one reading, exhibited in (13a), the QP *some policemen* takes wide scope over the verb

want and the sentence is interpreted to assert the existence of some policemen in the actual

world.   On the other reading (13b), *some policemen* takes narrow scope under *want* and thus

the speaker is not committed to the existence of any policemen who Miles wants to meet, but

merely takes some policemen to exist in the belief world of Miles.   Sentence (12b), on the

other hand, has only the reading in (13b), the narrow scope reading of *policemen*:   It cannot

assert the actual existence of policemen that Miles wants to meet.

2.3   Previous Analyses on the Scope Property of NP-FQs and B-NPs

The observed difference in the scope-taking property of Q-NPs on one hand and

NP-FQs and B-NPs on the other has drawn attention of some linguists.   In this section we

discuss the analyses by Diesing (1990, 1992) and Homma et al. (1992), who pay attention to

the semantic properties of these types of DP and the relevance to their scope property.   We also review the analysis of Hasegawa (1991, 1993), who proposes that the narrow scope property of NP-FQs is due to their syntactic property, rather than their semantics.

2.3.1 Diesing (1990, 1992)

Diesing pursues an explanation of the scope property of QPs in terms of the QP's "presuppositionality."   The presuppositional interpretation of a QP is one in which the QP refers to a subset of the set of the referents previously mentioned in the preceding discourse, whereas in the nonpresuppositional interpretation of a QP the referents of the QP are not among a set of the referents that are previously mentioned, but are introduced into the discourse for the first time.   In (14) the QP *many students* can have a presuppositional reading in that it can refer to a subset of the set of students that the speaker assumes to exist in the preceding discourse.   This QP can also have a nonpresuppositional reading, in which case it refers to the students that are mentioned for the first time.

(14) I saw *many students*.

While quantifiers such as *many* and *some* are in principle ambiguous between these two readings, there are quantifiers that are not.   QPs with a universal quantifier such as *every* has only a presuppositional interpretation since it necessarily ranges over a set of referents that are assumed to exist in the preceding discourse.   On the other hand, B-NPs in their existential interpretation are necessarily nonpresuppositional in contrast to QPs with an overt existential quantifier *some*, which may have either a presuppositional or a nonpresuppositional reading (Milsark (1974, 1977), Carlson (1977) and Diesing (1990, 1992)):

(15) a.   John met *students*.

 b.   John met *some students*.

(15a) can be paraphrased as (15b) in the sense that it asserts the existence of students that

John met and the number of the students he met is not very large, but the object B-NP

students cannot refer to a subset of the set of students that are presupposed to exist.   Indeed,

in the following discourse, the B-NP *boys* in (16a) cannot refer to a subset of the set of

children established by *several children* in the preceding sentence, while the QP with the

overt existential quantifier *some boys* may refer to a subset of this set of children.

(16) *Several children* entered the museum.

 a.   I saw *boys* at the movies.

 b.   I saw *some boys* at the movies.   (Enç (1991), Homma et al. (1992))

 Diesing proposes that presuppositional QPs, but not nonpresuppositional QPs, undergo

Quantifier Raising (May (1977, 1985)) at LF so that a presuppositional QP may be adjoined

to IP at LF, a position higher than the rest of the clause containing it, while a

nonpresuppositional QP remains in VP at LF.   She also proposes the Mapping Hypothesis,

which dictates that QPs outside VP be mapped onto the Operator and the Restrictive Clause

and that those within VP be mapped onto the Nuclear Scope.   This is illustrated as (17) and

(18):

(17) *Presuppositional QPs:*

 S-Structure: John saw *every student*.

 LF: [$_{IP}$ [every student]$_i$ [$_{IP}$ John [$_{VP}$ saw t_i]]]

SR:[5] [∀*x*: *x* = a student]   (saw (John, *x*))
           Operator, Restrictive Clause   Nuclear Scope

(18) *Nonpresuppositional QPs*:

    S-Structure: John saw *some students*.

    LF: [$_{IP}$ John [$_{VP}$ saw [some students]]]

    SR: ∃*x* (saw (John, *x*) & students(*x*))
             Nuclear Scope

The gist of Diesing's (1990, 1992) proposal is that since a presuppositional QP is moved by

QR to a higher position than that of a nonpresuppositional QP, the former necessarily takes

wider scope than the latter.   Thus a QP with a quantifier such as *some* which is ambiguous

between the two interpretations in question cannot take wide scope when it has a

nonpresuppositional reading.   Consider:

(19) *Every cellist* played *some variations*.

    [ambiguous: ∀ > ∃, ∃ > ∀]   (Diesing (1992: 65))

Diesing observes that (19) is in fact ambiguous in three ways.   The first reading is

represented by ∀ > ∃, where the object QP *some variations* is interpreted as a

presuppositional QP.   On this reading the referents of *some variations* differ from individual

to individual in the set of people referred to by *everyone*, but these referents are chosen from a

set of variations from the preceding discourse.   The second reading, also represented as

∀ > ∃, is the reading where *some variations* is interpreted as nonpresuppositional.   In this

case the referents of *some variations* are introduced into the discourse for the first time, not

from the list of variations from the preceding discourse.   The third reading is represented by

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[5] SR = Semantic Representation

the inverse scope order $\exists > \forall$, where *some variations* has a presuppositional interpretation.
However, (19) does not have the reading where *some variations* takes wide scope under its
nonpresuppositional reading.[6]   The lack of wide scope for nonpresuppositional QPs is
confirmed by another set of examples.   Recall from the preceding example in (16) that
B-NPs with an existential reading may only have a nonpresuppositional reading.   And
indeed an existential B-NP may only take narrow scope with respect to another QP, as we
have already observed:

(20) *Everyone* read *books about giraffes*.

　　　[unambiguous: $\forall > \exists$, $*\exists > \forall$]

Thus if the three readings mentioned above by Diesing are all the readings of (19), the lack of
the fourth reading, the one where the nonpresuppositional object QP takes wide scope, is
explained in the following way in Diesing's framework:

(21) LFs for (19):

　　　a.　[$_{IP}$ every cellist$_i$ [$_{IP}$ some variations$_j$ [$_{IP}$ t_i [$_{VP}$ played t_j]]]]

---

[6] See Diesing (1992: 68) for a precise scenario for each of these readings.   Exactly speaking, Diesing
(1992) points out these three readings for (23) and only implies that it lacks the fourth reading where
the nonpresuppositional object takes wide scope.   Despite this, however, we may maintain the
generalization that a nonpresuppositional Q-NP cannot take wide scope if we take into account the
example in (24) and another set of examples of Diesing's (1992) in (i).

(i) a. *Sm cellists* played *every suite* today.
　　　b. *Mny cellists* played SOME suite today.
　　　c. *Tw cellists* played SOME suite today.
　　　　[all unambiguous: *Subj > Obj, Obj > Subj]　　　　　(Diesing (1992: 63))

These examples, as Diesing points out, lack the reading in which the subject QP takes scope over the
object QP.   The subject QP is forced to have a nonpresuppositional reading by destressing the
quantifier, which is indicated by the spelling convention *sm, mny, tw* employed widely in the literature
since Postal (1966).

b.　$[_{IP}$ every cellist$_i$ $[_{IP}$ t_i $[_{VP}$ played some variations$]]]$

c.　$[_{IP}$ some variations$_j$ $[_{IP}$ every cellist$_i$ $[_{IP}$ t_i $[_{VP}$ played $t_j]]]]$

The first reading mentioned above ($\forall > \exists$) is yielded by the LF in (21a).　Since the object

QP *some variation* has a presuppositional reading, it undergoes QR and adjoins to a lower

position than *every cellist*.　The second $\forall > \exists$ reading, where the object is interpreted

nonpresuppositionally, the object does not undergo QR and remains in its original position.

The object takes narrow scope since it is structurally lower than the subject QP.　The third

reading, the inverse scope reading $\exists > \forall$, is obtained by the application of QR to the object

QP by virtue of its presuppositional reading.　If the object undergoes QR, it may be raised

over the subject, which yields the wide scope reading of the object QP.

　　Likewise, the obligatory narrow scope of the existential B-NP in (20) can be captured

since the existential B-NP is necessarily nonpresuppositional and hence does not undergo QR.

The only LF structure of (20) is (22):

(22) $[_{IP}$ everyone$_i$ $[_{IP}$ t_i $[_{VP}$ read [books about giraffes]$_j]]]$

Thus Diesing's (1992) analysis can capture the correlation between the scope property and the

(non)presuppositionality of QPs.

2.3.2　Homma et al. (1992) on NP-FQs in Japanese

　　The correlation between the nonpresuppositionality and the narrow scope property of

NP-FQs and B-NPs has also been discussed by Homma et al. (1992), whose analysis, as with

Diesing (1990, 1992), is based on the dichotomy of QPs in terms of the semantic notion of

presuppositionality and consists of the condition that only presuppositional QPs undergo QR

at LF.

Homma et al. first point out that B-NPs in non-topic positions in Japanese can have an existential reading, but differ from QPs with an overt existential quantifier such as *nan-nin-ka-no* 'some' in that B-NPs can only be interpreted as nonpresuppositional:[7]

(23) *Ten men took a witness stand in a court, and ...*

    a. *syoonin-ga* hontoo-no koto-o it-ta

        witness-Nom true-of thing-Acc say-Past

        'Witnesses told the truth.'

        [*presuppositional, √nonpresuppositional]

    b. *nan-nin-ka-no syoonin-ga* hontoo-no koto-o it-ta

        some-Gen witness-Nom true-of thing-Acc say-Past

        'Some witnesses told the truth.'

        [√presuppositional, √nonpresuppositional]

Although the subject DP in both (23a) and (23b) is understood to have an existential interpretation and can be paraphrased as "some witnesses," the subject B-NP *syoonin-ga* in (24a) only has a nonpresuppositional reading in that it cannot refer to a subset of the set of ten men in the preceding discourse, in contrast to the subject NP with an overt prenominal existential quantifier *nan-nin-ka-no syoonin-ga* in (24b), which does have a presuppositional reading and can refer to a subset of the set of ten witnesses introduced in the preceding sentence.

---

[7] In the topic position, where the topic particle *wa* is attached, bare NPs have a generic interpretation:

(i)   Inu-wa niwa-o kakemawar-u
           dog-Top garden-Acc run.around-Pres
           'Dogs run around in gardens.'

A second point of Homma et al. (1992) is that numeral FQs such as *san-nin* in Japanese must take a B-NP as its host:[8]

(24) a.   Sono san-nin-no otoko-ga   unagi-o tabe-ta

          that   3-Cl-Gen man-Nom   eel-Acc eat-Past

          'Those three men ate eel.'

     b. * Sono otoko-ga   san-nin unagi-o tabe-ta

          that   man-Nom 3-Cl   eel-Acc eat-Past

This means that since the host NP for numeral FQs is nonpresuppositional, it follows that NP-FQs are nonpresuppositional as well:[9]

(25) a.   Zyuu-nin-no otoko-ga   syoogendai-ni   tat-ta.   Sosite *go-nin-no*

          10-Cl-Gen   man-Nom witness stand-Dat stand-Past and   5-Cl-Gen

          syoonin-ga   hontoo-no koto-o   it-ta

          witness-Nom true-Gen   thing-Acc say-Past

---

[8] Homma et al. (1992) limit their discussion to numeral FQs and do not include "presuppositional" FQs such as *zen'in* 'all', *subete* 'every' and *hotondo* 'most', which may occur as FQs but do not require their host NP to be a bare NP:

(i)   sono-gakusei-tati-ga zen'in/subete/hotondo gookakusi-ta
      that-student-Pl-Nom all/every/most   pass-Past
      'All/Most of those students passed.'

[9] The observation that NP-FQs are nonpresuppositional is also made in Muromatsu (1998), who points out the following example:

(i)   a.   *Hutari-no kodomo-o* sitinen-sei-ni, *hitori-no kodomo-o* hatinen-sei-ni ire-ta
           2.Cl-Gen child-Acc 7th-grade-Dat 1-Cl-Gen child-Acc 8th-grade-Dat send-Past
           'I sent two children to the seventh grade, and one child to the eighth grade.'
      b.   Sitinen-sei-ni *kodomo-o hutari*, hatinenn-sei-ni *kodomo-o hitori* ire-ta
           7th-grade-Dat child-Acc 2.Cl 8th-grade-Dat   child-Acc 1-Cl send-Past
                                                                  (Muromatsu (1998))

'Ten men took the witness stand, and five (of the) witnesses told the truth.'

b.   Zyuu-nin-no otoko-ga   syoogendai-ni   tat-ta.   Sosite *syoonin-ga   go-nin*

10-Cl-Gen   man-Nom witness stand-Dat stand-Past and   witness-Nom 5-Cl

hontoo-no koto-o   it-ta

true-Gen   thing-Acc say-Past

'Ten men took the witness stand, and five witnesses told the truth.'

(Homma et al. (1992))

As Homma et al. show, the above characterization of B-NPs and NP-FQs, and the requirement that only presuppositional QPs can undergo QR can explain the narrow scope property of FQs discussed earlier.   The relevant examples are repeated below:

(26)   (= (4))

a.   *Huta-tu-no booru-o* daremo-ga   ket-ta.

2-Cl-Gen   ball-Acc everyone-Nom kick-Past

'Everyone kicked two balls.'

[ambiguous: $\forall > 2, 2 > \forall$]

b.   *Booru-o huta-tu* daremo-ga   ket-ta.

ball-Acc 2-Cl   everyone-Nom kick-Past

'Everyone kicked two balls.'

[unambiguous: $\forall > 2, *2 > \forall$]

(27)   (= (5))

a.   Hanako-ga   [*san-nin-no   otoko-o*   syootaisi]-tagatte i-ru

Hanako-Nom three-Cl-Gen man-Acc invite-want   be-Pres

'Hanako wants to invite three men.'

[ambiguous: 3 > want, want > 3]

b.   Hanako-ga   [*otoko-o   san-nin* syootaisi]-tagatte i-ru

Hanako-Nom man-Acc three-Cl invite-want   be-Pres

'Hanako wants to invite three men.'

[unambiguous: *3 > want, want > 3]

The LF and the SR of (26a) and (26b), for example, are each represented as follows:

(28) a.   LFs of (26a):
i)
```
                          IP
              ┌───────────┴───────────┐
           NPᵢ                         IP
      ┌─────┴─────┐           ┌────────┴────────┐
  hutatu-no booru-o        NPⱼ                   IP
                       ┌────┴────┐         ┌─────┴─────┐
                   daremo-ga    tⱼ               VP
                                          ┌──────┴──────┐
                                              tᵢ ketta
```

ii)
```
                          IP
              ┌───────────┴───────────┐
           NPᵢ                         IP
      ┌─────┴─────┐           ┌────────┴────────┐
  daremo-ga                NPⱼ                   IP
                     ┌──────┴──────┐       ┌─────┴─────┐
               hutatu-no booru-o   tⱼ            VP
                                          ┌──────┴──────┐
                                              tᵢ ketta
```

b.   LF of (26b):
```
                     IP
          ┌──────────┴──────────┐
       NPⱼ                       IP
   ┌────┴────┐          ┌────────┴────────┐
 daremo-ga  tⱼ                    VP
                          ┌───────┴───────┐
                        booru-o hutatu ketta
```
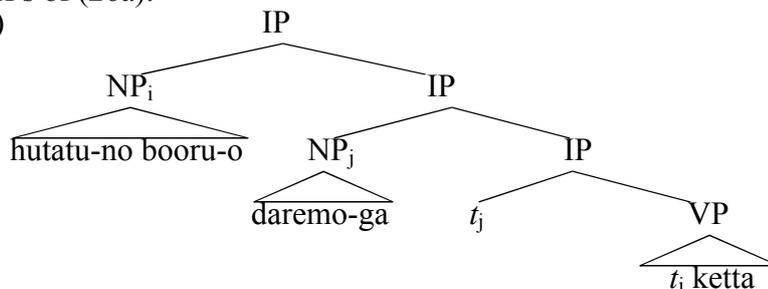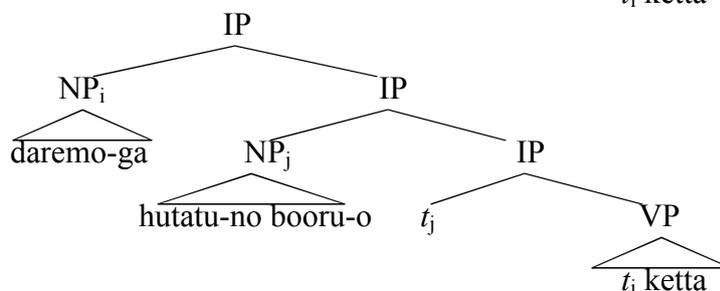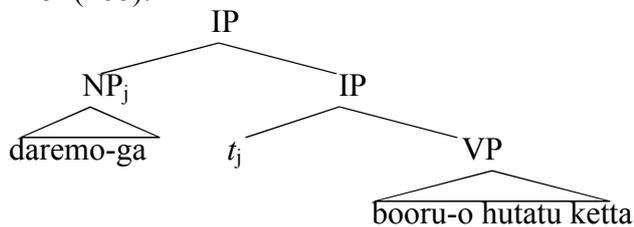

(29) a.   SRs of (26a):

i)   [∃y: y = 2 & ball (y)] [∀x: person (x)]   (kicked (x, y))   (from LF (28a-i))
     Operator, Restrictive Clause   *Nuclear Scope*

ii) [∀x: person (x)] [∃y: y = 2 & ball (y)]   (kicked (x, y))   (from LF (28a-ii))
     Operator, Restrictive Clause   *Nuclear Scope*

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b.   SR of (26b):

[$\forall x$: person (x)] $\exists y$ (two balls (y) & kicked (x, y))   (from LF (28b))
Operator, Restrictive Clause   Nuclear Scope

In contrast to NP-FQs, Q-NPs can have a presuppositional interpretation so that the Q-NP

huta-tu-no booru-o in (26a) can be interpreted as "two of the balls" and accordingly can

undergo QR.   Homma et al. assume that QR adjoins a QP to an IP node, which yields either

of the LF structures in (28a-i) and (28b-ii) for (26a).   On the other hand, the NP-FQ in (26b)

does not undergo QR and hence must stay in the relevant syntactic domain that is mapped

onto the Nuclear Scope.[10]   This explains the obligatory narrow scope of NP-FQs.

   The LFs for the sentences in (27) are represented as follows:

(30) LFs for (27):

   a. i)   [$_{IP}$ [$_{DP}$ san-nin-no otoko-o]$_i$ [$_{IP}$ Hanako-ga [$_{CP}$[$_{IP}$ *PRO t*$_i$ syootaisi]]-tagatteiru]]

      ii) [$_{IP}$ Hanako-ga [$_{CP}$[$_{IP}$ [$_{DP}$ san-nin-no otoko-o]$_i$ [$_{IP}$ *PRO t*$_i$ syootaisi]]]-tagatteiru]

   b.   [$_{IP}$ Ziro-ga [$_{CP}$[$_{IP}$ *PRO* [$_{DP}$ otoko-o san-nin] syootaisi]]-tagatteiru]

Since the Q-NP in (27a) has a presuppositional reading, it may move by QR and adjoin to

either the embedded or the matrix IP.   Thus the Q-NP may either take wide or narrow scope

with respect to the predicate *want*.   On the other hand, the NP-FQ *otoko-o san-nin*, being

nonpresuppositional, cannot undergo QR and thus remain in its original position in the

complement clause.   This is why the NP-FQ may only have the narrow scope (opaque)

reading.

---

[10] Homma et al. (1992) assume that scrambled NPs are reconstructed to their base-generated positions first at LF, and, if presuppositional, undergo QR.

2.3.3 Problems for Diesing (1990, 1992) and Homma et al. (1992)

Although Homma et al. (1992) capture the correspondence between the scope property and the (non)presuppositionality of QPs, their analysis faces the following problem. As pointed out in Hasegawa (1991, 1993), it is not only NP-FQs with numeral quantifiers such as *san-nin* '3-Cl' and *ni-dai* '2-Cl' that cannot take wide scope. The narrow scope property of numeral FQs is shared by FQs such as *hotondo* 'most' and *subete* 'every'. These quantifiers necessarily form presuppositional DPs since they require the presence of a set of entities in the preceding discourse. For example, the following examples both require the speaker to have a set of students/people in mind from the preceding discourse:

(31) a. *Subete-no gakusei-ga* ki-ta

　　　　every-Gen student-Nom come-Past

　　　　'Every student came.'

　　b. *Hotondo-no gakusei-ga* ki-ta

　　　　most-Gen　student-Nom come-Past

　　　　'Most of the students came.'

These quantifiers may occur as FQs. Importantly, the NP-FQs involving these quantifiers can necessarily be interpreted as presuppositional, as well as the Q-NPs involving these quantifiers:

(32) *Gakusei-tati-ga subete/hotondo/zen'in* ki-ta

　　　student-Pl-Nom every/most/everyone come-Past

　　　'All/Most of the students came.'

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The analyses along the lines of Diesing (1990, 1992) and Homma et al. (1992) predict that such presuppositional NP-FQs as the one in (32) behave in the same manner as Q-NPs, since the former, being presuppositional, undergo QR on a par with the latter.   This prediction is not borne out, as shown by Hasegawa (1991, 1993).   Consider:

(33) a.   Taroo-dake-ga *hotondo-no gakusei-o*   syootaisi-ta

Taro-only-Nom most-Gen   student-Acc invite-Past

'Only Taro invited most of the students.'

[unambiguous: only > most, *most > only]

b.   *Hotondo-no gakusei-o*   Taroo-dake-ga   syootaisi-ta

most-Gen   student-Acc Taro-only-Nom invite-Past

'Only Taro invited most of the students.'

[ambiguous: only > most, most > only]

(34) a.   Taroo-dake-ga *gakusei-o   hotondo*   syootaisi-ta

Taro-only-Nom student-Acc most-Gen invite-Past

'Only Taro invited most of the students.'

[unambiguous: only > most, *most > only]

b.   *Gakusei-o   hotondo*   Taroo-dake-ga syootaisi-ta

student-Acc most-Gen Taro-only-Nom invite-Past

'Only Taro invited most of the students.'

[unambiguous: only > most, *most > only]

(35) a.   San-nin-no gakusei-ga   *subete-no   kadaikyoku-o* ensoosi-ta

3-Cl-Gen   student-Nom every-Gen set.piece-Acc play-Past

'Three students played every set piece.'

[unambiguous: 3 > ∀, *∀ > 3]

b. *Subete-no kadaikyoku-o* san-nin-no gakusei-ga   ensoosi-ta

every-Gen set.piece-Acc 3-Cl-Gen   student-Nom play-Past

'Three students played every set piece.'

[ambiguous: 3 > ∀, ∀ > 3]

(36) a. San-nin-no gakusei-ga   *kadaikyoku-o subete* ensoosi-ta

3-Cl-Gen   student-Nom set-piece-Acc every play-Past

'Three students played every set piece.'

[unambiguous: 3 > ∀, *∀ > 3]

b. *Kadaikyoku-o subete* san-nin-no gakusei-ga   ensoosi-ta

set-piece-Acc every   3-Cl-Gen   student-Nom play-Past

'Three students played every set piece.'

[unambiguous: 3 > ∀, *∀ > 3]

When the quantifier *hotondo* 'most' is in a prenominal position, as in (33), the QP exhibits the same scope pattern as the QPs with a prenominal numeral quantifier such as *san-nin-no gakusei-o*:   While it cannot take wide scope over the subject QP in the order Subj-Obj as in (33a), it may take wide scope when it is scrambled to the left of the subject ((33b)). However, when *hotondo* occurs as an FQ, as in (34), the QP may not take wide scope over the other QP irrespective of whether it is scrambled or not.   The same is true of the universal quantifier *subete*.   It can only take narrow scope when it is floated, as we see in (36).

The observed narrow scope property is not only true of inherently presuppositional quantifiers such as *subete* and *hotondo*, but also true of the numeral FQs that somehow yield a

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presuppositional interpretation.   Consider:

(37) a.   *Kinoo   ki-ta   kyaku-ga   san-nin* kyoo kaet-ta

yesterday come-Past guests-Nom 3-Cl today return-Past

'Three guests who came yesterday left today'

b.   Boku-wa *sensei-ga   suisensi-ta   hon-o   san-satu* yon-da

I-Top   teacher-Nom recommend-Past book-Acc 3-Cl   read-Past

'I returned three books that the teacher recommended'

The QPs *kinoo kita kyaku-ga san-nin* and *sensyuu karita hon-o 3-satsu* are understood to have

a presuppositional interpretation in the sense that the former refers to three guests in the set of

guests who came yesterday, and the latter to three of the set of books that the teacher

recommended.[11]   Crucially, these DPs can only take narrow scope under another QP.

Consider:

(38) a.   Yon-syurui-no miyage-o   *kinoo   ki-ta   kyaku-ga   san-nin* kat-ta

4-kind-Gen   souvenir-Acc yesterday come-Past guest-Nom 3-Cl   buy-Past

'Three guests who came yesterday bought four kinds of souvenir'

[unambiguous: *3 > 4, 4 > 3]

b.   *Sensei-ga   suisensi-ta   hon-o   san-satu* daremo-ga   yon-da

teacher-Nom recommend-Past book-Acc 3-Cl   everyone-Nom read-Past

'Everyone read three books that the teacher recommended'

[unambiguous: ∀ > 3, *3 > ∀]

---

[11] The presuppositional reading of numeral FQs is also discussed in Ishii (1997, 1998).

It is quite difficult to interpret the NP-FQs in these examples as taking wide scope over the other NP in the sentence, in contrast to the QP with the same quantifier in the prenominal position as in the following examples:

(39) a. Yon-syurui-no miyage-o   *san-nin-no kyaku-ga*   kat-ta

4-kind-Gen   souvenir-Acc 3-Cl-Gen guest-Nom buy-Past

'Three guests who came yesterday bought four kinds of souvenir'

[ambiguous: 3 > 4, 4 > 3]

b. *San-satu-no hon-o*   daremo-ga   yon-da

3-Cl-Gen   book-Acc everyone-Nom read-Past

'Everyone read three books that the teacher recommended'

[ambiguous: $\forall > 3, 3 > \forall$]

Thus the analyses of the narrow scope property of NP-FQs along the lines of Diesing (1990) and Homma et al. (1992) are not empirically adequate since they predict wrongly that the QPs in (34), (36) and (38) can take wide scope over the other NP, since they have the presuppositional interpretation and as such should undergo QR.

2.3.4 Hasegawa (1991, 1993)

Hasegawa (1991, 1993) pursue a syntactic approach to the narrow scope property of NP-FQs and B-NPs in which she proposes that the applicability of QR is determined by the syntactic form of QPs, not by their semantics.   The first point of Hasegawa's analysis is that FQs are exempt from the application of QR for a syntactic reason.   Hasegawa argues that while the role of QR is to raise a QP to A'-position to license the QP as an operator, an FQ is already in A'-position outside its host DP so that the FQ can be licensed as an operator in situ,

without being moved by QR.   Instead of being licensed as an operator by the application of

QR, Hasegawa proposes, FQs are licensed by the condition in (40), accompanied by the

convention for coindexation in (41):

(40)   The Licensing Condition on FQ/Ind's (applies only at LF)[12]

   An FQ/Ind is licensed if it is coindexed with an NP in A-position.

<div align="right">(Hasegawa (1993: 126))</div>

(41)   An FQ/Ind and an NP are coindexed, if

   (i) they mutually c-command each other and

   (ii) they agree in relevant features.   (Hasegawa (1993: 124))

By (40) and (41) an FQ is required to stay in its underlying position since the FQ has to

maintain a local relation with its host NP in A-position, the position which Hasegawa seems

to identify with the argument DP's thematic position.   When an FQ is scrambled, the FQ has

to be "reconstructed" at LF to its underlying position in order to observe the condition in (40).

Q-NPs, on the other hand, are subject to QR since they are in A-position and thus need to

move to A'-position at LF in order to be licensed as an operator.   The difference in scope

interpretation between (42a) and (42b), for example, is accounted for in terms of the

difference in the applicability of QR: Either of the QPs in (42a) can be moved by QR

whereas QR applies only to the QP *daremo-ga* 'everyone' in (42b) since the scrambled

---

[12] By "Ind" Hasegawa (1991, 1993) refer to Caseless indeterminate expressions such as *dareka*
'someone' and *nanika* 'something' that appear outside their host DP, on a par with FQs.   As
Hasegawa observes, Ind's take narrow scope with respect to other QPs:

(i)   *Gakusei-o   dareka*   daremo-ga   sikat-ta
      student-Acc someone everyone-Nom scold-Past
      'Everyone scolded some student.'
      [unambiguous: $\forall > \exists$, $*\exists > \forall$]

NP-FQ must be reconstructed back to its underlying position to meet the condition in (40):

(42) a. *Huta-tu-no kotoba-o*   daremo-ga   sitte i-ru

2-Cl-Gen   language-Acc everyone-Nom know be-Pres

'Everyone knows two languages.'

[ambiguous: $\forall > 2, 2 > \forall$]

b. *Kotoba-o   huta-tu* daremo-ga   sitte i-ru

language-Acc 2-Cl   everyone-Nom know be-Pres

'Everyone knows two languages.'

[unambiguous: $\forall > 2, *2 > \forall$]

As for B-NPs, Hasegawa (1991, 1993) propose a phonetically null counterpart of

FQs/Ind's and account for the narrow scope property of B-NPs in the same way as overt

FQs/Ind's.   Sentence (43a), for example, is represented as (43b), where the phonetically null

counterpart of an FQ is represented as *QP*:

(43) a. Daremo-ga   *hon-o*   kat-ta

everyone-Nom book-Acc buy-Past

'Everyone bought a book/books.'

b. [daremo-ga [$_{VP}$ hon-o$_i$ *QP*$_i$ kat-] ta]

Since *QP* is subject to the conditions in (40) and (41), they and their host NP are required to

be reconstructed to their underlying position, in the way that FQs and their host NP are.

Thus the LF of sentence (44a) is represented as (44b) and this captures the lack of wide scope

reading of the B-NP in (44a):

(44) a. *Hon-o* daremo-ga kat-ta

book-Acc everyone-Nom buy-Past

'Everyone bought a book/books.'

[unambiguous: ∀ > ∃, *∃ > ∀]

b. LF: [daremo-ga$_i$ [$_{VP}$ t_i hon-o$_j$ QP_j kat-] ta]

Hasegawa extends this analysis to the narrow scope property of B-NPs in English. She assumes that B-NPs in English are also accompanied by the phonetically null counterpart of FQ/Ind's in Japanese. Thus sentence (45a), for example, yields the LF in (45b):

(45) a. Everyone read *books on giraffes*.

[unambiguous: ∀ > ∃, *∃ > ∀]

b. LF: [everyone$_i$ [$_{VP}$ t_i [$_{V'}$ read [books on giraffes]$_j$ QP_j]]]

This accounts for the lack of wide scope for the object B-NP *books on giraffes* in (45a). While the subject QP *everyone* undergoes QR to be adjoined to a higher position, the object B-NP *books on giraffes* is subject to the requirements in (40) and (41) so that it can only take narrow scope in its underlying position.

Hasegawa's (1991, 1993) analysis correctly captures the lack of wide scope of presuppositional FQs, a case problematic to Diesing's (1990, 1992) and Homma et al.'s (1992) analyses:

(46) (= (34))

    a. Taroo-dake-ga *gakusei-o hotondo* syootaisi-ta

       Taro-only-Nom student-Acc most   invite-Past

       'Only Taro invited most of the students.'

       [unambiguous: only > most, *most > only]

    b. *Gakusei-o hotondo* Taroo-dake-ga syootaisi-ta

       student-Acc most   Taro-only-Nom invite-Past

       'Only Taro invited most of the students.'

       [unambiguous: only > most, *most > only]

(47) (= (36))

    a. San-nin-no gakusei-ga *kadaikyoku-o subete* ensoosi-ta

       3-Cl-Gen   student-Nom set-piece-Acc every play-Past

       'Three students played every set piece.'

       [unambiguous: 3 > ∀, *∀ > 3]

    b. *Kadaikyoku-o subete* san-nin-no gakusei-ga   ensoosi-ta

       set-piece-Acc every   3-Cl-Gen   student-Nom play-Past

       'Three students played every set piece.'

       [unambiguous: 3 > ∀, *∀ > 3]

In Hasegawa's system, presuppositional FQs such as *hotondo* 'most' and *subete* 'every' are subject to the requirements in (40) and (41) on a par with numeral FQs since they, as FQs, must be treated as A'-quantifiers, irrespective of their presuppositionality. Thus the narrow scope property of these FQs are correctly captured.

2.3.5   Problems for Hasegawa (1991, 1993)

Hasegawa's (1991, 1993) analysis is not without problems, however.   The first

problem has to do with her assumption that FQs in Japanese are A'-quantifiers.   It has been

pointed out in the past literature that an FQ and its host NP in fact form a single constituent.

This is indicated by the fact that an FQ and its host NP may be conjoined (Kamio (1977),

Terada (1990), Ueda (1990, 1993), Kawashima (1994), Watanabe (2006)):

(48)   a.   *Syoonen-ga san-nin* to   *syoozyo-ga hutari* umi-o   mite i-ta

boy-Nom   3-Cl   and girl-Nom   2.Cl   sea-Acc see   be-Past

'Three boys and two girls were looking at the sea.'

b.   Ann-wa   *yoonasi-o hito-tu* to   *orenzi-o   yon-ko* kat-ta

Ann-Top pear-Acc   1-Cl   and orange-Acc 4-Cl   buy-Past

'Ann bought one pear and four oranges.'

(Ueda (1993: 16))

If we assume that only constituents may be conjoined, this fact can be best accounted for by

saying that an FQ is actually located inside its host DP, not outside of it, as shown roughly as:

(49)   a.   [DP *syoonen-ga san-nin*] to [DP *syoozyo-ga hutari*] umi-o mite i-ta

b.   Ann-wa [DP *yoonasi-o hito-tu*] to [DP *orenzi-o yon-ko*] kat-ta

If this is so, then there is no reason to regard the FQ as being an A'-quantifier since it is inside

an argument QP in A-position on a par with a quantifier occurring prenominally.

Accordingly, there is also no reason for an NP-FQ to be distinguished from a Q-NP in terms

of the applicability of QR: Since an FQ is actually inside an NP on a par with a prenominal

quantifier, QR would have to apply to NP-FQs in order to establish an operator-variable chain.

A second problem with Hasegawa's (1991, 1993) analysis has to do with the fact that *not all* prenominal quantifiers may take wide scope.   Recall that Diesing's (1992) example in (23) has three readings and lacks the wide scope of the object when it has a nonpresuppositional reading (See Section 2.3.1.).

(50)   (= (19))

Every cellist played *some variations*.

[ambiguous: $\forall > \exists, \exists > \forall$]   (Diesing (1992: 65))

In Hasegawa's system, all QPs with a prenominal quantifier must be treated equally with respect to the application of QR, irrespective of the (non)presuppositionality of QPs.   In other words, Hasegawa cannot capture the correlation between the presuppositionality and the scope of QPs.

The nonpresuppositional reading is also observed with Q-NPs in Japanese.   In fact, a Q-NP is ambiguous between the presuppositional and the nonpresuppositional reading (Homma et al. (1992), Muromatsu (1998)):

(51)   Watasi-wa *san-nin-no gakusei-o*   mi-ta

I-Top   3-Cl-Gen student-Acc see-Past

'I saw three students.'

The Q-NP *san-nin-no gakusei* may either refer to a subset of the set of students that are previously mentioned in the discourse (a presuppositional reading) or to students that are not

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previously mentioned but are introduced into the discourse for the first time (a

nonpresuppositional reading).   The relevance of the nonpresuppositional reading of a Q-NP

in Japanese to the unavailability of wide scope seems at first sight not straightforward because

of the presence of the presuppositional reading.   One cannot tell easily whether the QP in

san-nin-no gakusei-o can or cannot take wide scope under its nonpresuppositional reading:

(52) *San-nin-no gakusei-o*   daremo-ga   mi-ta

        3-Cl-Gen   student-Acc everyone-Nom see-Past

        'Everyone saw three (of the) students.'

        [ambiguous: 3 > ∀, ∀ > 3]

However, it seems possible to control the readings available for a Q-NP by creating an

environment that forces the Q-NP to be interpreted as nonpresuppositional.   The verbs

motteiru 'have' and *katteiru* 'have as a pet', for example, seem to require their object to have

a nonpresuppositional reading only:

(53) a.   Taroo-wa *mit-tu-no ringo-o*   motte i-ru

             Taro-Top 3-Cl-Gen apple-Acc have   be-Pres

             'Taro has three apples.'

       b.   Taroo-wa *ni-hiki-no kabutomusi-o* katte i-ru

             Taro-Top 2-Cl-Gen beetle-Acc   keep be-Pres

             'Taro has two beetles as pets.'

In these examples, the object QPs *mit-tu-no ringo-o* and *ni-hiki-no kabutomusi-o* are naturally

interpreted as nonpresuppositional: It seems very difficult, if not impossible, to interpret

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these object QPs to refer to a subset of the set of apples or beetles that are mentioned previously in the discourse.   With this in mind, consider:

(54) a.   *Mit-tu-no ringo-o*   daremo-ga   motte i-ru

3-Cl-Gen apple-Acc everyone-Nom have   be-Pres

'Everyone has three apples'

[unambiguous: $\forall > 3$, *$3 > \forall$]

   b.   *Ni-hiki-no kabutomusi-o* daremo-ga   katte i-ru

2-Cl-Gen beetle-Acc   everyone-Nom keep be-Pres

'Everyone has two beetles as pets.'

[unambiguous: $\forall > 2$, *$2 > \forall$]

It seems that the scrambled object QP lacks the wide scope reading in both of these examples.

The lack of ambiguity in (59) is not expected in Hasegawa's (1991, 1993) analysis, which allows QPs with a prenominal quantifier to undergo QR and thus to take wide scope over another QP.   On the other hand, this fact favors the analyses in Diesing (1990, 1992) and Homma et al. (1992), which restrict the application of QR to presuppositional QPs.

Thirdly, the position of a prenominal quantifier inside a QP affects the scope of that QP. Consider:

(55) a.   *Hutari-no kireina   syoozyo-o subete-no geinoopurodakusyon-ga* sasot-ta

2.Cl-Gen beautiful girl-Acc   every-Gen talent.agency-Nom   invite-Past

Lit. 'Two beautiful girls, every talent agency invited.'

[ambiguous: $\forall > 2$, $2 > \forall$]

b. *San-dai-no akai kuruma-o daremo-ga*   mokugekisi-ta

   3-Cl-gen   red   car-Acc   everyone-Nom witness-Past

   Lit. 'Three red cars, everyone witnessed.'

   [ambiguous: ∀ > 3, 3 > ∀]   (Homma (2012))

(56) a. *Kireina*   *hutari-no syoozyo-o subete-no geinoopurodakusyon-ga* sasot-ta

   beautiful 2.Cl-Gen girl-Acc   every-Gen talent.agency-Nom   invite-Past

   Lit. 'Two beautiful girls, all the talent agencies invited.'

   [unambiguous: ∀ > 2、*2 > ∀]

  b. *Akai san-dai-no kuruma-o daremo-ga*   mokugekisi-ta

   red   3-Cl-gen   car-Acc   everyone-Nom witness-Past

   Lit. 'Three red cars, everyone witnessed'

   [unambiguous: ∀ > 3, *3 > ∀]   (ibid.)

In (55) the numeral quantifiers *hutari-no* and *san-dai-no* occur in the leftmost position in the scrambled object QP while in (56) they occur to the right of the modifiers (the nominal adjectival *kireina* in (56a) and the adjective *akai* in (56b)). Crucially, this difference in the placement of a prenominal quantifier within a QP affects the scope interpretation of that QP: While the scrambled object QP in (55) can take either wide or narrow scope with respect to the subject QP, the QP with its prenominal quantifier following a modifier of that QP cannot take wide scope over the subject QP.

This difference in scope between (55) and (56) is also unexpected under the analysis of Hasegawa (1991, 1993), in which Q-NPs all undergo QR to take wide scope. This fact tells us the need to posit a stricter constraint on the application of QR than is sought in Hasegawa (1991, 1993).

2.4   Summary of Chapter 2

   In this chapter we have reviewed two past approaches to QP scope.   One approach, taken by Diesing (1990) and Homma et al. (1992), attempts to account for the possibility of wide scope of QPs in terms of their presuppositionality by claiming that only presuppositional QPs undergo the rule of QR.   We have provided arguments against this approach by showing that not all presuppositional QPs may take wide scope.

   The other approach, taken by Hasegawa (1991, 1993), focuses on the syntactic form of QPs and claim that only QPs with a prenominal quantifier, but not NP-FQs and B-NPs, may undergo QR.   We have pointed out problems to Hasegawa's analysis by showing that not all prenominal quantifiers may assure wide scope of QPs.

   The conclusion that we have reached in this chapter is summarized as the following generalizations:

(57) a.   NP-FQs cannot take wide scope, irrespective of their (non)presuppositionality.

      b.   B-NPs cannot take wide scope.

      c.   Q-NPs cannot take wide scope if the quantifier is not in the leftmost position.

      d.   Q-NPs cannot take wide scope if they are nonpresuppositional.

These are at best descriptive generalizations and thus call for a principled account.   Since the main goal of this work is to identify syntactic determinants of quantifier scope, we may ask if these generalizations can be captured in syntactic terms.   The generalizations in (57a) and (57c) suggest the significance of the syntactic position of a quantifier inside a QP: In order for a QP to take wide scope its quantifier needs to be not only prenominal but also in the leftmost prenominal position.   It seems that (57b) can also be captured in syntactic terms.

B-NPs cannot take wide scope since they lack a quantifier.   What about (57d)?   The

generalization in (57d) is stated in semantic terms.   In order to capture this in syntactic terms,

we need to identify a syntactic factor, if any, that is involved in the determination of

presuppositionality.

Thus our next task in Chapter 3 is to discuss the structure of QPs and their relevance to

presuppositionality and scope.

Chapter 3

The Structure and the Interpretation of QPs

3.1   Introduction

In this chapter we discuss the correlation between the syntactic position of a quantifier inside a QP and the availability of the presuppositional interpretation of the QP containing the quantifier.   We first review the previous works on the difference in the distribution of strong and weak quantifiers in a QP (Section 3.1), and then examine the correlation between the syntactic position of a quantifier in a QP and the interpretation of the quantifier (Section 3.2). We suggest that the correlation between the syntactic position of a quantifier in a QP and the presuppositionality of the QP holds only partially, and that the presuppositional interpretation of a QP may come from sources other than the quantifier's being in [Spec, DP].   In doing so, we defend our claim made in Chapter 2 that it is the syntactic structure of a QP, not its semantic property of presuppositionality, that determines the scope of a QP.   Furthermore, we also suggest that the "other" sources of presuppositionality in NP-FQs can be traced to syntactic factors (Section 3.3).

3.2   Positions of Strong and Weak Quantifiers

3.2.1   Strong and Weak Quantifiers in English

In the past literature, it has been observed that *strong* and *weak* quantifiers exhibit different syntactic distributions in QPs:[1]

(1)   Strong quantifiers:

    a.   * the every boy

---

[1] For the definitions of the terms *strong* and *weak*, see Chapter 1.

b. *the each boy

c. *the all boys

d. *the both boys   (Borer (2005))

(2) Weak quantifiers:

a.   the three stooges

b.   the few volunteers

c.   the many medals (on the table)   (ibid.)

As shown in (1) and (2), the definite article *the* may precede a weak quantifier ((2)), but not a strong quantifier ((1)).   It has been proposed by Hudson (1989), Giusti (1991), Muromatsu (1998) and Borer (2005) that this difference comes from the syntactic difference of these quantifiers within a QP.   Although these proposals differ slightly in their details, the basic idea common to these proposals is illustrated in (3) and (4):

(3)   Strong quantifiers:

```
                DP
              /    \
          every     D'
                  /    \
                 D      NP
                        |
                        N
                        |
                       boy
```

(4)   Weak quantifiers:
    a.

```
                DP
              /    \
          many      D'
                  /    \
                 D      NP
                        |
                        N
                        |
                      medals
```

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b.
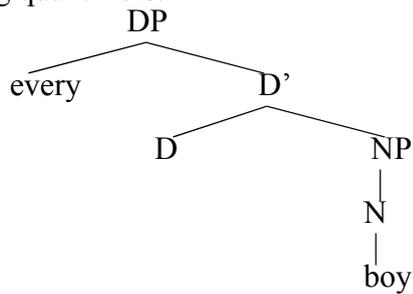
```
              DP
             /  \
                 D'
                /  \
               D    NP
                   /  \
                many   N'
                       |
                       N
                       |
                    medals
```
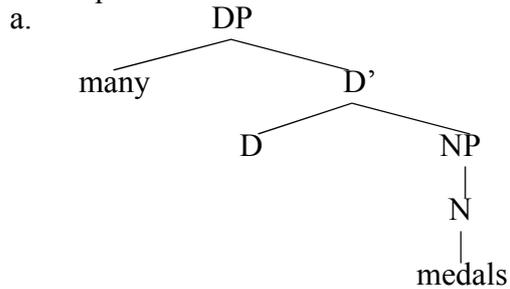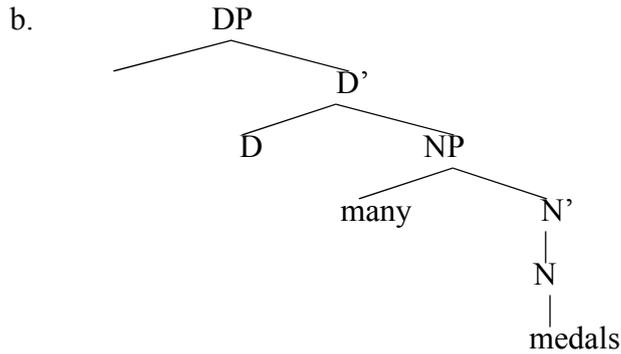
While a strong quantifier may only appear in [Spec, DP], a weak quantifier may appear in either of [Spec, DP] and [Spec, NP].   If it is assumed that the definite article is located in D, we may account for the ungrammaticality of (1) by saying that strong quantifiers may only appear in [Spec, DP].   On the other hand, weak quantifiers such as *many* may appear to the right of the definite article since they may appear in [Spec, NP].

3.2.2   Strong and Weak Quantifiers in Japanese

This difference between strong and weak quantifiers in English seems to be also true of Japanese quantifiers.   Consider the following examples:

(5)   a.   Sono-dansei-wa *san-nin-no kireina   zyosei-o*   syokuzi-ni sasot-ta

that-man-Top   3-Cl-Gen   beautiful woman-Acc dinner-Dat invite-Past

'The man invited three beautiful women to a dinner.'

b.   Watasi-wa *san-dai-no akai kuruma-o* mokugekisita

I-Top   3-Cl-Gen   red   car-Acc   witness-Past

'I witnessed three red cars.'

(6) a.   Sono-dansei-wa *kireina   san-nin-no zyosei-o*   syokuzi-ni sasot-ta

that-man-Top   beautiful 3-Cl-Gen   woman-Acc dinner-Dat invite-Past

'The man invited three beautiful women to a dinner.'

b.   Watasi-wa *akai san-dai-no kuruma-o* mokugekisita

I-Top   red 3-Cl-Gen   car-Acc   witness-Past

'I witnessed three red cars.'

In (5) the prenominal weak quantifiers *san-nin-no* ((5a)) and *san-dai-no* ((5b)) are followed

by a nominal adjective (*kireina*) and an adjective (*akai*), respectively, while their order is

reversed in (6).[2]   What is interesting is that while the reverse order of the quantifier and the

adjective/nominal adjective (henceforth, Adj) is possible with weak quantifiers, a strong

quantifier resists placing an Adj to its left:

(7) a.   Sono-hito-wa {*subete-no / hotondo-no / hansuu-no / san-bun-no-iti-no*} *kireina*

that-man-Top every-Gen/most-Gen/half-Gen/one.third-Gen   beautiful

zyosei-o   sasot-ta

woman-Acc invite-Past

'The man invited all/most/half /one third of the beautiful women.'

b.   Hanako-wa {*subete-no / hotondo-no / hansuu-no / san-bun-no-iti-no*} *akai*

Hanako-Top every-Gen/most-Gen/half-Gen/one.third-Gen   red

kuruma-o mokugekisi-ta

car-Acc   witness-Past

'Hanako witnessed all/most/half/one third of the red cars.'

---

[2] The terms "adjectives" and "nominal adjectives" are employed in Kuno (1973), Uehara (1996) and
Yamakido (2000, 2005), although Yamakido (2005) uses the term "true adjectives" for "adjectives."

(8) a. * Sono-hito-wa *kireina {subete-no / hotondo-no   hansuu-no / san-bun-no-iti-no}*

          that-man-Top beautiful every-Gen/most-Gen/half-Gen/one.third-Gen

          zyosei-o   sasot-ta

          woman-Acc invite-Past

  b. * Hanako-wa   *akai {subete-no / hotondo-no / hansuu-no / san-bun-no-iti-no}*

          Hanako-Top red   every-Gen/most-Gen/half-Gen/one.third-Gen

          kuruma-o mokugekisi-ta

          car-Acc   witness-Past

This difference is accounted for if strong quantifiers in Japanese are in [Spec, DP] while weak

quantifier may be in either [Spec, DP] or [Spec, NP].   If we assume that an Adj may appear

in a periphery position of the NP projection, we can account for the difference in the

grammaticality of the Adj-Quantifier order between (6) and (8) by saying that the weak

quantifier in (6) may appear in [Spec, NP] while the strong quantifier in (8) may only appear

in [Spec, DP].

    Thus the difference in the syntactic position between strong and weak quantifiers is

supported by the above facts.

3.2.3   An Apparent Counterexample

    Before proceeding, let us discuss one potential counterexample to the analysis in the

preceding section.   In the preceding section we have suggested that a strong quantifier such

as *subete-no* 'every' and *hotondo-no* 'most' may not be preceded by an Adj, as in (8), since a

quantifier must be in [Spec, DP].   However, placing a genitive-marked noun modifier such

as *170-senti-izyoo-no* '170 centimeters or more' in front of a strong prenominal quantifier

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does not seem to lead to ungrammaticality:[3]

(9)   Sono-purodakusyon-wa *170-senti-izyoo-no*   *{subete-no/hotondo-no}*

       that-talent-agency-Top 170-centimeters-or.more-Gen every-Gen/most-Gen

       syoozyo-o sasot-ta

       girl-Acc   invite-Past

       'That talent agency invited all/most of the girls who are 170 centimeters tall or taller.'

Thus if a strong quantifier is in [Spec, DP], then these examples tell us that a quantifier in [Spec, DP] may be preceded by a fronted modifier, contrary to our observation in the preceding section.

Note, however, that the modifier in (9) is quite distinct from the Adj's in their morphological and semantic properties.   Firstly, the modifier *170-senti-izyoo-no* is morphologically distinct from Adj's in that they are marked with the genitive marker *no*, while Adj's end with *–i* or *–na*, respectively.   Indeed, other instances of modifiers ending with *–no* may precede a strong quantifier:

(10) a.   170-senti-izyoo-no   subete-no   syoozyo

           170-centimeter-or.more-Gen every-Gen girl

           'all of the girls who are 170 centimeters tall or taller'

      b.   miginage-no   hotondo-no toosyu

           right.handed-Gen most-Gen   pitcher

           'most of the right-handed pitchers'

---

[3] I thank Koichi Takezawa (personal communication) for bringing this fact to my notice.

c.   sono daigaku-no   hansuu-no gakusei

     that   university-Gen half-Gen   student

     'half of the students at the university'

(11) a. * kireina   subete-no syoozyo

        beautiful every-Gen girl

        'all of the girls taller than 170 centimeters'

     b. * wakai hotondo-no toosyu

        young most-Gen pitcher

        'most of the right-handed pitchers'

     c. * kasikoi hansuu-no gakusei

        bright   half-Gen   student

        'half of the students at the university'

Secondly, genitive-marked modifiers have a semantic property quite distinct from that of

Adj's.   Note that Adj's denote properties of the head noun.   On the other hand, the genitive

modifier *170-senti-izyoo-no* in (9), for example, denote a domain of objects that the quantifier

ranges over.   Consider (12) with the quantifier *hotondo-no*:

(12) Sono-purodakusyon-wa *170-senti-izyoo-no*   *hotondo-no syoozyo-o* sasot-ta

     that-talent-agency-Top 170-centimeters-or.more-Gen most-Gen   girl-Acc   invite-Past

     'That talent agency invited all/most girls who are 170 centimeters tall or taller.'

In the QP *170-senti-izyoo-no hotondo-no syozyo-o*, for example, the genitive modifier

170-senti-izyoo-no constitutes part of the restrictive clause for the quantifier *hotondo-no*.   In

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other words, it specifies the domain of objects that *hotondo-no* ranges over. Thus (12) means that the talent agency invited most of the girls who are 170 centimeters tall or taller. It does not mean that the talent agency invited most of the girls and that these girls are 170 centimeters tall or taller. Here the genitive modifier denotes the property of all the members in the superset, not that of the members picked out by the quantifier *hotondo-no*. The same applies to other genitive modifiers preceding a strong quantifier:

(13) a. Sono-tiimu-de-wa, *miginage-no   hotondo-no toosyu-ga*   senpatu-o

         that-team-in-Top   right.hander-Gen most-Gen   pitcher-Nom starter-Acc

         kiboosite i-ru

         hope   be-Pres

         'In this team, most right-handed pitchers want to be starters.'

   b. Kono-kaisya-wa *20-sai-dai-no   hotondo-no syain-ga*   kekkonsite iru

         this-company-Top the.twenties-Gen most-Gen   worker-Nom marry   be-Pres

         'In this company most workers in their twenties are married.'

Thus these considerations suggest that genitive modifiers constitute a category quite distinct from that of Adj's. If so, it is not unreasonable to say that genitive modifiers appear in a syntactic position distinct from that of Adj's.

3.3 Quantifier Positions and Presuppositionality

The preceding section has reviewed the past proposals on the distributional difference between strong and weak quantifiers in QPs. Since the distinction between these two groups of quantifiers has to do with the presuppositionality of a QP, in that strong quantifiers necessarily yield a presuppositional reading of QPs while weak quantifiers may provide either

a presuppositional or a nonpresuppositional reading to QPs, it can also be claimed that the difference in the syntactic positions of a quantifier somehow correlates with the presuppositionality of a QP containing it.   Indeed the following generalization seems to hold:

(14)   A quantifier in [Spec, DP] yields a presuppositional interpretation.

This may be supported by the following considerations.   First, the fact that a strong quantifier, which is necessarily partitive, may only appear in [Spec, DP], as we have seen in the previous section.   This implies that [Spec, DP] is a locus for the presuppositionality of the QP.   Secondly, it may also be supported by the following fact:

(15) a.   Many students are absent today.

     b.   My many students are absent today.   (Homma (2011))

The QP *many students* in (15a) is known to be ambiguous between the relevant readings.   It can either refer to many students in a set of students that the speaker teaches (the partitive reading of *many*, and the presuppositional reading of the QP), or to students newly introduced in the discourse whose number is quite large (the cardinal reading of *many*, and the nonpresuppositional reading of the QP).   On the other hand, *many* in (15b) has only a cardinal reading.   The QP *my many students* does not refer to many students out of a particular set of students, but implies that there are many students in the speaker's class and all these students in that class were absent from the class.   In other words, if the quantifier *many* is forced to appear in [Spec, NP] as in (15b), it may only have a cardinal interpretation. On the other hand, if *many* is not forced to appear in [Spec, NP], as in (15a), it may have a

partitive reading so that the QP *many students* may be interpreted to be presuppositional.   In other words, this means that, given the two positions for a prenominal quantifier, *many* has a partitive reading if it is in [Spec, DP].   Thus this fact gives support to the generalization in (10).

Now that we have found that (14) can be maintained, we may ask if the generalization in (16) can also be maintained.

(16)   A quantifier in [Spec, NP] yields a nonpresuppositional interpretation.

Again the facts in (15) seem to support this generalization.   As we have already seen, the quantifier *many* in (15b) is forced to appear in [Spec, NP] and has only a cardinal interpretation.   Thus we may maintain that a quantifier in [Spec, NP] yields a cardinal interpretation.   Given that the nonpresuppositional reading of *many students* is based on the cardinal reading of *many*, we can also maintain that *many* in [Spec, NP] is the source of the nonpresuppositional reading of *many students*.

Furthermore, the following two facts tell us that the generalization in (16) may be further generalized to (17):

(17)   Lack of a quantifier in [Spec, DP] yields a nonpresuppositional interpretation.

The facts in (15) can also be captured by this generalization in (17):   The presence of a quantifier in [Spec, NP] means the lack of it in [Spec, DP].   Generalization (17) may also be supported by the interpretive property of existential B-NPs in English and Japanese.

(18) *Several children* entered the museum.

    a.   I saw *boys* at the movies.

    b.   I saw *some boys* at the movies.   (Enç (1991), Homma et al. (1992))

                                      (= (20) of Chapter 2)

(19)   Ten men took a witness stand in a court, and

    a.   *syoonin-ga*   hontoo-no koto-o   it-ta

       witness-Nom true-of   thing-Acc say-Past

       'Witnesses told the truth.'

       [*presuppositional, √nonpresuppositional]

    b.   *nan-nin-ka-no syoonin-ga*   hontoo-no koto-o   it-ta

       some-Gen   witness-Nom true-of   thing-Acc say-Past

       'Some witnesses told the truth.'

       [√presuppositional, √nonpresuppositional]   (Homma et al. (1992))

                                        (= (23) of Chapter 2)

As we have reviewed in Chapter 2, existential B-NPs in both English and Japanese obligatorily have a nonpresuppositional reading, as in (18a) and (19a), in contrast to QPs with an overt prenominal quantifier in (18b) and (19b). Thus these facts support the generalization in (17) since B-NPs lack a quantifier and obligatorily have a nonpresuppositional interpretation.

    While there are pieces of evidence in favor of the generalization in (17), we also find counterevidence to this generalization. The first piece of counterevidence has to do with the interpretation of a QP with the order Adj-Quantifier. Consider the examples in (5) and (6) again:

(20) a. Sono-dansei-wa *san-nin-no kireina   zyosei-o*   syokuzi-ni   sasot-ta

　　　 that-man-Top   3-Cl-Gen   beautiful woman-Acc dinner-Dat invite-Past

　　　 'The man invited three beautiful women to a dinner.'

　　 b. Watasi-wa *san-dai-no akai kuruma-o* mokugekisita

　　　 I-Top　　　 3-Cl-Gen red　 car-Acc　 witness-Past

　　　 'I witnessed three red cars.'　　　　　　　　　　　　　 (= (5))

(21) a. Sono-dansei-wa *kireina　　 san-nin-no zyosei-o*　　 syokuzi-ni sasot-ta

　　　 that-man-Top　 beautiful 3-Cl-Gen　 woman-Acc dinner-Dat invite-Past

　　　 'The man invited three beautiful women to a dinner.'

　　 b. Watasi-wa *akai san-dai-no kuruma-o* mokugekisita

　　　 I-Top　　　 red 3-Cl-Gen　 car-Acc　 witness-Past

　　　 'I witnessed three red cars.'　　　　　　　　　　　　　 (= (6))

The QPs in the examples in (20) may either have a presuppositional or a nonpresuppositional

reading.　 The QP *san-nin-no kireina zyosei-o* may refer either to three of the set of beautiful

women form the preceding discourse (the presuppositional reading) or to three beautiful

women that are newly introduced into the discourse (the nonpresuppositional reading).　 On

the other hand, the QPs in the examples in (21), where the modifier is fronted to the left of the

quantifier, sound somewhat different.　 The dominant reading of the object QP *kireina*

san-nin-no zyosei-o in (21a), for example, seems to be a nonpresuppositional one, and lacks

the presuppositional reading that (20a) has:　 It refers to three beautiful women newly

introduced into the discourse, but it does not seem to refer to three of the set of beautiful

women from the preceding discourse.　 On a closer examination, however, we can detect a

presuppositional reading of the QPs in (21) that is somewhat different from that in (20).　 As

shown in (22), a QP with the internal order Adj-Quantifier-Noun is not incompatible with the phrase X-*no-uti-no* 'out of X', which is intended to refer to the set of X's and to serve as the superset for the QP to range over.[4]

(22) Sono-dansei-wa *go-nin-no uti   kireina   san-nin-no zyosei-o*   syokuzi-ni sasot-ta

that-man-Top   5-Cl-Gen out-of beautiful 3-Cl-Gen woman-Acc dinner-Dat invite-Past

'Out of the five, the man invited three beautiful women to dinner.'

In this example, the QP *kirei-na san-nin-no zyosei-o* is understood to refer to three of the particular set of women in the discourse and to convey that these three women are beautiful in contrast to the other women who do not have this property.   In the preceding section, we accounted for the distributional difference between strong and weak quantifiers with respect to the relative order with modifiers by the assumption that only weak quantifiers may be in [Spec, NP]:   Only weak quantifiers, but not strong quantifiers, may follow an Adj since they may be in [Spec, NP].   If this analysis is on the right track, (22) is regarded as a case where a QP has a presuppositional reading despite its quantifier's location in [Spec, NP].[5]

The second case where a QP is presuppositional despite the lack of a quantifier in [Spec, DP] is provided by the interpretation of NP-FQs, which we have already discussed in Chapter 2.   The first case of presuppositional NP-FQs without a quantifier in [Spec, DP] is the NP-FQ with a strong quantifier, as we have discussed in Chapter 2:

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[4] This was pointed out by Nobuhiro Kaga and Tomokazu Takehisa (personal communication).
[5] In the preceding discussion in the text, we do not mean to say that the NP-peripheral position is not the only position for an Adj.   We assume that an Adj may also appear within the projection of NP, in a position lower than [Spec, NP].   This allows the weak quantifier in [Spec, NP] to precede an Adj, and can account for the nonpresuppositional reading of the Q-Adj order.

(23)   *Gakusei-tati-ga subete/hotondo/zen'in* ki-ta

      student-Pl-Nom all/most/everyone   come-Past

      'All/Most of the students came.'   (= (32) of Chapter 2)

The subject NP-FQ in (23) is necessarily presuppositional because of the presence of a strong quantifier as an FQ.   Secondly, NP-FQs with a weak FQ may have a presuppositional reading, as we have pointed out in Chapter 2:

(24)   a.   *Kinoo   ki-ta   kyaku-ga san-nin* kyoo kaet-ta

          yesterday come-Past guests 3-Cl   today return-Past

          'Three of the guests who came yesterday left today'

      b.   Boku-wa *sensei-ga   suisensi-ta   hon-o   san-satu* yon-da

          I-Top   teacher-Nom recommend-Past book-Acc 3-Cl   read-Past

          'I returned three of the books that the teacher recommended'

                                        (= (37) of Chapter 2)

The QPs *kinoo kita kyaku-ga san-nin* and *sensei-ga suisensi-ta hon-o san-satu* are understood to be presuppositional in the sense that the former refers to three guests in the set of guests who came yesterday, and the latter to three of the set of books that the teacher recommended.

    To sum up, the above discussion leads us to the following generalizations.   While the generalization in (9) can be maintained, the generalization in (17) must be modified as (26):

(25)   A quantifier in [Spec, DP] yields a presuppositional interpretation.   (= (9))

(26)   Lack of a quantifier in [Spec, DP] yields either a nonpresuppositional or a

presuppositional interpretation.

In other words, (25) and (26) imply that there are two sources for the presuppositional interpretation of a QP, whereas the nonpresuppositional interpretation of a QP arises from the lack of a quantifier in [Spec, DP].   Thus (25) and (26) are paraphrased as follows:

(27)   The presuppositional interpretation of a QP comes from a quantifier's being in [Spec, DP] or other sources.

(28)   The nonpresuppositional interpretation of a QP comes from the lack of a quantifier in [Spec, DP].

Thus although there is a one-to-one correspondence between the distinction between strong and weak quantifiers on one hand and the syntactic positions of a quantifier in a QP on the other, the correlation between the presuppositionality of QPs and the quantifier position in a QP is not a perfect one.

3.4   Relevance of QP Structure to Scope

3.4.1   Capturing the Generalizations in Chapter 2

In Chapter 2 we have reached the following generalizations.

(29)   a.   NP-FQs cannot take wide scope, irrespective of their (non)presuppositionality.

b.   B-NPs cannot take wide scope.

c.   Q-NPs cannot take wide scope if the quantifier is not in the leftmost position.

d.   Q-NPs cannot take wide scope if they are nonpresuppositional.

(29a) and (29c) have led us to suggest the relevance of the presence of a quantifier in the leftmost position in a QP to the scope property of that QP.   Our discussion in the preceding discussion on the quantifier position in a QP suggests that this leftmost position is [Spec, DP]. Thus, if we assume the rule of QR, as we did in Chapter 2, the condition on QR may be stated as follows:

(30)   QR applies only to those QPs with a quantifier in [Spec, DP].

If we assume this, we can correctly capture the narrow scope property of NP-FQs and Q-NPs with the internal order Adj-Quantifier.   Consider again:

(31)   a.   Yon-syurui-no miyage-o   *kinoo*   *ki-ta*   *kyaku-ga*   *san-nin* kat-ta

4-kind-Gen   souvenir-Acc yesterday come-Past guest-Nom 3-Cl   buy-Past

'Three guests who came yesterday bought four kinds of souvenir'

[unambiguous: *3 > 4, 4 > 3]

b.   *Sensei-ga*   *suisensi-ta*   *hon-o*   *san-satu* daremo-ga   yon-da

teacher-Nom recommend-Past book-Acc 3-Cl   everyone-Nom read-Past

'Everyone read three books that the teacher recommended'

[unambiguous: $\forall > 3$, *3 > $\forall$]   (= (38) of Chapter 2)

(32)   a.   *Kireina*   *hutari-no syoozyo-o subete-no geinoopurodakusyon-ga* sasot-ta

beautiful 2-Cl-Gen girl-Acc   every-Gen talent.agency-Nom   invite-Past

Lit. 'Two beautiful girls, all the talent agencies invited.'

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[unambiguous: $\forall > 2$、 $*2 > \forall$]

b. *Akai san-dai-no kuruma-o daremo-ga*   mokugekisi-ta

red 3-Cl-gen   car-Acc   everyone-Nom witness-Past

Lit. 'Three red cars, everyone witnessed'

[unambiguous: $\forall > 3$, $*3 > \forall$]   (= (56) of Chapter 2)

As we have discussed, NP-FQs may not take wide scope irrespective of their

presuppositionality.   We can now capture this fact by saying that NP-FQs do not undergo

QR since they obviously lack a quantifier in [Spec, DP].

The narrow scope of a QP with a fronted Adj as in (32) can also be captured.   The

preceding section has suggested that a quantifier preceded by an Adj is in [Spec, NP].   If so,

the QPs in (32) do not meet the condition for the application of QR: They cannot undergo

QR since they lack a quantifier in [Spec, DP].   Note that the narrow scope property of QPs

with a fronted Adj cannot be captured if the applicability of QR is determined by

presuppositionality since QPs with a fronted Adj may have a presuppositional interpretation,

as we have discussed above.   Hence we cannot say that the presuppositionality is a decisive

factor for determination of the scope of QPs with a fronted modifier.

The generalization in (29b) can also be captured.   B-NPs can only take narrow scope

since they lack a quantifier in [Spec, DP] and hence cannot undergo QR.

The generalization in (29d), in contrast, is apparently difficult to capture in syntactic

terms since it is stated in semantic terms.

(29) d.   Q-NPs cannot take wide scope if they are nonpresuppositional.

The relevant examples are those involving a QP with a prenominal quantifier that has only a

nonpresuppositional interpretation.

(33) a. *Mit-tu-no ringo-o*   daremo-ga   motte iru

3-Cl-Gen apple-Acc everyone-Nom have   be-Pres

'Everyone has three apples.'

[unambiguous: $\forall > 3$, $*3 > \forall$]

b. *Ni-hiki-no kabutomusi-o* daremo-ga   katte i-ru

2-Cl-Gen beetle-Acc   everyone-Nom keep be-Pres

'Everyone has two beetles as pets.'

[unambiguous: $\forall > 2$, $*2 > \forall$]   (= (54) of Chapter 2)

In these examples, the scrambled object QP is forced to have a nonpresuppositional reading only, probably due to the semantic property of the verbs *motte iru* and *katte iru*, and the QP is unable to take wide scope over the subject.

However, our discussion in the preceding sections now enables us to capture the generalization in (29d) in syntactic terms.   We have suggested that nonpresuppositional QPs are characterized in syntactic terms as those QPs that lack a quantifier in [Spec, DP].   This means that nonpresuppositional QPs cannot meet the requirement for the application of QR and hence may not take scope over another QP.   Thus, in conclusion, we have succeeded in capturing all the generalizations in (29) consistently in syntactic terms.

3.4.2   The Role of [Spec, DP] in Other Movement Rules

In the preceding section we have proposed the following constraint on the application of QR:

(34) QR applies to only those QPs with a quantifier in [Spec, DP].

This is not an ad hoc requirement on QR, but can be derived from a grammatical principle that guides syntactic movement of DPs.   Whatever that principle may be, the significance of the presence of a relevant element in [Spec, DP] for movement is strongly suggested by the following facts of overt movement in English:[6]

(35) WH-movement:

a.   *How good a student* is John?

b. * *A how good student* is John?

(36) Degree-phrase inversion:

a.   *So good a student* is John that everyone in the class admires him.

b. * *A so good student* is John that everyone in the class admires him.

These examples tell us that an interrogative DP ((35)) and an DP containing a degree phrase ((36)) must have an interrogative AP (*how good*) and a degree AP (*so good*), respectively, moved into the leftmost position in DP, [Spec, DP] as illustrated in (37a).   If the relevant AP remains in its original position as in (35b) and (36b), the movement cannot apply to the DP.

(37) a.   [$_{DP}$ [$_{AP}$ how/so good]$_i$ [$_{NP}$ a t_i student]]   (for (35a) and (36a))

b.   [$_{DP}$ [$_{NP}$ a [$_{AP}$ how/so good]$_i$ student]]   (for (35b) and (36b))

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[6] The inversion in DP is discussed widely in the literature.   See Abney (1987), Hendrick (1990) and Troseth (2009), for example.

Thus the condition on QR in (34) is not an ad hoc one at all, since the same requirement is shared by other sorts of syntactic movement.   Rather, the facts in (35) and (36) justify our approach to QP scope.   If the scope of QPs is subject to the same requirement that constrains overt movement such as WH-movement and degree-phrase movement, it is strongly suggested that the scope of QPs is determined by a syntactic movement of some sort.

3.5   What are the "Other" Sources of Presuppositionality?

In the preceding sections we have shown that the presuppositionality of QPs may come from multiple sources.   One source of presuppositionality is a quantifier in [Spec, DP]:   A QP with a quantifier in its [Spec, DP] has a presuppositional reading.   We have also shown that a QP without a quantifier in its [Spec, DP] may have a presuppositional reading.   This is the case with NP-FQs and QPs with a fronted Adj:

(38) a. *Kinoo   ki-ta   kyaku-ga san-nin* kyoo kaet-ta

yesterday come-Past guests   3-Cl   today return-Past

'Three of the guests who came yesterday left today.'

b. Boku-wa *sensei-ga   suisensi-ta   hon-o   san-satu* yon-da

I-Top   teacher-Nom recommend-Past book-Acc 3-Cl   read-Past

'I read three of the books that the teacher recommended.'   (= (24))

(39) Sono-dansei-wa *go-nin-no uti   kireina   san-nin-no zyosei-o*   sasot-ta

that-man-Top   5-Cl-Gen out-of beautiful 3-Cl-Gen   woman-Acc invite-Past

'Out of the five, the man invited three beautiful women.'   (= (22))

Thus we are faced with a question: If it is not the presence of a quantifier in [Spec, DP] that

yields the presuppositional interpretation of these QPs in (38) and (39), what is the source of

the presuppositionality of them?   In this section we attempt to present an analysis, although a

tentative and sketchy one, in which we suggest that the "other" source of presuppositionality

is a syntactic factor.

3.5.1   On the Presuppositionality of NP-FQs

Firstly, let us consider where the presuppositionality of NP-FQs comes from.   The

source of the presuppositionality of NP-FQs with a strong quantifier is quite straightforward.

Since a strong quantifier necessarily has a partitive interpretation only, the presence of a

strong quantifier forces the presuppositional reading of NP-FQs.   What about the

presuppositionality of NP-FQs with a weak (numeral) quantifier?   Since we have argued that

the syntactic position of a prenominal weak quantifier is a source of the presuppositionality of

QPs, we may ask whether the presuppositionality of NP-FQs is also affected by syntactic

factors.   One factor, suggested by Ishii (1997, 1998), that determines the presuppositionality

of weak NP-FQs may be called a semantic one.   In Chapter 2 we have shown that an

addition of a relative clause to a noun can provide an NP-FQ with a presuppositional reading:

(40) a. *Kinoo   ki-ta   kyaku-ga san-nin* kyoo kaet-ta

yesterday come-Past guests   3-Cl   today return-Past

'Three of the guests who came yesterday left today.'

  b. Boku-wa *sensei-ga   suisensi-ta   hon-o   san-satu* yon-da

I-Top   teacher-Nom recommend-Past book-Acc 3-Cl   read-Past

'I read three of the books that the teacher recommended.'   (= (38))

As Ishii (1997, 1998) suggests, it is not the simple presence of a relative clause that yields

presuppositionality.　　The relative clause must denote a specific event.　　While the relative

clauses in (40) denote a specific event, the relative clause *kodomo-ga yorokobu* in (41)

denotes a generic property, not a specific event, and accordingly the NP-FQ is only

interpreted as nonpresuppositional (Ishii (1997, 1998)):

(41)　John-ga　Mary-ni *kodomo-ga yorokobu hon-o*　　*san-satu* age-ta

　　　　John-Nom Mary-to child-Nom like　　　book-Acc 3-Cl　　give-Past

　　　　'John gave three books that children like to Mary.'

　　　　[*presuppositional, √nonpresuppositional]

In addition, Ishii also shows that the choice of the head noun affects the availability of a

presuppositional reading.　　He points out the noun *tooboohan* 'fugitive' as one such case:

(42)　Keisatu-ga　*tooboohan-o san-nin* sooko-no　　　naka-de mituke-ta

　　　　police-Nom fugitive-Acc 3-Cl　　warehouse-Gen in　　find-Past

　　　　'The police found three fugitives in the warehouse.'

　　　　[√presuppositional, √nonpresuppositional]　　　　　　　　(Ishii (1998))

Although the above factors are semantic in nature since it has to do with the eventuality of the

relative clause or the head noun contained in NP-FQs, we also find at least two syntactic

factors at work in the determination of presuppositionality of weak NP-FQs.　　Firstly, Ishii

(1997, 1998) point out that the ambiguity of a weak NP-FQ with respect to

presuppositionality disappears if the host NP is fronted to a VP-periphery position and

separated from the FQ:

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(43) a. John-ga   isoide   *urenokotta hon-o*   *san-satu* kaes-ita   (koto)

John-Nom quickly left.unsold book-Acc 3-Cl   return-Past (fact)

'John quickly returned three books that were left unsold.' (weak reading)

'John quickly returned three of the books that were left unsold.' (strong reading)

[ambiguous: ✓presuppositional ✓nonpresuppositional]

b. John-ga   *urenokotta hon-o*   isoide   *san-satu* kaes-ita   (koto)

John-Nom left.unsold book-Acc quickly 3-Cl   return-Past (fact)

[unambiguous: ✓presuppositional *nonpresuppositional]

(Ishii (1997: 95))

The difference in the availability of the nonpresuppositional reading between these two examples can be detected by considering whether the sentence may be followed by the following sentences (Tanaka (2014)):

(44) a. Soositara, moo   is-satu-mo nokotte-i-nakat-ta

then   any.longer 1-Cl-even left-be-Neg-Past

'Then there were none left.'

b. Sikasi, mada ni-satu nokotte-i-ta

but   still   2-Cl   left-be-Past

'But there were still two left.'

Example (43a) is compatible with either of (44a) and (44b).   Under the nonpresuppositional interpretation of the NP-FQ *urenokot-ta hon-o san-satu*, (43a) can be followed by (44a) since the referents of the nonpresuppositional *urenokot-ta hon-o* do not constitute a subset of a particular set of unsold books and hence it is compatible with the situation where no unsold

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books are left.   Under the presuppositional reading of the NP-FQ, on the other hand, (43a) can be followed by (44b).   The NP-FQ refers to a subset of a particular set of unsold books, and hence the sentence is compatible with the situation where there are some unsold books.

In contrast, it seems difficult to continue the sentence in (43b) with (44a):   (43b) is only compatible with the situation where there are some unsold books left unreturned.   If so, this fact gives support to Ishii's observation in (43).

Now what the examples in (43) tell us is that the syntactic operation, namely the scrambling of the host NP in (43), affects the presuppositionality of weak NP-FQs.   The nonpresuppositional interpretation disappears if the host NP is detached from the FQ.   If so, then the interpretive contrast in (43) suggests that a syntactic factor, as well as a semantic factor of eventuality, is a determinant of the presuppositionality of a weak NP-FQ.

Secondly, the interpretive possibility with respect to presuppositionality is also affected by the relative order of the host NP and the FQ.   Consider:

(45)   a.   Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-ta

           police-Top fugitive-Acc 3-Cl(-or.more) arrest-Past

           'The police arrested three fugitive criminals.'

           [ambiguous: ✓presuppositional,   ✓nonpresuppositional]

       b.   Keisatu-wa *san-nin(-izyoo)   tooboohan-o* taihosi-ta

           police-Top 3-Cl(-or.more) fugitive-Acc arrest-Past

           [unambiguous: *presuppositional,   ✓nonpresuppositional]

The example in (45b) is minimally different from (45a) in that the order of the NP and the FQ is reversed.   What is noteworthy is that (45b) lacks the presuppositional reading present in (45a).   The object NP-FQ in (45b) cannot be interpreted to refer to a subset of a particular set

of fugitive criminals established in the discourse: It only refers to three fugitive criminals newly introduced in the discourse. That is, the reversed NP-FQ in (45b) may only have a nonpresuppositional interpretation. This fact also tells us that a syntactic factor is involved in the determination of the presuppositionality of QPs since the change in the word order, which probably involves a syntactic operation on either of the host NP or the FQ, affects the presuppositionality.

Thus far we have argued that the source of presuppositionality of weak NP-FQs can be traced to syntactic factors, although the relevant syntactic factors still remain unidentified. In other words, we have regarded the ambiguity of weak NP-FQs with respect to presuppositionality as a true case of ambiguity that is yielded by the grammar. Contrary to this view on the ambiguity of weak NP-FQs, however, Tanaka (2014) proposes that these NP-FQs only have what corresponds to the nonpresuppositional interpretation and that the apparent presuppositional reading of such weak NP-FQs as those in (43) and (45) is the result of pragmatic inference. Tanaka supports this claim by observing that (46b) is not contradictory:

(46) a. # *Kan-ni haitte-ita   doroppu-no-uti-no   ni-ko-o* taberu-to, kan-wa
       can-Dat was.contained drop-Gen-out.of-Gen 2-Cl-Acc eat-when can-Top
       kara-ni   nat-ta
       empty-Dat become-Past
       'When I ate two of the drops that were contained in the can, the can became empty.'

   b. *Kan-ni haitte-ita   doroppu-o ni-ko*   taberu-to, kan-wa kara-ni
       can-Dat was.contained drop-Acc 2-Cl-Acc eat-when can-Top empty-Dat

nat-ta

become-Past

'When I ate two drops that were contained in the can, the can became empty.'

(Tanaka (2014))

The example in (46a) involves a partitive QP *doroppu-no-uti-no ni-ko-o*.　Since this QP only has a presuppositional reading, referring to a subset of a set of drops, there need to be drops left in the can after I ate two of them.　Thus it is contradictory to state that no drops are left in the can.　On the other hand, example (46b) is not contradictory, as Tanaka observes, since the NP-FQ *kan-ni haitte-ita doroppu-o ni-ko* is not presuppositional:　The two drops that are referred to by the NP-FQ do not necessarily constitute a subset of a set of drops in the can. The same QP may refer to a subset of a set of drops in the can, as the following example shows:

(47)　*Kan-ni haitte-ita　　　doroppu-o ni-ko*　taberu-to, kan-ni-wa　mada san-ko

　　　can-Dat was.contained drop-Acc　2-Cl-Acc eat-when can-Dat-Top still　3-Cl

　　　nokotte-ita

　　　be.left-Past

　　 'When I ate two drops that were contained in the can, there were still three left.'

For Tanaka (2014), the "presuppositional" reading of the NP-FQ in (47) is not a result of the true case of ambiguity of the NP-FQ, but a result of pragmatic inference, since (46b) is not contradictory.

　　　If Tanaka's (2014) approach to the "ambiguity" of weak NP-FQs were tenable, one of our arguments against the approach by Diesing (1990, 1992) and Homma et al. (1992) for the

narrow scope of NP-FQs would lose its force. The narrow scope property of NP-FQs could be equally accounted for under their approach, since weak NP-FQs would have only a nonpresuppositional reading. However, that part of our argument against Diesing (1990, 1992) and Homma et al. (1992) can be saved by the following argument. We have argued above that the ambiguity of weak NP-FQs disappears if they undergo syntactic operations: Scrambling of the host NP and the reversal of the NP and the FQ. Now this disambiguation under a syntactic operation would not be expected by Tanaka's (2014) analysis. If the only reading of a weak NP-FQ with a relative clause is a nonpresuppositional reading and that the presuppositional reading of the cases under consideration were to arise by means of pragmatic inference, the NP-FQs in (43a) and (43b) should equally be "ambiguous," since the "presuppositional" reading should always result from the nonpresuppositional reading by pragmatic inference. The lack of the nonpresuppositional reading in (43b), however, tells us that this is not the case. Likewise, the lack of the presuppositional reading in (45b) is also a problem for Tanaka's (2014) analysis. If the NP-FQ has a nonpresuppositional interpretation, a pragmatic inference should enable it to have a presuppositional interpretation as well. The reason why this reading is absent would not be expected by the pragmatic approach.

Rather, the disambiguation of the presuppositional and the nonpresuppositional reading of an NP-FQ by syntactic operations suggests that these are two distinct interpretations yielded by the grammar.

3.5.2   On the Presuppositionality of QPs with a Fronted Adj

In Section 3.3, we have pointed out that a QP with the internal order Adj-Quantifier, as well as one with the Quantifier-Adj order, may have a presuppositional interpretation. For instance, the object QP in the following sentence refers to three beautiful girls in the set

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described by *go-nin*:[7]

(48)　Sono-dansei-wa *go-nin-no uti　kireina　san-nin-no zyosei-o*　syokuzi-ni sasot-ta

　　　that-man-Top　5-Cl-Gen out-of beautiful 3-Cl-Gen woman-Acc dinner-Dat invite-Past

　　　'Out of the five, the man invited three beautiful women to dinner.'　　　(= (22))

This fact does not accord with the generalization in (16) that a quantifier in [Spec, NP] yields

a nonpresuppositional reading since we have considered a prenominal quantifier preceded by

an Adj to be located in [Spec, NP].　　How can we account for the presuppositional reading of

(48)?

　　　We might claim that the presuppositional reading in (48) arises by virtue of the

prenominal quantifier *san-nin-no* being situated in [Spec, DP], with the modifier *kireina*

located further up in the DP structure, perhaps serving as a non-restrictive modifier of the

DP.[8]　　However, if one were to say that a non-restrictive adjective might appear in front of a

quantifier in [Spec, DP], then it would not be clear why a strong quantifier such as *subete-no*

and *hotondo-no* prevents an Adj from preceding it, as we have observed above:

(49) a. * Sono-hito-wa *kireina {subete-no / hotondo-no　hansuu-no / san-bun-no-iti-no}*

　　　　that-man-Top beautiful every-Gen/most-Gen/half-Gen/one.third-Gen

　　　　zyosei-o　　sasot-ta

　　　　woman-Acc invite-Past

　　　　'The man invited all/most/half /one third of the pretty girls.'

---

[7]　This was pointed out by Nobuhiro Kaga and Tomokazu Takehisa (personal communication).
[8]　This possibility was suggested to me by Nobuhiro Kaga (personal communication).

b. * Hanako-wa   *akai {subete-no / hotondo-no / hansuu-no / san-bun-no-iti-no}*

    Hanako-Top red   every-Gen/most-Gen/half-Gen/one.third-Gen

    kuruma-o mokugekisi-ta

    car-Acc   witness-Past

    'Hanako witnessed all/most/half/one third of the red cars.'   (= (8))

Another conceivable way to account for the presuppositional reading of the QP in (48) is to say that the presuppositional reading in question results from the preposed Adj's being in [Spec, DP] and serving as a "quasi-quantifier," on a par with a prenominal quantifier in [Spec, DP]. Recall that a prenominal quantifier in [Spec, DP] ranges over a set of objects to pick out a subset. For instance, *san-nin-no gakusei-ga* under its presuppositional interpretation picks out three members out of a set of students.

(50) *San-nin-no gakusei-ga*   tesuto-o uke-ta

    3-Cl-Gen   student-Nom test-Acc take-Past

    'Three students took a test.'

In other words, the three students in the subset picked out by the QP are put in contrast to the other members of the set who did not take a test. Recall also that on its presuppositional interpretation the DP *kireina san-nin-no zyosei-o* in (48) refers to all the women having the property of *kireina* and conveys that the number of these women is three. That is, the referents of this QP are put in contrast to the other women in the relevant set who do not have the property of *kireina*. Therefore, we may say that the adjective *kireina*, not the numeral quantifier *san-nin-no*, is moved to [Spec, DP] and is given the same function as a quantifier in [Spec, DP], the function of picking out a subset from a superset of entities and put the

members of this subset in contrast to the other entities in the superset.   This accounts for the presuppositional reading associated with the QP in (48).   It is also consistent with the observation that a strong quantifier resists being preceded by an Adj.   Even a preposed adjective may move into [Spec, DP], it cannot be preposed to the left of an inherently partitive quantifier since a strong quantifier must occupy [Spec, DP].

There is in fact a piece of evidence suggesting the quantifier-like property of preposed Adj's.   Yoshihito Dobashi (personal communication) observes that an Adj preposed to the left of a quantifier needs to have a focal stress on it.[9]   This is reminiscent of the fact in English that *some* and *many* are stressed in the case of their partitive reading (Postal (1966), Milsark (1977)).   This suggests that a preposed Adj may serve as a quantifier.

3.6   Summary of Chapter 3

This chapter has reviewed the past proposals on the correspondence between the strong/weak distinction of quantifiers and the syntactic positions in a QP in which these quantifiers appear.   We have also examined the way in which DP structure and presuppositionality correspond to each other, and concluded with the following generalizations:

(51)   The presuppositional interpretation of a QP comes from a quantifier's being in [Spec, DP] or other sources.

(52)   The nonpresuppositional interpretation of a QP comes from the lack of a quantifier in [Spec, DP].

---

[9]   There seems to be a variation among speakers on this point since not all the informants reported the necessity of focal stress on preposed adjectives/adjectival nouns.

Thus we have shown that the quantifier positions in a QP and the presuppositionality of the QP do not have a one-to-one correspondence.   Then we have supported our claim made in Chapter 2 that what determines QP scope is the quantifier position in the QP: A quantifier in [Spec, DP] can give the QP wide scope, while a quantifier in other positions in DP may not. We have also discussed the source of presuppositionality of QPs without a quantifier in [Spec, DP] and suggested that syntactic factors are involved in the determination of presuppositionality of QPs.

Appendix: Quantifier Positions in Watanabe's (2006, 2008) Refined Analysis of DP-Structure

In the past literature on the syntax of DPs, more refined versions of the internal structure of DPs have been proposed.   Under the analysis of DP structure in Watanabe (2006, 2008), for example, the QP *san-nin-no gakusei-o* in (53a) is assigned the structure in (53b).

(53) a.   san-nin-no   gakusei-o

3-Cl-Gen student-Acc

'three students'

b.

```
                    DP
                  /    \
                      D'
                    /    \
                  QP       D
                /    \
           #P -no    Q'
          /   \     /   \
        san    #'  CaseP   Q
              / \   /   \
           tNP  #  NP   Case'
                |  |    /    \
              nin gakusei tₜ#P  Case
                                |
                               -o
```
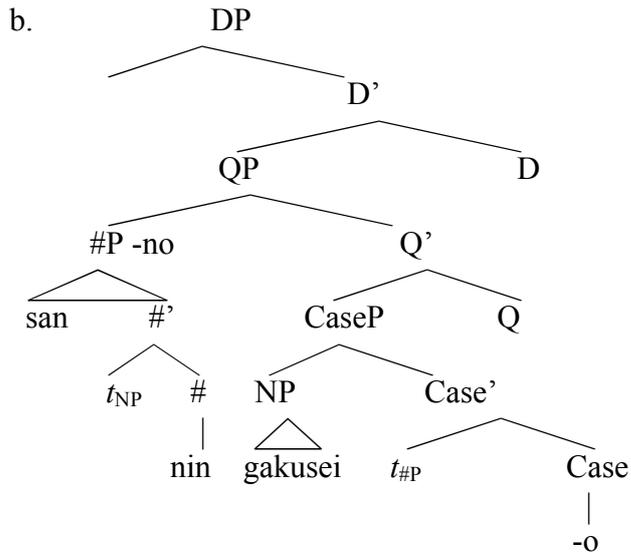
Although Watanabe (2006, 2008) presents (53b) as the only structure for (53a), the idea that there are two different positions for a prenominal quantifier is not incompatible with Watanabe's refined internal structure for DPs.   While we could take (53b) as the refined counterpart of (4b), we could also conceive of the structure in (54) as the counterpart of (4a), in which the #P *san-nin-no* has moved into [Spec, DP], the outermost Spec position in the whole refined structure of DP:

(54)

```
                    DP
                  /    \
               #P       D'
              /  \     /   \
        san-nin-no QP      D
                  /   \
               tₜ#P    Q'
                      /   \
                   CaseP    Q
                  /   \
                NP    Case'
                |     /   \
             gakusei tₜ#P  Case
                            |
                           -o
```

78
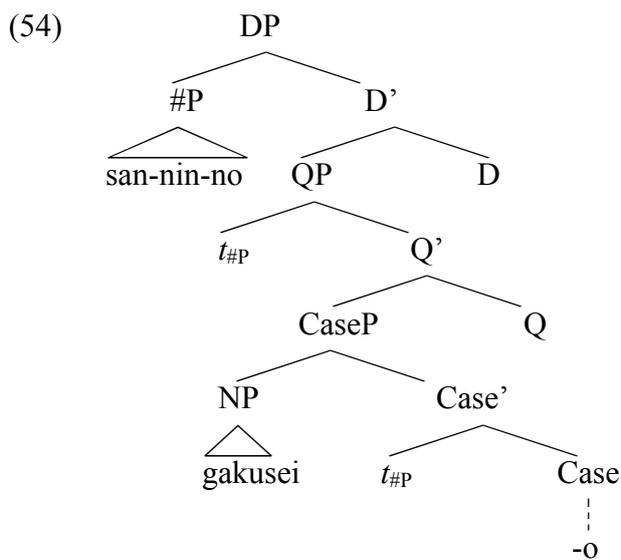
Furthermore, we can capture the two word orders of an Adj and a quantifier in a QP by assuming that a fronted modifier is adjoined to the QP node:

(55) a.

```
                    DP
              ┌──────┴──────┐
            #P               D'
           ╱╲           ┌────┴────┐
      san-nin-no       QP          D
                   ┌────┴────┐
                  AP          QP
                  ╱╲      ┌────┴────┐
              kireina    #P          Q'
                        ╱╲      ┌────┴────┐
                   san-nin-no  CaseP       Q
                           ┌────┴────┐
                          NP          Case'
                          ╱╲      ┌────┴────┐
                       zyosei    t#P         Case
                                              ┊
                                             -o
```
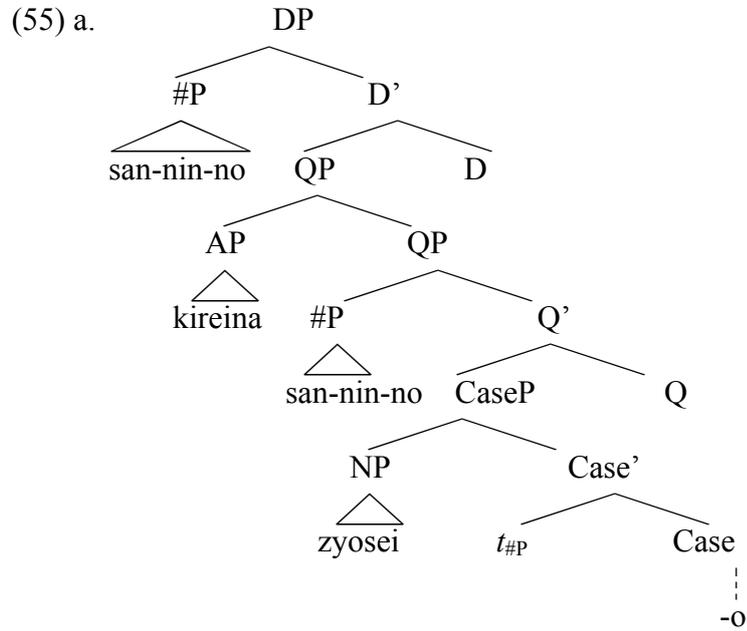
Thus our analysis in this chapter is maintained under the assumption of the refined DP-structure in Watanabe (2006, 2008) as well.

Chapter 4

Two Types of QP, Scrambling and Quantifier Scope

4.1 Introduction

We have found in the preceding chapters that there are two types of QP with respect to their scope-taking property. The first type of QP, which we henceforth call *Type 1 QPs*, is the one that has its quantifier in [Spec, DP] and has a presuppositional interpretation. This type of QP can take wide scope over another QP. The second type, which we henceforth call *Type 2 QPs*, does not have a quantifier in [Spec, DP]. They either have their quantifier located in [Spec, NP], have one in another position as an FQ, or do not contain one at all. This latter type of QP can only take narrow scope with respect to another QP.

This chapter is aimed at accounting for the difference in the scope property of these two types of QP in terms of the difference in the kinds of syntactic operation that they undergo. Specifically, we point out that these two types of QP undergo different modes of scrambling in Japanese and that the mode of scrambling that they undergo determines their scope. In Section 4.2 we review Miyagawa's (2010) analysis of scrambling in Japanese as a movement into [Spec, TP] by the topic feature on T, and point out, by modifying Miyagawa's proposal, that not all DPs can be the goal targeted by the topic feature on T. Crucially we point out that Type 1 QPs can move into [Spec, TP] via scrambling while Type 2 QPs must undergo scrambling to a different position. Section 4.3 argues that it is the syntactic structure of a QP, but not the semantics of it, that allows the QP to move to [Spec, TP] by the topic feature. In Section 4.4 we propose to account for the scope property of the two types of QP in terms of the difference in their compatibility with the topic feature and hence in the mode of scrambling. Section 4.5 proposes the covert counterpart of the movement driven by the focus feature, which accounts for the cases of scope interaction between a QP and negation in

Japanese.   In Section 4.6 we point out the compatibility of the topic/focus feature with the semantics of Type 1 QPs .   Section 4.7 discusses the way in which the parallelism observed between the locality of scrambling and that of QP scope can be captured in our approach.   In Section 4.8 we point out cases where movement of the subject to [Spec, TP] takes place only optionally.   Section 4.9 compares our analysis with Shibata (2015), who proposes an analysis of the scope of QPs and negation that is similar to ours.

4.2   Scrambling as a Feature-Driven Movement

4.2.1   Miyagawa (2010)

Miyagawa (2010) characterizes the difference in the word order in Japanese as a result of the difference in the choice of the constituent that serves as the *topic* of the sentence. Miyagawa defines the term *topic* as referring to what the sentence is about.   In other words, a sentence containing a topic corresponds to what Kuroda (1972-1973) calls a *categorical expression*.   Miyagawa also proposes that the choice of the topic DP is made in a syntactic way by the topic feature on the head T.   If the subject DP, generated in [Spec, vP], has a corresponding topic feature, it serves as the goal targeted by the topic probe on T and moves into [Spec, TP].   This results in the SOV order.   If, on the other hand, the goal is the object DP, it is the object DP that is attracted into [Spec, TP].   This yields the OSV order.   These two processes are illustrated in (1):[1]

---

[1] Miyagawa (2010) also points out cases of movement into [Spec, TP] driven by the focus probe on T. I return to these cases later in Section 4.5.

(1) a.

```
                        TP
          ┌─────────────┴──────┐
     DP_SUBJ[topic]           T'
                        ┌──────┴──────┐
                       vP           T[topic]
                   ┌────┴────┐
                 t_SUBJ      v'
                        ┌────┴────┐
                       VP         v
                   ┌───┴───┐
                 DP_OBJ    V
```

b.

```
                        TP
          ┌─────────────┴──────┐
     DP_OBJ[topic]            T'
                        ┌──────┴──────┐
                       vP           T[topic]
                   ┌────┴────┐
                 DP_SUBJ     v'
                        ┌────┴────┐
                       VP         v
                   ┌───┴───┐
                 t_OBJ     V
```
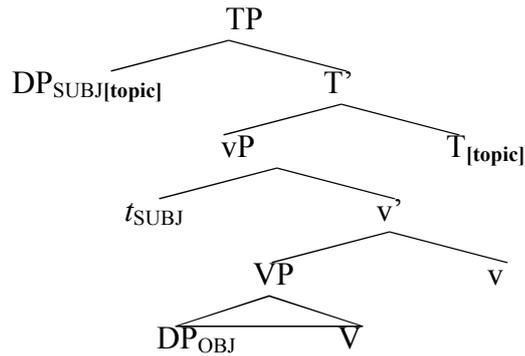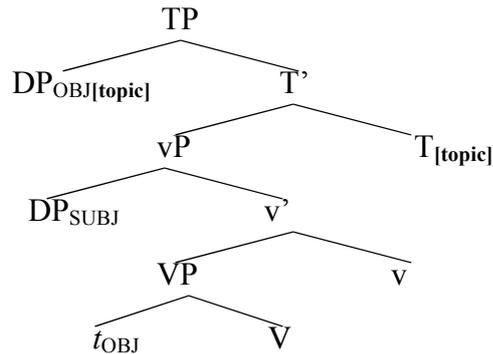
What is noteworthy in the structures in (1) is that the subject DP is located in two different positions in these two word orders.   While the subject is in [Spec, TP] in the SOV order as in (1a), it is in [Spec, vP] in the OSV order as in (1b).   As a piece of evidence for this difference in the position of the subject, Miyagawa (2010) points out the following fact involving the relative scope of the subject and negation:

(2)   a. *Zen'in-ga*   siken-o   uke-*nakat*-ta

           everyone-Nom test-Acc take-Neg-Past

           'Everyone did not take the test.'

           [unambiguous: $\forall$ > Neg, *Neg > $\forall$]

       b. Siken-o *zen'in-ga*   uke-*nakat-ta*

           test-Acc everyone-Nom take-Neg-Past

           Lit. 'The test, everyone did not take.'

[ambiguous: $\forall$ > Neg, Neg > $\forall$] (Miyagawa (2010))

As illustrated in (3), the subject DP in (2a) is moved into [Spec, TP] by the topic probe, over the negation that is assumed to be located between TP and vP.

(3)
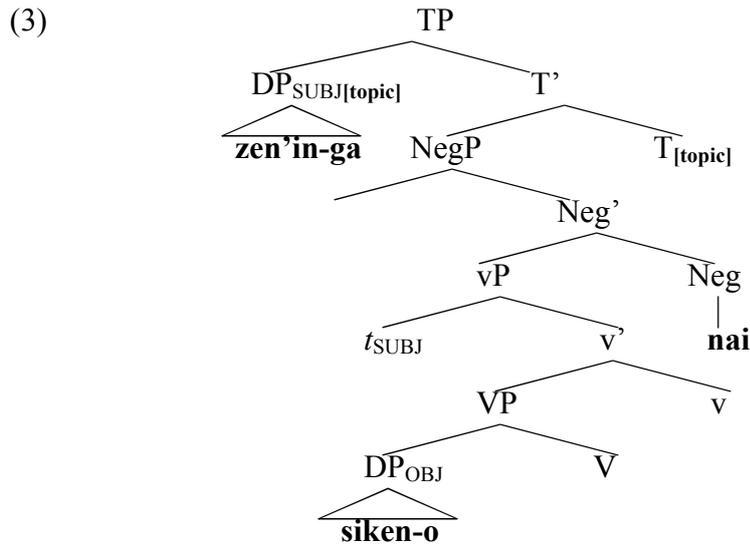
Since the subject *zen'in-ga* moves into [Spec, TP], it is in the position c-commanding the negative *nai*. Thus the subject can only take wide scope over negation in (2a). On the other hand, (2b) has either of the following derivations:

(4) a.

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b.

```
                           αP
              ┌─────────────┴──────────┐
         DP_OBJ[topic]                 α'
           ╱╲                  ┌────────┴────────┐
        siken-o               TP              α[topic]
                       ┌───────┴────────┐
                  DP_SUBJ[topic]        T'
                     ╱╲          ┌──────┴──────┐
                 zen'in-ga     NegP         T[topic]
                            ┌────┴────┐
                                    Neg'
                             ┌───────┴──────┐
                            vP             Neg
                       ┌─────┴─────┐        │
                    t_SUBJ        v'        nai
                            ┌──────┴─────┐
                           VP            v
                      ┌─────┴─────┐
                    t_OBJ         V
```
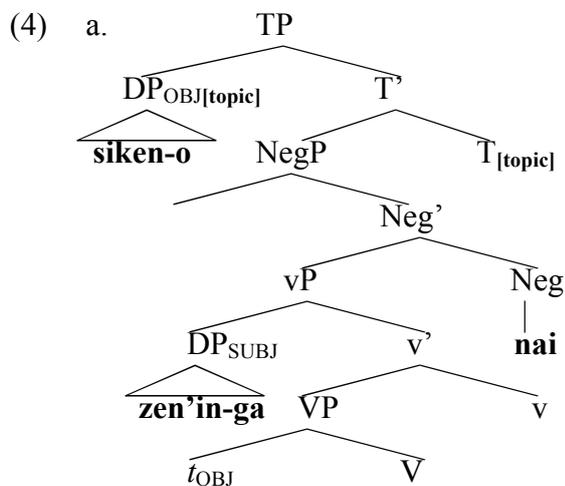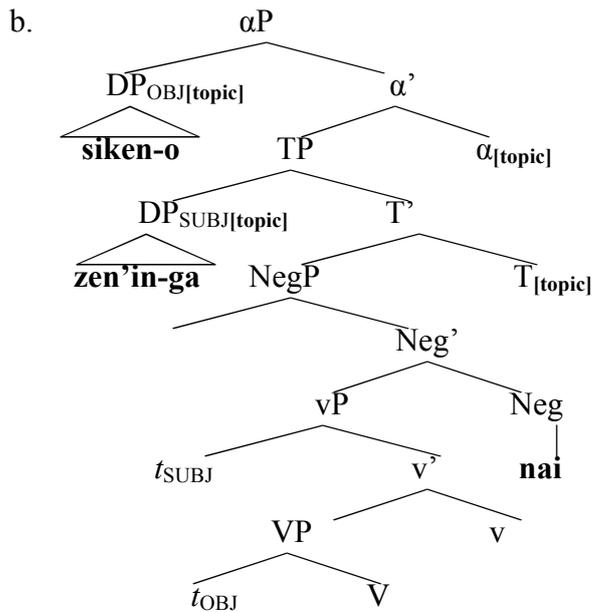
In derivation (4a), the subject stays in [Spec, vP], and thus is interpreted as taking narrow scope under negation since it is in a position c-commanded by negation.   In the other derivation in (4b), the subject moves into [Spec, TP] and the object into [Spec, αP], the projection above TP that has a similar function as TP, as Miyagawa proposes.   In this case, the subject *zen'in* c-commands the negation, so that it takes wide scope over negation.

Although Miyagawa (2010) does not provide much convincing empirical evidence for the claim that the relevant feature on T has to do with topicality, there is a piece of evidence in favor of the analysis that the relevant feature that drives a constituent to [Spec, TP] is semantic in nature.   As we see below, the choice of the first constituent in a sentence is affected by the information structure of the sentence.   Consider the following discourses:

(5)   A: Taroo-wa dare-o   aisiteiru-no

            Taro-Top who-Acc love-Q

            'Who does Taro love?'

B: i) Hanako-desu.   ??Taroo-ga   Hanako-o   aisitei-mas-u

    Hanako-is   Taro-Nom Hanako-Acc love-Pol-Pres

    'Hanako.   Taro loves Hanako.'

  ii) Hanako-desu.   Hanako-o   Taroo-ga   aisitei-mas-u

    Hanako-is   Hanako-Acc Taro-Nom love-Pol-Pres

    Lit. 'Hanako.   Hanako, Taro loves.'

(6) A: Dare-ga   Hanako-o   aisiteiru-no

     who-Nom Hanako-Acc love-Q

     'Who loves Hanako?'

B: i) Taroo-desu. Taroo-ga   Hanako-o   aisitei-mas-u

    Taro-is   Taro-Nom Hanako-Acc love-Pol-Pres

    'Taro.   Taro loves Hanako.'

  ii) Taroo-desu.   ??Hanako-o   Taroo-ga   aisitei-mas-u

    Taro-is   Hanako-Acc Taro-Nom love-Pol-Pres

    Lit. 'Taro.   Hanako, Taro loves.'

In the examples in (5) and (6), B's responses all consist of a fragment answer (e.g.

Hanako-desu '(It's) Hanako.') and a complete sentence that repeats the information provided

by the preceding fragment answer.   The acceptability of the complete sentence depends on

the position of the constituent serving as the repeated answer: The constituent that repeats

the answer must be in the sentence-initial position.[2]

---

[2] One may claim that the unacceptability of (5B-i) may be due to the fact that the first DP *Taroo-ga* is
in the Nominative form rather than the topic marked with *wa*.   Indeed, the acceptability significantly
improves if we replace the nominative *ga* with the topic marker *wa* in (5B-i).

We may say that this semantic property of a sentence-initial constituent is in favor of Miyagawa's (2010) analysis that the sentence-initial constituent serves as a topic since the referent of the relevant sentence-initial DP has already appeared in the preceding short answer.[3]

(i) Hanako-desu. Taroo-wa Hanako-o   aisitei-mas-u
     Hanako-is   Taro-Top Hanako-Acc love-Pol-Pres
     'Hanako.   Taro loves Hanako.'

If this were the source of the degraded acceptability of (5B-i), however, the same factor should degrade the acceptability of (5B-ii) since the second sentence of this response also involves the nominative *ga*.   Therefore, what is responsible for the degraded acceptability of (5B-i) must be the position of the object DP: The unscrambled object DP in (5B-i) cannot serve the same purpose that the scrambled object in (5B-ii) does.

[3] A question arises at this point as to what the difference is between the topicality of a sentence-initial constituent and the topicality of the DP with the topic marker *wa*, as in the following example:

(i) a. Taroo-wa Hanako-o   aisitei-mas-u
         Taro-Top Hanako-Acc love-Pol-Pres
         'Taro loves Hanako.'
     b. Hanako-wa Taroo-ga   aisitei-mas-u
         Hanako-Top Taro-Nom love-Pol-Pres
         Lit. 'Hanako, Taro loves.'

As has been pointed widely in the literature, a DP with the topic marker *wa* denotes a piece of old information and therefore cannot provide an answer to a question.

(ii) A: Dare-ga   Hanako-o   aisiteiru-no
          who-Nom Hanako-Acc love-Q
          'Who loves Hanako?'
      B: * Taroo-wa Hanako-o   aisitei-mas-u
          Taro-Top Hanako-Acc love-Pol-Pres
          'Taro loves Hanako.'

The difference in question has to do with this property regarding the old/new information.   While the topic marker *wa* must carry old information, the sentence-initial constituents in (5) and (6) denote new information, for they constitute an answer to A's question.   Importantly, a DP with the topic marker *wa* cannot occur in the environment in (5) or (6) since it has to carry old information.

(iii) A: Taroo-wa dare-o   aisiteiru-no
           Taro-Top who-Acc love-Q
           'Who does Taro love?'
       B: Hanako-desu. *Hanako-wa Taroo-ga   aisitei-mas-u
           Hanako-is   Hanako-Top Taro-Nom love-Pol-Pres
           Lit. 'Hanako.   Hanako, Taro loves.'

(iv) A: Dare-ga   Hanako-o   aisiteiru-no
          who-Nom Hanako-Acc love-Q
          'Who loves Hanako?'
      B: Taroo-desu. *Taroo-wa Hanako-o   aisitei-mas-u

4.2.2 Not All Instances of Scrambling are Movement into [Spec, TP]

It must be noted, however, that not all DPs can move into [Spec, TP]. As far as QPs are concerned, scrambling of a particular type of QP does not allow the subject to take narrow scope under negation. The possibility of moving into [Spec, TP] depends on the syntactic position of a quantifier within a scrambled QP. In what follows, we observe that while the Type 1 QP may move into [Spec, TP], the Type 2 QP is not allowed to move into [Spec, TP]. This tells us that of the two types of QP only the Type 1 QP may bear the topic feature while the Type 2 QP may not.

Firstly, if a Type 1 QP object is scrambled, it allows the subject to take scope under negation:

(7) a. Zen'in-ga   mit-tu-no tesuto-o uke-nakat-ta

         everyone-Nom 3-Cl-Gen test-Acc take-Neg-Past

         'Everyone did not take three tests.'

         [unambiguous: $\forall$ > Neg, *Neg > $\forall$]

    b. Mit-tu-no tesuto-o zen'in-ga   uke-nakat-ta

         3-Cl-Gen test-Acc everyone-Nom take-Neg-Past

         Lit. 'Three tests, everyone did not take.'

         [ambiguous: $\forall$ > Neg, Neg > $\forall$]

       Taro-is   Taro-Top Hanako-Acc love-Pol-Pres
       'Taro.   Taro loves Hanako.'

Thus although we employ the term "topic" for the occurrence of DP-*ga*/*o* in the clause-initial position, it is distinguished from the topic *wa*, both syntactically and semantically. In what follows, we follow Miyagawa (2010) and employ the term *discourse topic* for DP-*wa*.

(8) a. Zen'in-ga   huta-tu-no kamoku-o   risyuusi-nakat-ta

         everyone-Nom 2-Cl-Gen   course-Acc take-Neg-Past

         'Everyone did not take two courses.'

         [unambiguous: $\forall$ > Neg, *Neg > $\forall$]

     b. Huta-tu-no kamoku-o   zen'in-ga   risyuusi-nakat-ta

         2-Cl-Gen   course-Acc everyone-Nom take-Neg-Past

         Lit. 'Two courses, everyone did not take.'

         [ambiguous: $\forall$ > Neg, Neg > $\forall$]

The object QPs in (7) and (8) can be Type 1 QPs since they contain a quantifier in the

prenominal position.   As we see, the subject *zen'in* can take narrow scope under negation if

the object QP is scrambled as in (7b) and (8b).

     In contrast, scrambling of a Type 2 object QP such as an NP-FQ does not allow the

subject to take narrow scope under negation:

(9) a. Zen'in-ga   tesuto-o mit-tu uke-nakat-ta

         everyone-Nom test-Acc 3-Cl   take-Neg-Past

         'Everyone did not take three tests.'

         [unambiguous: $\forall$ > Neg, *Neg > $\forall$]

     b. Tesuto-o mit-tu zen'in-ga   uke-nakat-ta

         test-Acc 3-Cl   everyone-Nom take-Neg-Past

         Lit. 'Three tests, everyone did not take.'

         [unambiguous: $\forall$ > Neg, *Neg > $\forall$]

(10) a.	Zen'in-ga	kamoku-o huta-tu risyuusi-nakat-ta

everyone-Nom course-Acc 2-Cl	take-Neg-Past

'Everyone did not take two courses.'

[unambiguous: $\forall$ > Neg, *Neg > $\forall$]

b.	Kamoku-o huta-tu zen'in-ga	risyuusi-nakat-ta

course-Acc 2-Cl	everyone-Nom take-Neg-Past

Lit. 'Two courses, everyone did not take.'

[unambiguous: $\forall$ > Neg, *Neg > $\forall$]

If the narrow scope of the subject signals the presence of the scrambled object DP in [Spec, TP], then the fact that the scrambled object NP-FQ does not allow the subject to take narrow scope under negation, as in (9) and (10), tells us that an NP-FQ may not be the goal of the topic probe on T.

This is also the case with another Type 2 QP, a QP whose quantifier is preceded by an Adj such as the adjective *muzukasii* 'difficult' and the nominal adjective *yuunoo-na* 'competent'.   Observe the following contrast between the sentences in (11b) and (13b) on one hand and those in (12b) and (14b) on the other:

(11) a.	Zen'in-ga	huta-tu-no muzukasii kamoku-o	risyuusi-nakat-ta

everyone-Nom 2-Cl-Gen	difficult	subject-Acc take-Neg-Past

'Everyone did not take two difficult courses.'

[unambiguous: $\forall$ > Neg, *Neg > $\forall$]

b.	Huta-tu-no muzukasii kamoku-o	zen'in-ga	risyuusi-nakat-ta

2-Cl-Gen	difficult	subject-Acc everyone-Nom take-Neg-Past

Lit. 'Two difficult courses, everyone did not take.'

[ambiguous: ∀ > Neg, Neg > ∀]

(12) a.   Zen'in-ga   muzukasii huta-tu-no kamoku-o   risyuusi-nakat-ta

everyone-Nom difficult   2-Cl-Gen subject-Acc take-Neg-Past

'Everyone did not take two difficult courses.'

[unambiguous: ∀ > Neg, *Neg > ∀]

b.   Muzukasii huta-tu-no kamoku-o   zen'in-ga   risyuusi-nakat-ta

difficult   2-Cl-Gen   subject-Acc everyone-Nom take-Neg-Past

Lit. 'Two difficult courses everyone did not take.'

[unambiguous: ∀ > Neg, *Neg > ∀]

(13) a.   Zen'in-ga   san-nin-no yuunoona sensyu-o   suisensi-nakat-ta

everyone-Nom 3-Cl-Gen   competent athlete-Acc recommend-Neg-Past

'Everyone did not recommend three competent athletes.'

[unambiguous: ∀ > Neg, *Neg > ∀]

b.   San-nin-no yuunoona sensyu-o   zen'in-ga   suisensi-nakat-ta

3-Cl-Gen   competent athlete-Acc everyone-Nom recommend-Neg-Past

Lit. 'Three competent athletes, everyone did not recommend.'

[ambiguous: ∀ > Neg, Neg > ∀]

(14) a.   Zen'in-ga   yuunoona san-nin-no sensyu-o   suisensi-nakat-ta

everyone-Nom competent 3-Cl-Gen   athlete-Acc recommend-Neg-Past

'Everyone did not recommend three competent athletes.'

[unambiguous: ∀ > Neg, *Neg > ∀]

b.   Yuunoona san-nin-no sensyu-o   zen'in-ga   suisensi-nakat-ta

competent 3-Cl-Gen   athlete-Acc everyone-Nom recommend-Neg-Past

Lit. 'Three competent athletes, everyone did not recommend.'

[unambiguous: $\forall$ > Neg, *Neg > $\forall$]

As shown in (12b) and (14b), the scrambling of the object does not allow the subject to take narrow scope under negation if the scrambled object has its quantifier preceded by an Adj.

These facts suggest that the choice of the landing site for a scrambled object QP is determined by the syntactic position of a quantifier within the scrambled QP.   Under Miyagawa's (2010) proposal that movement into [Spec, TP] is triggered by the topic probe on T, the preceding facts tell us that only those QPs with a quantifier in [Spec, DP] may bear the topic feature which makes the QP the goal of the topic probe on T.

The observation made so far leads us to say that between the two types of QP only Type 1 QPs may be the target of the topic probe on T whereas Type 2 QPs may not.   Thus the following two derivations are possible for examples (7b), (8b), (11b) and (13b), which involve a scrambled object QP with a prenominal quantifier:[4]

---

[4] We assume that in the type of scrambling not triggered by the topic feature a scrambled DP is adjoined to TP.

(15) a.

```
                    TP
          ┌──────────┴──────────┐
      DP_OBJ[topic]            T'
       ╱╲            ┌──────────┴──────────┐
   mit-tu-no       NegP                 T_[topic]
   tesuto-o      ┌───┴──────┐
                        Neg'
               ┌──────────┴────────┐
              vP                  Neg
         ┌─────┴──────┐            │
     DP_SUBJ        v'           nai
      ╱╲       ┌────┴─────┐
   zen'in-ga  VP          v
          ┌────┴────┐
       t_OBJ        V
                   uke
```

b.

```
                       TP
            ┌───────────┴───────────┐
        DP_OBJ                     TP
         ╱╲            ┌────────────┴────────────┐
     mit-tu-no     DP_SUBJ[topic]              T'
     tesuto-o        ╱╲         ┌──────────────┴──────────┐
                 zen'in-ga    NegP                     T_[topic]
                           ┌────┴─────┐
                                   Neg'
                          ┌──────────┴────────┐
                         vP                  Neg
                    ┌─────┴──────┐            │
                 t_SUBJ         v'           nai
                          ┌──────┴─────┐
                         VP            v
                    ┌─────┴─────┐
                 t_OBJ          V
                                │
                               uke
```
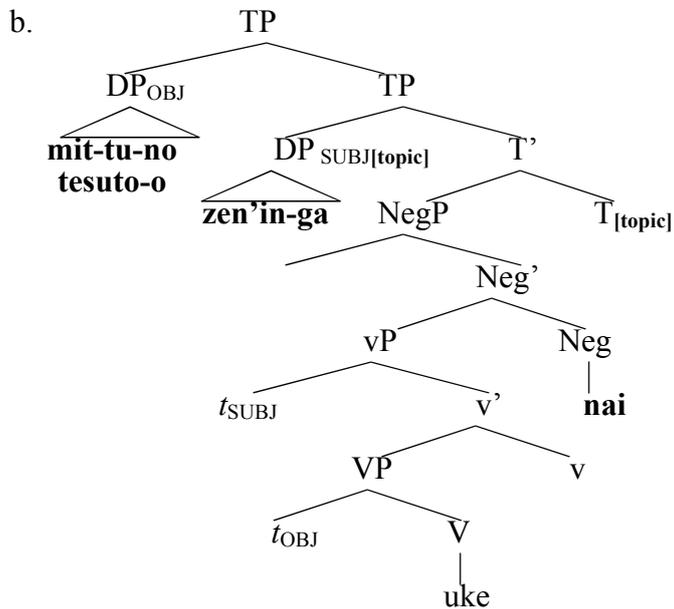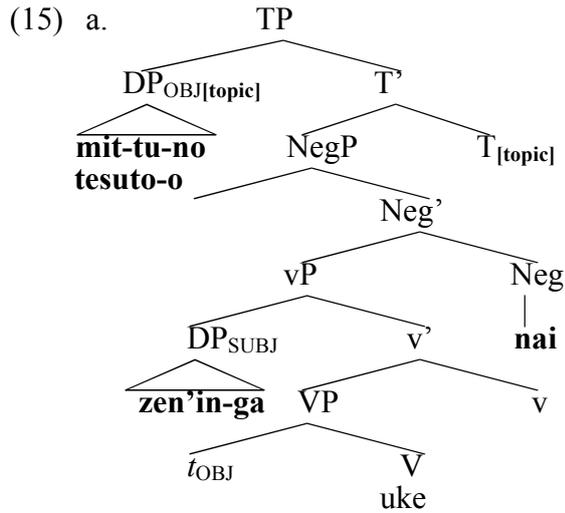
On the other hand, Type 2 QPs such as the NP-FQs in (9) and (10) and those with a prenominal quantifier in a lower position in (12) and (14) cannot be the goal of the topic probe on T, and thus cannot move into [Spec, TP]. If a scrambled object QP cannot move into [Spec, TP], it must be another DP, say the subject, that must be targeted by the topic probe on T to move into [Spec, TP]. The structure of (9b) and (12b), for example, is represented as follows:

(16) a.   the structure of (9b):

TP
├── DP_OBJ — **tesuto-o mit-tu**
└── TP
    ├── DP_SUBJ[topic] — **zen'in-ga**
    └── T'
        ├── NegP
        │   └── Neg'
        │   ├── vP
        │   │   ├── *t*_SUBJ
        │   │   └── v'
        │   │   ├── VP
        │   │   │   ├── *t*_OBJ
        │   │   │   └── V — uke
        │   │   └── v
        │   └── Neg — **nai**
        └── T_[topic]

b.   the structure of (12b):

TP
├── DP_OBJ — **muzukasii huta-tu-no kamoku-o**
└── TP
    ├── DP_SUBJ[topic] — **zen'in-ga**
    └── T'
        ├── NegP
        │   └── Neg'
        │   ├── vP
        │   │   ├── *t*_SUBJ
        │   │   └── v'
        │   │   ├── VP
        │   │   │   ├── *t*_OBJ
        │   │   │   └── V — risyuusi
        │   │   └── v
        │   └── Neg — **nai**
        └── T_[topic]
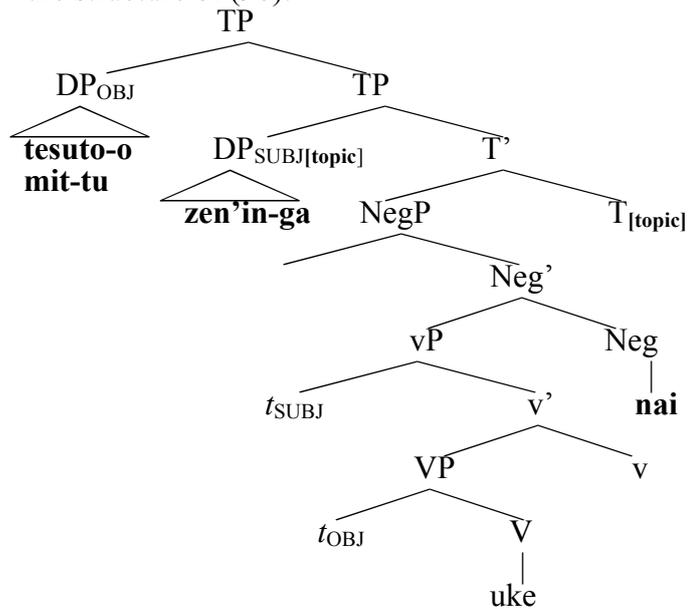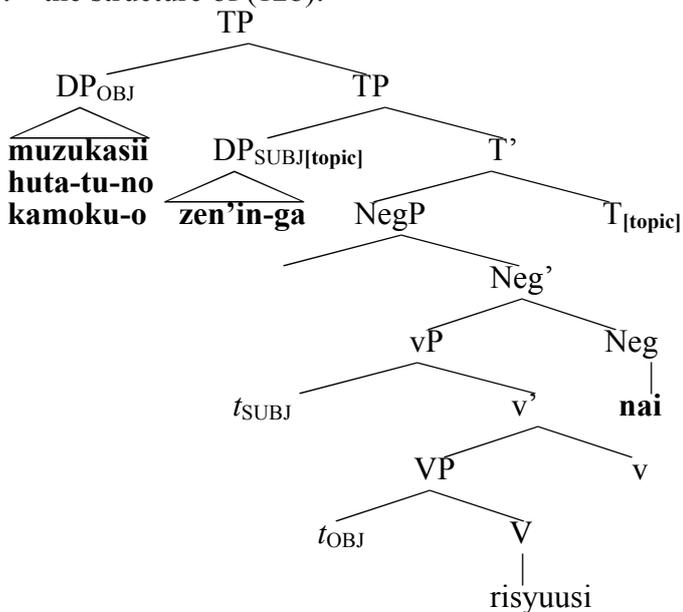
Thus the facts that Type 2 QPs do not allow the subject to take narrow scope under negation can be accounted for by proposing that only Type 1 QPs may be the goal of the topic probe on T.

4.2.3   A Difference in Binding Between the Two Types of QP

In the preceding subsection we have observed that only Type 1 QPs may move to [Spec,

TP] while Type 2 may not.   The scrambling to [Spec, TP] by the topic feature is identified as

an instance of A-movement in Miyagawa (2010).   Then what type of movement do Type 2

QPs undergo?   The following facts suggest that this other type of movement is not an

instance of A-movement but an instance of "semantically vacuous" A'-movement (Saito

(1985, 1989).[5]

The distinction between A- and A'-movement can be diagnosed by the possibility of

pronominal binding by a moved QP or WH-phrase.   As illustrated in (17) and (18), a QP

having undergone A-movement may bind a pronominal while a QP cannot do so if it has

undergone A'-movement:

(17) A-movement:

   Everyone$_i$ seems to *himself*$_i$ to be sick.

(18) A'-movement:

   *Who$_i$ did *his*$_i$ mother love?

The property of scrambling as an A-movement is confirmed by the fact that an object QP

scrambled to the left of the subject can bind a pronominal in the subject.[6, 7]

---

[5] The idea that scrambling can either be A- or A'-movement has been pointed out since Mahajan
(1990) and Saito (1992).

[6] The A'-property of scrambling is illustrated by the fact that a pronominal in a scrambled constituent
exhibit a reconstruction effect:

(i)   [$_S$ [$_{NP}$ [$_S$ e_i e hitome   mita] hito]-o$_k$ daremo$_i$-ga   [$_{VP}$ t_k sukininat-ta]]]
                one glance saw   person-Acc everyone-Nom   fell in love
      'The person that he$_i$ saw, everyone$_i$ fell in love with.'   (Hoji (1985: 114))

[7] I assume that the QP *daremo-ga/o* is an instance of Type 1 QP.   Indeed, *daremo-ga/o* resists being
modified by an Adj:

(i) *{kirei-na/utukusii} daremo-ga   ki-ta
     beautiful   everyone-Nom come-Past

(19) a. * [$_{NP}$ [$_S$ *e e*$_i$ hitome   mi-ta] hito]-ga   daremo$_i$-o   sukininatta

one glance saw   person-Nom everyone-Acc fell.in.love

'The person who took at glance at him$_i$ fell in love with everyone$_i$.'

b. Daremo-o$_i$ [$_S$ [$_{NP}$ [$_S$ *e e*$_i$ hitome   mita] hito]-ga [$_{VP}$ *t*$_i$ sukininatta]] (koto)

everyone-Acc   one glance saw person-Nom   fell.in.love

Lit. 'Everyone$_i$, the person who took a glance at him$_i$ fell in love with.'

(Hoji (1985: 114))

As shown in (19a), it is impossible for the object QP *daremo-o* to bind the empty pronominal *e*$_i$ in the subject.   In (19b), in contrast, the bound variable reading of the pronominal is possible since the scrambled object QP can be in an A-position.

Now if the two types of QP undergo different modes of scrambling, as we have argued so far, we expect that the two types of QP exhibit different behavior with respect to binding as well.   In fact, the following facts tell us that it is only the scrambling of a Type 1 QP that exhibits the property of A-movement with respect to binding: Type 2 QPs do not allow binding of a pronominal from the scrambled position.   Firstly, it is possible for a QP with a prenominal quantifier such as *san-nin-no otoko-ga* to bind a pronominal in the object in the canonical order since the former c-commands the latter, as in (20), while in the canonical order a Type 1 object QP cannot bind a pronominal in the subject since the former does not c-command the latter, as in (21):[8]

'Everyone beautiful came.'

[8] Facts such as those in (20-22) have been observed widely in the literature since Hoji (1985).

(20) Type 1 QP$_{i\ SUBJ}$ [... pronominal$_i$...]$_{OBJ}$

   a.   *San-nin-no otoko$_i$*-ga *soitu$_i$*-no kinmusaki-o   uttae-ta

        3-Cl-Gen   man-Nom he-Gen workplace-Acc sue-Past

        'Three men filed a suit against the company they work at.'

   b.   *San-nin-no gakusei$_i$*-ga   *soitu$_i$*-no hahaoya-o   tureteki-ta

        3-Cl-Gen   student-Nom he-Gen   mother-Acc bring-Past

        'Three students brought their mother.'

(21) * [... pronominal$_i$...] $_{SUBJ}$ Type 1 QP$_{i\ OBJ}$

   a.   * *Soitu$_i$*-no kinmusaki-ga   *san-nin-no okoto$_i$*-o uttae-ta

        he-Gen   workplace-Nom 3-Cl-Gen man-Acc sue-Past

        'The company they work at accused three men.'

   b.   * *Soitu$_i$*-no hahaoya-ga   *san-nin-no gakusei$_i$*-o   tureteki-ta

        he-Gen   mother-Nom 3-Cl-Gen   student-Acc bring-Past

        'Their mother brought three students.'

If the object QP is scrambled to the left of the subject, it is possible for the QP to bind a

pronominal in the subject, a fact that signals the A-movement property of scrambling:

(22) Type 1 QP$_{i\ OBJ}$ [... pronominal$_i$...] $_{SUBJ}$ *t*$_i$

   a.   *San-nin-no okoto$_i$*-o *soitu$_i$*-no kinmusaki-ga   uttae-ta

        3-Cl-Gen man-Acc he-Gen   workplace-Nom sue-Past

        Lit. 'Three men, the company he works at accused.'

   b.   *San-nin-no gakusei$_i$*-o   *soitu$_i$*-no hahaoya-ga tureteki-ta

        3-Cl-Gen   student-Acc he-Gen mother-Nom bring-Past

Lit. 'Three students, their mother brought.'

On the other hand, it is impossible for an object NP-FQ, a Type 2 QP, to bind a pronominal even if it is scrambled to the left of the pronominal.[9]   Firstly, a Type 2 QP exhibits the same behavior with respect to pronominal binding in the canonical order of the subject and the object: It is possible for a Type 2 QP to bind a pronominal if it is in the subject position ((23)), while an NP-FQ exhibits a WCO effect in the object position ((24)):[10]

(23) Type 2 QP$_{i \text{ SUBJ}}$ [... pronominal$_i$...]$_{\text{OBJ}}$

    a.   ? *Otoko$_i$*-ga *san-nin   soitu$_i$*-no kinmusaki-o   uttae-ta

        man-Nom 3-Cl-Gen he-Gen workplace-Acc sue-Past

        'Three men filed a suit against the company they work at.'

    b.   ? *Gakusei$_i$*-ga   *san-nin soitu$_i$*-no hahaoya-o   tureteki-ta

        student-Nom 3-Cl   he-Gen   mother-Acc bring-Past

        'Three students brought their mother.'

(24) * [... pronominal$_i$...] $_{\text{SUBJ}}$ Type 2 QP$_{i \text{ OBJ}}$

    a.   * *Soitu$_i$*-no kinmusaki-ga   *okoto$_i$*-o *san-nin* uttae-ta

        he-Gen   workplace-Nom man-Acc 3-Cl   sue-Past

        'The company they work at sued three men.'

    b.   * *Soitu$_i$*-no hahaoya-ga   *gakusei$_i$*-o   *san-nin* tureteki-ta

        he-Gen   mother-Nom student-Acc 3-Cl   bring-Past

---

[9] This is also pointed out in Shibata (2015).

[10] As reported by some of the informants, the pronominal binding in (23) is not perfectly acceptable. Nonetheless, these speakers did detect a difference in acceptability between (23) and (25).   I do not see why the examples in (23) only have degraded acceptability.

'Their mother brought three students.'

Now observe the contrast between (22) and (25):

(25) Type 2 QP$_i$ OBJ [... pronominal$_i$...] SUBJ t_i

    a.   * *Okoto*$_i$-o *san-nin soitu*$_i$-no kinmusaki-ga   uttae-ta

        man-Acc 3-Cl   he-Gen   workplace-Nom sue-Past

        Lit. 'Three men, the company he works at accused.'

    b.   * *Gakusei*$_i$-o   *san-nin soitu*$_i$-no hahaoya-ga   tureteki-ta

        student-Acc 3-Cl   he-Gen   mother-Nom bring-Past

        Lit. 'Three students, his mother brought.'

As observed in (25), it is very difficult, if not impossible, for the scrambled object Type 2 QP

okoto-o san-nin and *gakusei-o san-nin* to bind the pronominal *soitu* in the subject.   The

difference between (22) and (25) supports the proposed difference in the landing site of

scrambled QPs in (22) and (25).   Since the presence of the WCO effect diagnoses the

A'-property of movement, the scrambling of the Type 2 QP in (25) can only be an instance of

A'-movement.   On the other hand, the lack of the WCO effect in (22) indicates that the

scrambling of the QPs *san-nin-no otoko-o* and *san-nin-no gakusei-o* may be an A-movement.

Moreover, since these QPs may be of Type 1, the lack of the WCO effect in (22) shows that

the scrambling of Type 1 QP can be A-movement.[11]

---

[11] Type 1 and Type 2 QPs also show different behavior in the licensing of the sentence-internal
reading of *onazi/tigau* 'same/different.'   Compare:

(i) *Each pair of figure skaters was asked to choose a piece of music for their performance.   Then
we checked whether for each pair the male skater and the female skater chose the same piece of
music.*

The observed difference between Type 1 and Type 2 QPs with respect to the WCO effect can be explained in terms of whether these two types of QP may be moved by the topic feature to [Spec, TP]. Only Type 1 QPs may move to [Spec, TP] so that they exhibit the property of A-movement, while Type 2 QPs may only undergo the semantically vacuous scrambling, which is not a movement driven by the topic feature, and thus only exhibit the property of A'-movement.

4.3 The Topic Feature is Sensitive to the Syntax of QPs, Not to the Semantics of QPs

In the preceding section we proposed that the topic feature may be borne by Type 1 QPs, but not by Type 2 QPs. Since Type 1 and Type 2 QPs are distinguished in syntactic terms, as we have discussed, the availability of the topic feature for a QP must be determined in syntactic terms.

Alternatively, however, one might claim that the possibility of a QP's bearing the topic feature depends on the semantics of the QP, not on the internal syntactic structure of the QP. Indeed, it seems that the object NP-FQs in (9) and (10) appear to have a nonpresuppositional interpretation while the Q-NPs in (7) and (8) may have a presuppositional reading.

---

    a. San-kumi-no pea-ga   tigau   kyoku-o eran-da
         3-Cl-Gen   pair-Nom different music-Acc choose-Past
         'Three pairs of skaters chose difference pieces of music.'
    b. Pea-ga   san-kumi tigau   kyoku-o   eran-da
         pair-Nom 3-Cl   different music-Acc choose-Past
         'Three pairs of skaters chose difference pieces of music.'

(ii) *We checked whether for each pair the male skater and the female skater are instructed by the same coach.*
    a. San-kumi-no pea-o   tigau   kooti-ga   sidoosite i-ru
         3-Cl-Gen   pair-Acc different coach-Nom instruct   be-Pres
         'Different coaches instruct three pairs of figure skaters.'
    b. * Pea-o   san-kumi tigau   kooti-ga   sidoosite i-ru
         pair-Acc 3-Cl   different coach-Nom instruct be-Pres

In Homma (1992, 1995) the sentence-internal reading of *same/different* and *onazi/tigau* arises by way of binding an implicit pronominal associated with these adjectives. If this analysis is on the right track, the degraded availability of the sentence-internal reading in (iib) is expected since a scrambled NP-FQ cannot bind a pronominal in the subject.

Moreover, one might claim that the QPs with the Adj-Q order in (14) and (15) have a nonpresuppositional reading, while those with the Q-Adj order in (12) and (13) may have a presuppositional reading.   If so, then it might be the case that the compatibility of a QP with the topic feature is determined by the presuppositionality of the QP.

However, recall from Chapter 3 that NP-FQs and QPs with the Adj-Q order may have a presuppositional reading as well as a nonpresuppositional one.   Clearer cases of the presuppositional reading for an NP-FQ are in (28) and (29), while examples involving QPs with a prenominal quantifier are provided in (26) and (27):

(26) a.   Zen'in-ga   sensei-ga   suisensita   san-satu-no hon-o

everyone-Nom teacher-Nom recommended 3-Cl-Gen   book-Acc

yom-anakat-ta

read-Neg-Past

'Everyone did not read three books that the teacher recommended.'

[unambiguous: $\forall$ > Neg, *Neg > $\forall$]

  b.   Sensei-ga   suisensita   san-satu-no hon-o   zen'in-ga

teacher-Nom recommended 3-Cl-Gen   book-Acc everyone-Nom

yom-anakat-ta

read-Neg-Past

Lit. 'Three books that the teacher recommended, everyone did not read.'

[ambiguous: $\forall$ > Neg, Neg > $\forall$]

(27) a.   Zen'in-ga   konnendo-kara hissyuu-ni   sita   mit-tu-no kamoku-o

everyone-Nom this.year-from   compulsory-Dat made 3-Cl-Gen course-Acc

risyuusi-nakat-ta

take-Neg-Past

'Everyone did not take three courses that have been made compulsory this year.'

[unambiguous: ∀ > Neg, *Neg > ∀]

b.   Konnendo-kara hissyuu-ni   sita   mit-tu-no kamoku-o zen'in-ga

this year-from   compulsory-Dat made 3-Cl-Gen course-Acc everyone-Nom

risyuusi-nakat-ta

take-Neg-Past

Lit. 'Three courses that have been made compulsory this year, everyone

did not take.'

[ambiguous: ∀ > Neg, Neg > ∀]

(28) a.   Zen'in-ga   sensei-ga   suisensita   hon-o   san-satu yom-anakat-ta

everyone-Nom teacher-Nom recommended book-Acc 3-Cl   read-Neg-Past

'Everyone did not read three books that the teacher recommended.'

[unambiguous: ∀ > Neg, *Neg > ∀]

b.   Sensei-ga   suisensita   hon-o   san-satu zen'in-ga   yom-anakat-ta

teacher-Nom recommended book-Acc 3-Cl   everyone-Nom read-Neg-Past

Lit. 'Three books that the teacher recommended, everyone did not read.'

[unambiguous: ∀ > Neg, ??Neg > ∀]

(29) a.   Zen'in-ga   konnendo-kara hissyuu-ni   sita   kamoku-o   mit-tu

everyone-Nom this year-from compulsory-Dat made course-Acc 3-Cl

risyuusi-nakat-ta

take-Neg-Past

'Everyone did not take three courses that have been made compulsory this year.'

[unambiguous: ∀ > Neg, *Neg > ∀]

b.   Konnendo-kara hissyuu-ni   sita   kamoku-o   mit-tu zen'in-ga

this year-from   compulsory-Dat made course-Acc 3-Cl   everyone-Nom

risyuusi-nakat-ta

take-Neg-Past

Lit. 'Three courses that have been made compulsory this year, everyone

did not take.'

[unambiguous: ∀ > Neg, ??Neg > ∀]

The examples in (28) and (29) involve an object NP-FQ that can be interpreted to have a

presuppositional reading.   In (28), for example, the object DP *sensei-ga suisensita hon-o*

san-satu 'three books that the teacher recommended' can be interpreted to refer to three books

among the set of books referred to by the noun and the relative clause.   What is crucial here

is that scrambling of these QPs does not allow the subject *zen'in* to take narrow scope under

negation despite the presuppositional interpretation that they have, as shown by (28b) and

(29b).   This means that the QPs in (28) and (29) cannot have the topic feature despite their

presuppositional interpretation.   Thus this fact tells us that the presence/absence of the topic

feature on a DP must be determined on the basis of the internal structure of the DP, not on the

basis of the semantic property of presuppositionality.

Thus far we have proposed that scrambling of a QP into [Spec, TP] is allowed for Type

1 QPs, but not for Type 2 QPs.   However, since we have limited our attention to the

scrambling of QPs and have left non-quantificational DPs outside the scope of the analysis,

we may ask whether our analysis could be extended to the scrambling of non-quantificational DPs as well.

Non-quantificational DPs do allow the subject *zen'in* to take narrow scope as in the following example from Miyagawa (2010) cited at the outset of this chapter:

(30) (= (2))

    a. *Zen'in-ga*   siken-o uke-*nakat*-ta

       everyone-Nom test-Acc take-Neg-Past

       'Everyone did not take the test.'

       [unambiguous: ∀ > Neg, *Neg > ∀]

    b. Siken-o *zen'in-ga*   uke-*nakat*-ta

       test-Acc everyone-Nom take-Neg-Past

       Lit. 'The test, everyone did not take.'

       [ambiguous: ∀ > Neg, Neg > ∀]   (Miyagawa (2010))

Since the scrambling of the non-quantificational DP *siken-o* in (30b) allows the subject *zen'in-ga* to take narrow scope with respect to negation, we are led to saying that a non-quantificational DP may bear the topic feature.

However, a careful examination of this particular example reveals an interesting fact. The partial negation reading of sentence (30b) seems possible only if we interpret the scrambled object *siken-o* as referring to a particular test mentioned in the previous discourse, a reading that corresponds to a definite DP in English such as *the/that test*.   If we interpret *siken-o* as having an indefinite reference, whereby the DP refers to a test/tests that is/are newly introduced into the discourse as with the English indefinite DP *a test* or *tests*, it is difficult for the subject *zen'in* to take narrow scope under negation.   Indeed, if we add a

determiner such as *sono* 'that' and *ano* 'that' to the scrambled object DP in (30) in order to make the object to have a definite reference, the partial negation reading is readily available, as in:

(31) Sono-siken-o *zen'in-ga*   uke-*nakat*-ta

that-test-Acc everyone-Nom take-Neg-Past

Lit. 'That test, everyone did not take.'

[ambiguous: ∀ > Neg, Neg > ∀]

The unavailability of the partial negation reading with the indefinite interpretation of the scrambled object in (30b) can be accounted for under our analysis.   Since the object *siken-o* does not have a quantifier in [Spec, DP], it does not meet the condition for bearing the topic feature: It lacks an element in [Spec, DP].   This makes it impossible for the object to move into [Spec, TP].

The availability of the partial negation reading in (31), on the other hand, can be accounted for by supposing that the demonstratives such as *sono* 'that', *ano* 'that over there', and *kono* 'this' may be in [Spec, DP] on a par with quantifiers, by virtue of which it gives rise to the definite reading of the DP and allows the DP to bear the topic feature.   This makes it possible for the DP *sono-siken-o* in (31) to be moved into [Spec, TP] by the topic feature.

This leaves unexplained the availability of the partial negation reading in (30b) under the definite reading of the object: The object DP *siken-o* does not have a quantifier in [Spec, DP], but allows the subject to take narrow scope under negation.   How can this problem be solved under our analysis?

One conceivable analysis consistent with our analysis is to say that a bare DP has a choice of having the same feature on D that introduces a definite demonstrative such as *sono*,

without introducing any demonstrative in [Spec, DP], and that this feature gives rise to the definite interpretation of the bare DP *siken-o* and allows this DP to bear the topic feature. Then we can account for the availability of the partial negation reading of (30b) only under the definite reading of the scrambled object.

4.4   Scope and Scrambling

In Chapter 2 we observed a significant difference in the scope property of the Type 1 and the Type 2 QP.   The difference is summarized as follows:

(32)   a.   When the object is a Type 1 QP:

   i. QP_{SUBJ} QP_{OBJ} V   [unambiguous: $QP_{SUBJ} > QP_{OBJ}$, *$QP_{OBJ} > QP_{SUBJ}$]

   ii. QP_{OBJ} QP_{SUBJ} t_i V   [ambiguous: $QP_{SUBJ} > QP_{OBJ}$, $QP_{OBJ} > QP_{SUBJ}$]

   b.   When the object is a Type 2 QP:

   i. QP_{SUBJ} QP_{OBJ} V   [unambiguous: $QP_{SUBJ} > QP_{OBJ}$, *$QP_{OBJ} > QP_{SUBJ}$]

   ii. QP_{OBJ} QP_{SUBJ} t_i V   [unambiguous: $QP_{SUBJ} > QP_{OBJ}$, *$QP_{OBJ} > QP_{SUBJ}$]

While a Type 1 object QP may take wide scope over the subject in the order Object > Subject, a Type 2 object QP may not take wide scope over the subject irrespective of the order of the subject and the object.

One kind of Type 2 QP is a QP whose quantifier is preceded by an Adj.   As already discussed, a QP with this internal order cannot take wide scope even when scrambled to the left of the subject:

(33)   a.   *Kireina   hutari-no syoozyo-o subete-no geinoo-purodakusyon-ga sasot-ta*

   beautiful 2.Cl-Gen girl-Acc   every-Gen talent.agency-Nom   invite-Past

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Lit. 'Two beautiful girls, every talent agency invited.'

[unambiguous: ∀ > 2, *2 > ∀]

b. *Akai san-dai-no kuruma-o daremo-ga*   mokugekisi-ta

   red 3-Cl-gen   car-Acc   everyone-Nom witness-Past

   Lit. 'Three red cars, everyone witnessed'

   [unambiguous: ∀ > 3, *3 > ∀]]   (= (56) of Chapter 2)

A second case of Type 2 QPs is NP-FQs, which exhibit the same scope property as the

QPs in (33).   Compare (34a) and (34b).   As we see in (34b), an NP-FQ is not allowed to

take wide scope over the subject QP even when it is scrambled to the left of the subject while

the Type 1 QP in (34a) is allowed to do so.

(34) a.   *Huta-tu-no booru-o* daremo-ga   ket-ta.

        2-Cl-Gen   ball-Acc everyone-Nom kick-Past

        'Everyone kicked two balls.'

        [ambiguous: ∀ > 2, 2 > ∀]

    b.   *Booru-o huta-tu* daremo-ga   ket-ta.

        ball-Acc 2-Cl   everyone-Nom kick-Past

        'Everyone kicked two balls.'

        [unambiguous: ∀ > 2, *2 > ∀]   (= (4) of Chapter 2)

A third case of Type 2 QPs is the B-NP with an existential interpretation:

(35) a.   *Booru-o* daremo-ga   ket-ta

        ball-Acc everyone-Nom kick-Past

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'Everyone kicked balls.'

[unambiguous: ∀ > ∃, *∃ > ∀]   (Homma et al. (1992))

b. *Ikutuka-no booru-o* daremo-ga   ket-ta

some-Gen ball-Acc everyone-Nom kick-Past

'Everyone kicked balls.'

[ambiguous: ∀ > ∃, ∃ > ∀]   (= (8b) of Chapter 2)

The B-NP *booru-o* has an existential interpretation in (35a), approximately on a par with the

Q-NP with the overt existential quantifier *ikutuka-no* in (35b).   However, the B-NP cannot

take wide scope over the subject QP even when scrambled to the left of the subject, unlike the

Q-NP *ikutuka-no booru-o* in (35b), which does take either wide or narrow scope.

Now what is striking for us is the fact that the type of QP that may not take wide scope

is identical to the type of QP that may not bear the topic feature, as we have seen in the

preceding sections in this chapter.   This striking correlation between these two apparently

unrelated behaviors calls for an explanation of the scope properties of the two types of QP in

terms of the availability of the topic feature for the QP in question.   Roughly speaking, the

point of the proposal is that if a QP is scrambled by the topic feature, the scrambled position

is the position that determines its scope, and that if the scrambling of a QP is not triggered by

the topic feature, the scope of the QP is determined in its original position.

In order to make this idea precise, let us propose the mechanism for an adequate account

of the facts that we observed so far.   Firstly, we propose the Scope Principle in (36):

(36) Scope Principle:

QP_1 takes scope over QP_2 iff the head of the SI chain of QP_1 c-commands the head of

the SI chain of QP_2.

An SI position and an SI chain are defined as follows:

(37) SI positions:

An *SI position* of X is a position where X's semantic interpretation is established by

i) a grammatical feature that is semantic in nature or

ii) a thematic role.

(38) SI chains and SI heads:

An *SI chain* of X consists of the SI positions in the set of positions of the syntactic chain

of X.   The head of an SI chain (the *SI head*) is the topmost SI position of the SI chain.

The grammatical features referred to in (37i) are such features as the topic, the focus, the

topicalization, and the WH-features, since they are semantic in nature in the sense that their

primary role is to determine the semantic interpretation of a DP.   Thus one kind of SI

position is [Spec, TP], the position where a DP has its topic feature licensed and receives the

topic interpretation.   In addition, positions in the CP-domain can be SI positions, as long as

these positions provide a DP with a particular semantic interpretation.   Thus the position

which a DP moves to by Topicalization is an SI position since a topicalized DP is assigned a

particular interpretation by virtue of the fact that it moves to that position.   Another kind of

SI position is any position where a DP is assigned a thematic role.   Thus [Spec, vP] and any

position in VP where a DP is introduced as an argument are SI positions.   On the other hand,

those positions where grammatical features such as the Case-feature and the Φ-feature are

checked do not count as SI positions since these features themselves have to do with the

formal properties of DPs and hence do not count as a feature that is semantic in nature.

To sum up, our proposal amounts to saying that there is no independent grammatical feature or operation whose sole purpose is to determine the scope of QPs.　Rather, the determination of the scope of a QP is totally dependent on the determination of other aspects of semantic interpretation of the QP, such as the QP's topic, focus, and thematic interpretation.

At this point, one might say that the position where a DP's Φ-feature is checked may be counted as one of the SI positions since the Φ-feature arguably has to do with a semantic interpretation of the subject.　Indeed, Miyagawa (2010) claims that "(m)ovement triggered by agreement takes place in order to keep a record of functional relations for semantic and information-structure interpretation (Miyagawa (2010: 33))."　In other words, Miyagawa takes the Φ-feature as a grammatical feature contributing to functional interpretation of DPs since it triggers movement by agree.　However, what is relevant for the identification of SI positions is the nature of the grammatical feature on a head.　The topic, the focus, and the topicalization feature are all themselves semantic in nature, whereas the primary role of the Φ-feature has to do with the formal, morphological property of DPs.　Thus those positions for checking of the Case feature and the Φ-feature are excluded from the set of SI positions.

Note also that SI positions and SI heads as defined above are similar to Rizzi's (1996, 1997) *criterial positions* in that criterial positions are those positions where a DP's semantic interpretation is determined by way of the grammatical feature on a head.　Our SI positions are different from Rizzi's criterial positions in two respects.　Firstly, the SI positions include those positions where a DP's thematic role is assigned, the positions called *s-selectional positions* in Rizzi's framework.　Secondly, whereas the subject position has been considered to be one of the criterial positions in the series of Rizzi's works (Rizzi (2007) and the references cited there), the subject position in our system is not always identified as an SI position.　Whether the subject position is an SI position or not is determined by a number of

factors, as we will see shortly.

Having illustrated what SI positions and SI heads are like, let us now see how our system works. If a QP is moved into [Spec, TP] by the topic feature, the SI chain of the QP consists of the two underlined positions in (39):

(39) a. [$_{TP}$ $\underline{QP_i}$ [$_{vP}$ $\underline{t_i}$ [$_{VP}$ ... V]]]   (movement of the subject into [Spec, TP])
           [topic]   [θ]
           head

      the SI chain = {QP_i, t_i}   the head of the SI chain = QP_i

   b. [$_{TP}$ $\underline{QP_i}$ [$_{vP}$ Subj   [$_{VP}$ $\underline{t_i}$ V]]]   (scrambling of the object into [Spec, TP])
           [topic]   [θ]
           head

      the SI chain = {QP_i, t_i}   the head of the SI chain = QP_i

The position where the QP moves to in (39a), namely [Spec, TP], is an SI position since it is the position where the QP's topic interpretation is determined. The position of its trace t_i is another SI position for the subject QP since it is the position where the subject QP's thematic role (in this case, Agent) is determined. The SI chain for the subject QP is identified as {QP_i, t_i} since both the position of QP_i and that of t_i are SI positions. Furthermore, the head of this SI chain is the position of QP_i since it is the topmost position in this chain. In the case of the scrambling of the object QP into [Spec, TP] by the topic feature, as is illustrated in (39b), one SI position is the position of the scrambled QP_i. Another SI position is its underlying position marked by its trace t_i since it is where the object QP's thematic role is determined. The SI chain for the object is identified as {QP_i, t_i}, of which QP_i is the SI head.

When a QP is not moved, the SI head of the QP is identified as the underlying position where the QP's thematic role is determined. One such case is an unscrambled object as depicted in (40) while another such case is the subject remaining in [Spec, vP] by virtue of the scrambling of the object into [Spec, TP] as in (40b):

(40) a. [$_{TP}$ DP$_{SUBJ}$ [$_{vP}$ t_{SUBJ} [$_{vP}$ <u>QP$_{OBJ}$</u>   V]]]
                              [θ]
                              head

   the SI chain = {QP$_{OBJ}$}, the SI head = QP$_{OBJ}$

   b. [$_{TP}$ DP$_{OBJ}$ [$_{vP}$ <u>QP$_{SUBJ}$</u> [$_{vP}$ t_{OBJ} V]]]
                  [θ]
                  head

   the SI chain = {QP$_{OBJ}$}, the SI head = QP$_{SUBJ}$

In the case where the object QP is scrambled without being the target of the topic probe on T, as in the case of the scrambling of a Type 2 QP, the chain of the object QP is represented as follows:

(41) [$_{TP}$ QP$_j$ [$_{TP}$ Subj$_i$ [$_{vP}$ t_i [$_{vP}$ <u>t_j</u> V]]]
                              [θ]
                              head

        the SI chain = { t_j}   the SI head = t_j

In this case, the SI chain of the scrambled QP consists of the trace t_j only since the moved QP itself does not bear the topic feature and that the only SI position in its chain is its underlying position where its thematic role is determined.

   With this mechanism in mind, let us see how the data of scope interaction in Japanese can be explained.   Firstly, the case where both the subject and the object are Type 1 QPs is accounted for in the following way.   When the two QPs are in their canonical order Subject – Object as in (42a), the structure of the sentence is represented in (42b):

(42) QP$_{\text{SUBJ-Type 1}}$ QP$_{\text{OBJ-Type 1}}$ V

   a.   San-nin-no gakusei-ga   subete-no   siken-o uke-ta

        3-Cl-Gen   student-Nom every-Gen test-Acc take-Past

        'Three students took every exam.'

        [unambiguous: 3 > ∀, *∀ > 3]

   b.   [$_{\text{TP}}$ san-nin-no gakusei-ga$_i$ [$_{\text{T'}}$ [$_{\text{vP}}$ t_i [$_{\text{VP}}$ subete-no siken-o uketa]]]]
        [topic]   **[θ]**   **[θ]**

        → *san-nin-no gakusei-ga$_i$ > subete-no siken-o*

        ⇒ [unambiguous: 3 > ∀, *∀ > 3]

In (42b), the subject QP has moved into [Spec, TP] by the topic probe and the object remains in its underlying position.   The SI head of the subject is the QP in [Spec, TP], while that of the object is the QP in its underlying position.   Since the SI head of the subject QP c-commands that of the object QP, this representation gives only the scope order Subject > Object (3 > ∀).

   When the object QP is scrambled, there are two possible structures:

(43) QP$_{\text{OBJ-Type 1}}$ QP$_{\text{SUBJ-Type 1}}$ t_{OBJ} V

   a.   Subete-no siken-o   san-nin-no gakusei-ga   uke-ta

        every-Gen test-Acc 3-Cl-Gen   student-Nom take-Past

        Lit. 'Every exam, three students took.'

        [ambiguous: 3 > ∀, ∀ > 3]

   b.   i)   [$_{\text{TP}}$ subete-no siken-o$_j$ [$_{\text{T'}}$ [$_{\text{vP}}$ san-nin-no gakusei-ga$_i$ [$_{\text{VP}}$ t_j uketa]]]]
                  [topic]   **[θ]**   **[θ]**

             → *subete-no siken-o$_j$ > san-nin-no gakusei-ga$_i$*

        ii) [$_{\text{TP}}$ subete-no siken-o$_j$ [$_{\text{TP}}$ san-nin-no gakusei-ga$_i$ [$_{\text{T'}}$ [$_{\text{vP}}$ t_i [$_{\text{VP}}$ t_j uketa]]]]]
                                                 [topic]   **[θ]**   **[θ]**

             → *san-nin-no gakusei-ga$_i$ > subete-no siken-o$_j$*

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⇒ [ambiguous: 3 > ∀, ∀ > 3]

The first possible structure is given in (43bi), where the scrambled object QP is moved by the topic feature.   In this representation, the SI head of the object is the QP in [Spec, TP] (*subete-no siken-o*$_j$) while that of the subject is the subject QP itself in [Spec, vP].   Since the SI head of the object c-commands that of the subject, this representation gives rise to the scope order Object > Subject (*subete-no siken-o*$_j$ > *san-nin-no gakusei-ga*$_i$).   In the second possible structure in (43bii), the object is scrambled, but not by the topic feature.   The one that has been moved by the topic feature is the subject QP.   While the SI head of the subject is the subject QP in [Spec, TP], that of the scrambled object is the trace in its underlying position.   This structure gives rise to the scope order Subject > Object.   The above two representations, therefore, yield the two scope interpretations of the sentence.

Secondly, the scope interaction between a subject Type 1 QP and an object Type 2 QP is explained in the following way.   If the subject and the object are in their canonical order as in (44a), the sentence has the representation in (44b):

(44)   QP$_{\text{SUBJ-Type 1}}$ QP$_{\text{OBJ-Type 2}}$ V

    a.   Subete-no gakusei-ga   siken-o   mit-tu uke-ta

        every-Gen student-Nom test-Acc 3-Cl   take-Past

        'Every student took three exams.'

        [unambiguous: ∀ > 3, *3 > ∀]

    b.   [$_{TP}$ subete-no gakusei-ga$_i$ [$_{T'}$ [$_{vP}$ t_i [$_{VP}$ siken-o mit-tu uketa]]]]
            [topic]   [θ]   **[θ]**

        → *subete-no gakusei-ga*$_i$ > *siken-o mit-tu*

        ⇒ [unambiguous: ∀ > 3, *3 > ∀]

While the SI head of the subject QP *subete-no gakusei-ga* is identified as the QP itself in [Spec, TP], the SI head of the object QP *siken-o mit-tu* is the QP itself in the object position. Since the former c-commands the latter and that this is the only representation for (44a), the sentence is unambiguous with the Subject > Object being the only scope order.   If the object Type 2 QP is scrambled as in (45a), the sentence has only the structure in (45b):

(45)   QP$_{OBJ\text{-Type 2}}$ QP$_{SUBJ\text{-Type 1}}$ t_{OBJ} V

    a.   Siken-o mit-tu subete-no   gakusei-ga   uke-ta

        test-Acc 3-Cl   every-Gen student-Nom take-Past

        Lit. 'Three tests, every student took.'

    b.   [$_{TP}$ siken-o mit-tu$_j$ [$_{TP}$ subete-no gakusei-ga$_i$ [$_{T'}$ [$_{vP}$ t_i [$_{VP}$ t_j uketa]]]]
                [topic]   [θ]   **[θ]**

        → *subete-no gakusei-ga$_i$ > siken-o mit-tu$_j$*

        ⇒ [unambiguous: *3 > ∀, ∀ > 3]

The crucial point is that since the object is of Type 2, it cannot bear the topic feature and the SI head of it is its trace t_j in the object position.   Since the SI head of the subject QP *subete-no gakusei-ga$_i$* in [Spec, TP] c-commands the SI head of the object (t_j), the Scope Principle dictates that the sentence has the Subject > Object scope order as its only reading.

    Thus our proposal can successfully capture the difference in the scope property between Type 1 and Type 2 QPs as well as the difference in the scope interaction between the subject and the object in their canonical and the scrambled order.

    Before closing this section, however, let us consider one potential alternative account of the difference between Type 1 and Type 2 QPs with respect to the effect of scrambling to their scope interpretation.   Recall that Type 1 QPs may undergo A-scrambling whereas Type 2 QPs may only undergo A'-scrambling.   Thus the observed difference in their scope

properties might thus be ascribed simply to the A/A' distinction of scrambling.

However, it is rather unsatisfactory to try simply to tie the difference in scope to the A/A' distinction of scrambling, by stating that A-scrambling of a QP enables it to have wide scope whereas A'-scrambling does not.   Firstly, a statement such as this would simply be a descriptive generalization and would itself raise a question of why this descriptive generalization holds.   Secondly, this descriptive generalization is not necessarily adequate. It is not the case that A-movement necessarily "freezes" the scope of an A-moved QP.   It has been pointed out in Carlson (1977) that a bare existential subject DP may only take narrow scope in the raising construction, despite the fact that it has undergone A-movement to the matrix subject position.

(46) *Drunks* are *likely* to win the lottery.

     [unambiguous: *∃ > *likely, likely* > ∃]

This means that A-movement does not always give the moved QP a wide scope.   Conversely, it is possible for A'-movement to widen the scope of a QP.   In the following topicalization construction, where the topicalized constituent has undergone A'-movement, the topicalized QP may only take wide scope.

(47) a. *All of us* have read *many of the books* with great enthusiasm.

         [ambiguous: *all > many, many > all*]

     b. *Many of the books*, *all of us* have read with great enthusiasm.

         [unambiguous: **all > many, many > all*]

                                      (Kuno (1991: 267), Kuno and Takami (2002))

Thus these facts suggest that the difference in the scope property under scrambling between Type 1 and Type 2 QPs cannot be accounted for simply by appealing to the A/A' distinction of the scrambling of these types of QP.

4.5   Scope Interaction of a QP and Negation: Covert Movement

4.5.1   Scope of a QP and Negation

This section considers the way in which the analysis of scope interaction between two QPs proposed in the last section can be extended to cases of scope interaction between a QP and negation.   Consider the following example:

(48)   *Subete-no hito-ga*   Taroo-o   seme-*nakat*-ta

every-Gen person-Nom Taro-Acc blame-Neg-Past

'Every person did not blame Taro.'

[unambiguous: ∀ > Neg, *Neg > ∀]

(48) involves negation and a Type 1 QP in the subject position.   The sentence sounds unambiguous with the wide scope of the subject QP being the only reading for (48).   The structure of (48) is represented as follows:

(49)
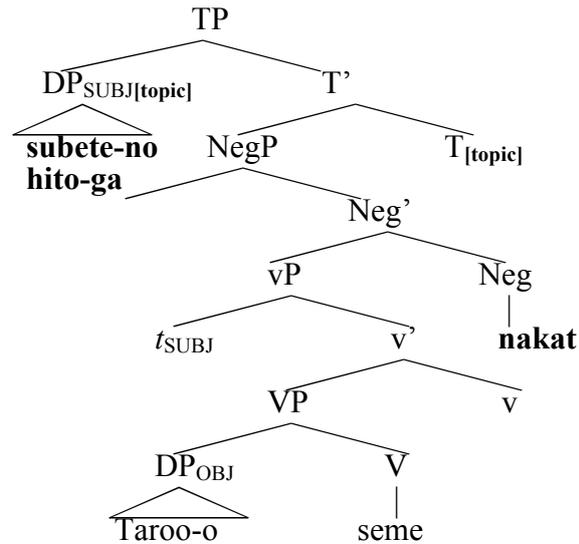
In (49) the subject QP is raised into [Spec, TP] by the topic feature, just as is the case with the subject in the canonical order.   Since this process makes the SI head of the subject QP, namely [Spec, TP], c-command the negation, the subject takes wide scope over the negation.

However, a problem arises with respect to the scope of an object QP and negation. Observe the following example, which involves a Type 1 object QP and negation:[12, 13]

(50) a. Taroo-ga *subete-no hito-o*   seme-*nakat*-ta

Taro-Nom every-Gen person-Acc blame-Neg-Past

'Taro did not blame everyone.'

[ambiguous: ∀ > Neg, Neg > ∀]

b. Taroo-wa paatii-ni *san-nin-no   hito-o*   sasow-*anakat*-ta

Taro-Top party-Dat 3-Cl-Gen person-Acc invite-Neg-Past

'Taro did not invite three people to the party.'

[ambiguous: 3 > Neg, ?Neg > 3]

---

[12] The scope of an object QP and negation is also discussed in Homma (1998) and Shibata (2015).
[13] Without any context it may be a little difficult to obtain the Neg > 3 reading for (54b).   The Neg > 3 reading can be obtained by imagining a situation where Taro was supposed to invite three people to the party but he actually invited only two people to it.

As we see, the Type 1 QP in the object position can take wide scope over negation. Sentence (50a) can be interpreted to mean either that everyone is such that Taro did not blame him ($\forall$ > Neg), or that not everyone is such that Taro blamed him (Neg > $\forall$). Likewise, sentence (50b) may be true in the situation where three people are such that Taro did not invite them to the party (3 > Neg), or the one where Taro invited only less than three people to the party (Neg > 3). However, if we assume that the object is located within VP, we cannot account for the availability of the wide scope for the object QP in (50) since the object position, which is the SI head of the object QP, does not c-command the negation, as shown in (51):[14]

(51)
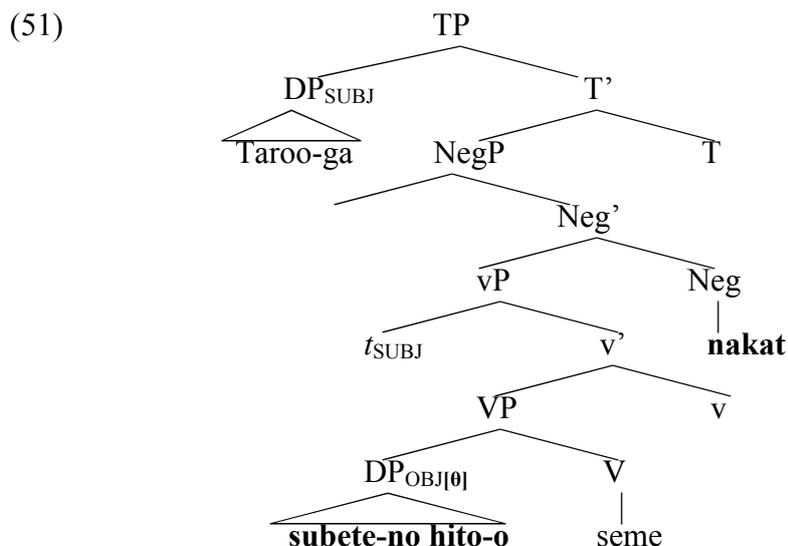
Then how can we account for this fact?

4.5.2   An Account: Covert Focus Movement

In the framework that assumes the level of LF and QR, the wide scope of the object QP

---

[14] We may instead assume that the object is shifted to the vP domain for licensing its Case, but this assumption still cannot account for the wide scope of the object since the object in the vP domain cannot c-command the negation.

subete-no hito-o over negation in (51) would be accounted for by appealing to QR, which

raises the object QP over negation at LF so as to give the QP either a wide or a narrow scope

depending on the position that the QP is landed to.   This is illustrated as (52):

(52) LFs for (50a):

a.

```
                        TP
            ┌───────────┴───────────┐
          DPᵢ                       TP
         ╱ ╲            ┌───────────┴──────┐
    subete-no          DP                  T'
      hito-o          ╱ ╲         ┌────────┴──────┐
               ┌─────┴──┐       NegP             T
            Taroo-ga  NegP    ┌───┴───┐
                             Neg'
                      ┌───────┴───────┐
                     vP              Neg
                 ┌────┴────┐          │
              tSUBJ        v'        nakat
                      ┌────┴────┐
                     VP         v
                 ┌────┴────┐
                tᵢ         V
                           │
                         seme
```
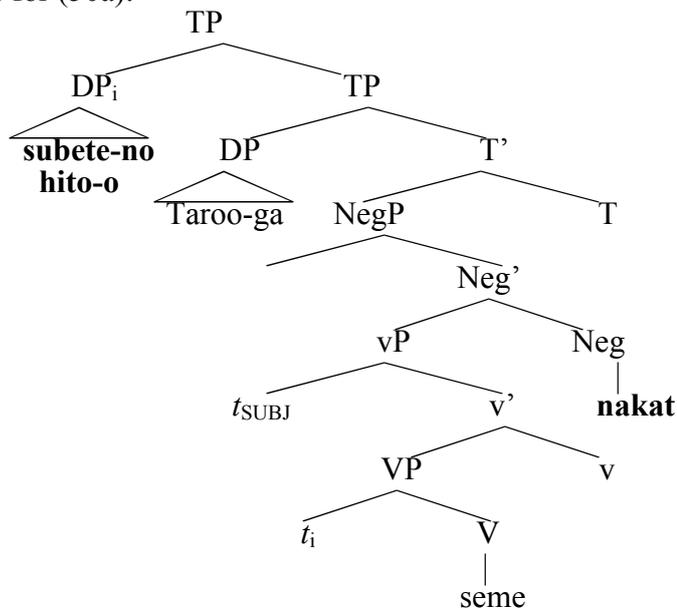
→ *subete-no hito-o > nakat (nai)*   (∀ > Neg)

b.

```
                   TP
          ┌────────┴────────┐
         DP                 T'
        ╱ ╲        ┌────────┴──────┐
   Taroo-ga      NegP              T
             ┌────┴────┐
                     Neg'
              ┌───────┴───────┐
             vP              Neg
         ┌────┴────┐          │
      tSUBJ        v'        nakat
              ┌────┴────┐
             VP         v
         ┌────┴────┐
       DPᵢ        VP
      ╱ ╲     ┌───┴───┐
  subete-no  tᵢ       V
    hito-o            │
                    seme
```
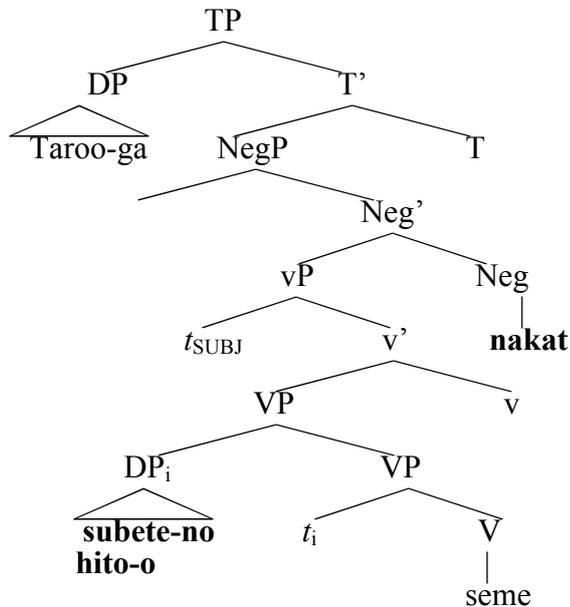
→ *nakat (nai) > subete-no hito-o* (Neg > ∀)

If the object QP is adjoined to TP by QR, as in (52a), it is in a position c-commanding the

negative so that the structure yields the wide scope reading of the object QP.   If the object is adjoined to VP, on the other hand, it is the negative that take wide scope over the object QP.[15]

However, since we do not assume the rule of QR in the present analysis, how can we deal with the wide scope of the object QP over negation?   In light of the fact that the scope interaction between QPs can be accounted for by appealing to the SI heads of the QPs, namely the heads of positions for QPs where their semantic interpretation is established, a plausible account would be one which appeals to these positions.   If we succeed in accounting for the scope interaction between a QP and negation simply on the basis of the SI heads for the QP, that account will be more plausible on the grounds of simplicity of theoretical devices adopted for explanation than the one that relies on other devices in addition to the SI heads.   Therefore, let us look for a way in which we may account for the scope interaction between a QP and negation solely in terms of the SI position for the QP.

Of the two kinds of SI head, the position where the object QP's thematic relation is established does not help us account for the wide scope of the QP since this position is asymmetrically c-commanded by the negation.   As for another kind of SI head that the object QP in (50) might have access to, we might assume that the object QP in (50) has undergone a string-vacuous movement into [Spec, TP] by the probe on T.   In fact, Miyagawa (2010) proposes that a particular group of object DPs are string-vacuously moved to [Spec, TP] by the *focus* probe on T.   As Miyagawa shows, DPs with the focus particle *mo*, such as the object *uisukii-mo*, is one such DP that undergoes this movement.

(53) Taroo-ga   *uisukii-mo*   non-da

        Taro-Nom whisky-also drink-Past

---

[15] Adjunction of a QP to VP via QR is assumed in May (1985) and Aoun and Li (1993), among others.

'Taro also drank whisky.'

The structure of (53) is represented as (54):

(54)
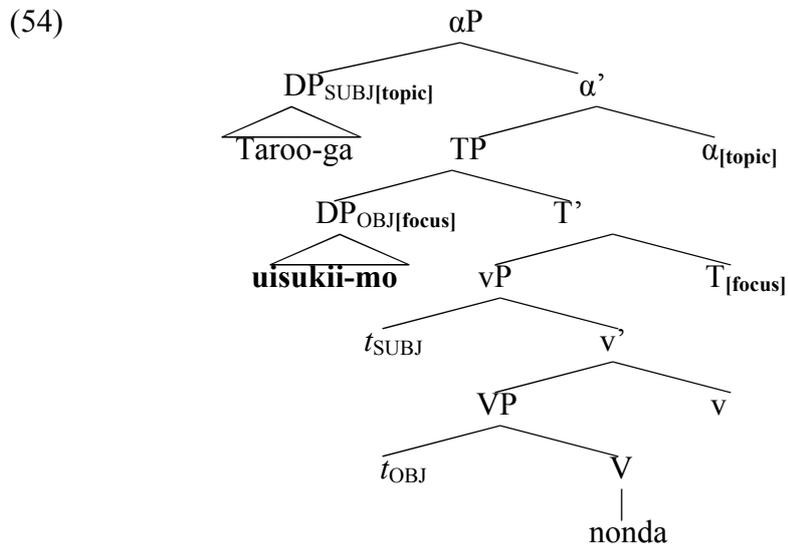
Miyagawa provides the following examples as the evidence for the string-vacuous movement of the object.   Consider:

(55) a. ? Gakusei-ga   *uisukii-mo*   san-nin non-da

         student-Nom whisky-also 3-Cl   drink-Past

         'Three students also drank whisky.'

      b. * Gakusei-ga   *uisukii-o*   san-nin non-da

         student-Nom whisky-Acc 3-Cl   drink-Past

         'Three students also drank whisky.'

As shown in (55), it is possible to separate the subject *gakusei-ga* and its FQ *san-nin* by the intervening object *uisukii-mo*.   This can be accounted for, according to Miyagawa (2010), if the object *uisukii-mo* has undergone movement into [Spec, TP] triggered by the focus probe

on T.   In contrast, a non-focal DP such as *uisukii-o* in (55b) does not undergo the focus movement so that it cannot intervene the subject and its FQ.

Now we may ask whether a Type 1 object QP such as *subete-no hito-o* in (50) undergoes this string-vacuous overt focus movement over negation.   If this movement occurs, the structure of (50) may also be represented as (56), in addition to (51):

(56)

```
                        αP
            ┌────────────┴────────────┐
      DP_SUBJ[topic]                   α'
        ┌────┴────┐            ┌────────┴────────┐
    Taroo-ga      TP                          α_[topic]
            ┌──────┴──────┐
      DP_OBJ[focus]       T'
        ┌──────┴──┐   ┌────┴──────────┐
  subete-no hito-o  NegP            T_[focus]
              ┌──────┴──────┐
                          Neg'
                    ┌────────┴────────┐
                   vP               Neg
              ┌─────┴─────┐          │
           t_SUBJ         v'         nai
                    ┌──────┴──────┐
                   VP             v
              ┌─────┴─────┐
            t_OBJ         V
```
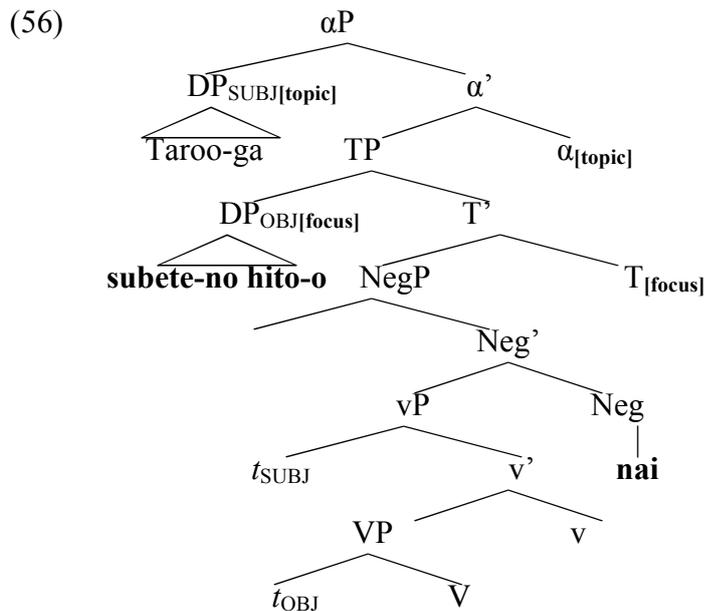
The answer is negative, however, if we diagnose the structural position of the object with Miyagawa's test involving an FQ:

(57) a. * Gakusei-ga   subete-no hito-o   san-nin seme-ta

           student-Nom every-Gen person 3-Cl   blame-Past

          'Three students blamed every person.'

     b. * Gakusei-ga   paatii-ni   subete-no hito-o san-nin sasot-ta

           student-Nom party-Dat every-Gen person 3-Cl invite-Past

          'Three students invited everyone to the party.'

As we observe in (57), it is impossible or at least difficult to associate the subject with the FQ *san-nin* to the right of the object QP. This means that the object *subete-no hito-o* does not undergo the string-vacuous overt movement by the focus feature on T.

We propose instead that the Type 1 QP can optionally undergo the covert version of the movement triggered by the feature on T. We take, as we did in Chapter 1, covert movement to be an instance of syntactic movement of constituents whereby the lower copy of the constituent is pronounced and the phonetic feature of the higher copy is deleted (Bobalijk (1995), among others), although we present covert movement as if it were a movement of the feature alone. The relevant feature on T in question that triggers the covert movement, we propose, is identified as the focus feature, in the sense that will be shown shortly.[16]

Given this proposal, the structure of sentence (50a), for example, is represented as (58). We assume that the covert focus movement in question is optional:[17]

---

[16] Note that the class of expressions referred to as "focus phrases" in Miyagawa (2010) and those in this paper do not seem to constitute a uniform class. While Miyagawa's focus phrases include the DPs with the particle *mo* 'also' or *ka* 'some', as in *hon-mo* 'also a book' and *nani-ka* 'something', the DPs that we call focus in this paper include those that have the meaning of contrastiveness which focused constituents characteristically have, as we discuss shortly in Section 4.6.

[17] In (58) and in what follows we employ multiple specifiers (Kuroda (1988), Ura (1994), among others) for a given phrase, just for ease of exposition, instead of assuming separate projections TP and αP. Our analysis is also compatible with Miyagawa's (2010) split projections for the topic and the focus feature, as in (54). Regarding the notation of multiple specifier positions, the node dominating the lower specifier position will be left unlabeled in the tree diagram throughout this thesis.

(58) a.

```
                        TP
              _____
         DP_SUBJ[topic]              _____
         |              [focus]_OBJ          T'
       Taroo-ga                    _____
                               NegP              T_[topic], [focus]
                          _____
                                Neg'
                          _____
                        vP              Neg
                    _____          |
               t_SUBJ        v'        nakat
                        _____
                       VP          v
                  _____
              DP_OBJ[θ]      V
                            |
         subete-no hito-o   seme          →   [focus]_OBJ > Neg
```

b.
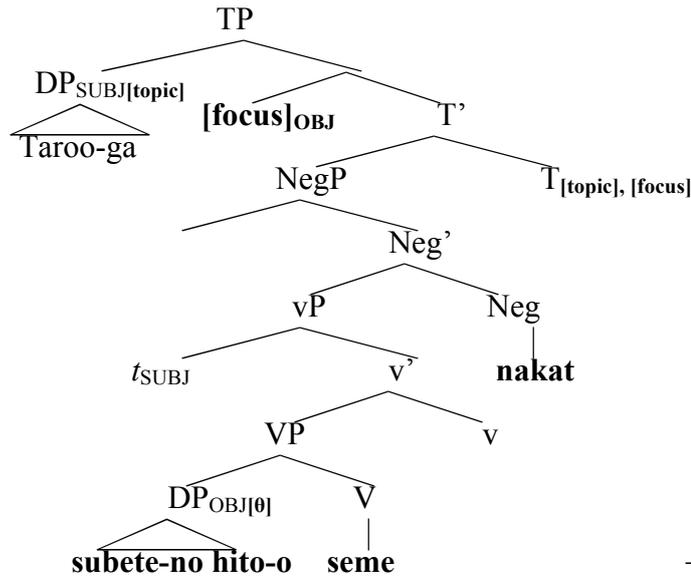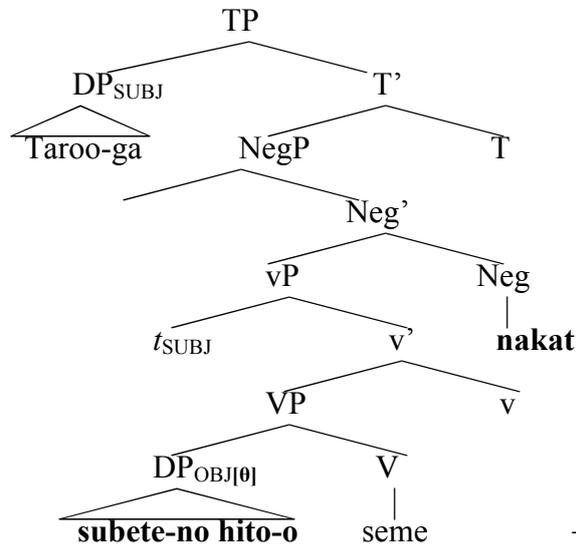
```
                        TP
                 _____
            DP_SUBJ              _____
            |                   T'
          Taroo-ga    NegP              T
                  _____
                        Neg'
                   _____
                 vP              Neg
             _____          |
        t_SUBJ        v'        nakat
                 _____
                VP          v
           _____
       DP_OBJ[θ]      V
                      |
         subete-no hito-o   seme          → Neg > [focus]_OBJ
```

⇒ [ambiguous: ∀ > Neg, Neg > ∀]

If the object undergoes the covert focus movement, sentence (50a) has the structure in (58a). In this structure the focus feature of the object, represented as [focus], has moved into [Spec, TP] by being the target of the corresponding focus probe on T, just as the topic probe on T targets the corresponding topic phrase, while the subject has overtly moved into [Spec, TP] by the topic feature.   Then the SI head of the object QP is identified as the focus feature in [Spec, TP] since it is a grammatical feature that has to do with semantic interpretation. Since the SI head of the object, namely the focus feature in [Spec, TP], c-commands the

negation in (58a), this structure yields the wide scope reading of the object QP.   On the other hand, the object QP has the option of not undergoing the covert focus movement.   This option gives rise to the representation in (58b).   In this structure, it is the negation that takes wide scope since the SI head of the object is the object QP itself, which remains in VP and is c-commanded by the negation.   Because of these two possible structures, therefore, (50a) has the two scope interpretations.

   Now we have proposed that Type 1 QPs may bear the focus feature as well as the topic feature.   As for Type 2 QPs, on the other hand, we have shown earlier in this chapter that they cannot bear the topic feature.   We propose that this is also the case with the focus feature for Type 2 QPs.   Type 2 QPs cannot bear the focus feature for the same reason that they do not have the topic feature: They lack a quantifier in [Spec, DP].

   This leads us to the prediction that a Type 2 QP in the object position cannot take wide scope over negation since it cannot have the focus feature that would undergo covert movement.   This prediction is not borne, however:

(59) a.   Taroo-wa *san-nin(-izyoo)-no   gakusei-o*   home-*nakat*-ta

           Taro-Top 3-Cl(-or.more)-Gen student-Acc praise-Neg-Past

           'Taro did not praise three (or more) students.'

           [ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

      b.   Keisatu-wa *san-nin(-izyoo)-no tooboohan-o* taihosi-*nakat*-ta

           police-Top 3-Cl(-or.more)-Gen fugitive-Acc arrest-Neg-Past

           'The police did not arrest three (or more) fugitive criminals.'

           [ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

(60) a. Taroo-wa *gakusei-o   san-nin(-izyoo)* home-*nakat*-ta

　　　Taro-Top student-Acc 3-Cl(-or.more) praise-Neg-Past

　　　'Taro did not praise three (or more) students.'

　　　[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

　　b. Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-*nakat*-ta

　　　police-Top fugitive-Acc 3-Cl(-or.more)   arrest-Neg-Past

　　　'The police did not arrest three (or more) fugitive criminals.'

　　　[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

The Type 1 QPs may easily take scope over negation as shown in (59), as we have already

observed.　　Contrary to our expectation, it is possible for an object NP-FQ, which is a Type 2

QP, to take wide scope over negation, as in (59).　　If the covert focus movement does not

apply to Type 2 QPs, the NP-FQs in (59) should not be able to take wide scope over negation.

　　While the examples in (60) constitute counterexamples to our analysis, we also find

examples that do support our analysis.　　Consider:

(61) a. Taroo-ga   *san-nin(-izyoo)-no gakusei-o*   home-yoo   to   omow-*anakat*-ta

　　　Taro-Nom 3-Cl(-or.more)-Gen student-Acc praise-Mod Comp think-Neg-Past

　　　'Taro did not think of praising three (or more) students.'

　　　[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

　　b. Keisatu-ga   *san-nin(-izyoo)-no tooboohan-o* taihosi-yoo to   omow-*anakat*-ta

　　　police-Nom 3-Cl(-or.more)-Gen fugitive-Acc arrest-Mod Comp think-Neg-Past

　　　'The police did not think of arresting three (or more) fugitive criminals.'

　　　[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

(62) a. Taroo-ga *gakusei-o san-nin(-izyoo)* home-yoo to omow-*anakat*-ta

Taro-Nom student-Acc 3-Cl(-or.more) praise-Mod Comp think-Neg-Past

'Taro did not think of praising three (or more) students.'

[unambiguous: *3 (or more) > Neg, Neg > 3 (or more)]

b. Keisatu-ga *tooboohan-o san-nin(-izyoo)* taihosi-yoo to omow-*anakat*-ta

police-Nom fugitive-Acc 3-Cl(-or.more) arrest-Mot Comp think-Neg-Past

'The police did not think of arresting three (or more) fugitive criminals.'

[unambiguous: *3 (or more) > Neg, Neg > 3 (or more)]

While the QPs with a prenominal quantifier, which can be Type 1 QPs, may take scope over the matrix negation in (61), it sounds difficult, if not impossible, for an NP-FQ to take scope over the matrix negation in (62). This difference between (61) and (62) can be captured if the covert focus movement applies only to Type 1 QPs. As we discuss shortly in this chapter, the covert focus movement, as well as the topic movement, may apply across the clause boundary of non-finite clauses. The focus feature may move across the clause boundary across negation to the matrix T in (61), while this movement may not take place in (62).

Thus it seems reasonable to maintain our analysis where the covert focus movement may only apply to Type 1 QP, but not to Type 2 QPs. But then why can the NP-FQs in (60) take wide scope over negation? We suggest in Chapter 8 that NP-FQs may undergo a "local" movement over negation, a movement distinct from the movement by the topic or the focus feature. See our discussion in Chapter 8.

4.5.3 A Difference Between the Topic and the Focus Movement

In the last section we identified the relevant covert movement as the movement of the

focus feature of a QP, but not that of the topic feature.   In this section let us clarify why this is so.   Recall that in Section 4.2 we have provided the following piece of evidence that the clause-initial DP serves as the topic of the clause:

(63) A: Taroo-wa dare-o   aisiteiru-no

         Taro-Top who-Acc love-Q

         'Who does Taro love?'

     B: i) Hanako-desu.   ??Taroo-ga   Hanako-o   aisitei-mas-u

         Hanako-is   Taro-Nom Hanako-Acc love-Pol-Pres

         'Hanako.   Taro loves Hanako.'

        ii) Hanako-desu.   Hanako-o   Taroo-ga   aisitei-mas-u

         Hanako-is   Hanako-Acc Taro-Nom love-Pol-Pres

         Lit. 'Hanako.   Hanako, Taro loves.'   (= (5))

(64) A: Dare-ga   Hanako-o   aisiteiru-no

         who-Nom Hanako-Acc love-Q

         'Who loves Hanako?'

     B: i) Taroo-desu. Taroo-ga   Hanako-o   aisitei-mas-u

         Taro-is   Taro-Nom Hanako-Acc love-Pol-Pres

         'Taro.   Taro loves Hanako.'

        ii) Taroo-desu.   ??Hanako-o   Taroo-ga   aisitei-mas-u

         Taro-is   Hanako-Acc Taro-Nom love-Pol-Pres

         Lit. 'Taro.   Hanako, Taro loves.'   (= (6))

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While these examples suggest the topicality of the clause-initial DP, they also mean that a DP

must not remain in its original position in order to serve as the topic of the clause.   In terms

of our analysis, this fact means that the topic feature must trigger overt movement of DPs, not

the covert counterpart of them.   If the topic feature were to trigger covert movement, we

should predict that the second sentence in (63Bi) would be as acceptable as that in (63Bii)

since a DP in a non-initial position of a clause would be able to serve as the topic by virtue of

having the topic feature to move covertly.   That the second sentence in (63Bi) has a low

acceptability tells us that the topic feature must trigger overt movement.

In contrast to a topic phrase, a focused phrase does not need to be in a clause-initial

position.   The following example can be easily taken to mean that Taro invited Hanako, but

not Miyuki, to the dinner party:

(65)   Taroo-ga kinoo   yuusyokukai-ni   *Hanako-o*   sasot-ta-no-da-ga,

Taro-Top yesterday dinner-party-Dat Hanako-Acc invite-Past-Gen-Cop-though

Miyuki-wa   sasow-anakat-ta

Miyuki-Cont invite-Neg-Past

'Taro invited Hanako to the dinner party, but he did not invite Miyuki to it.'

The DP *Hanako-o* serves as the focus of the sentence by remaining in its original position of

the sentence.   If the focus feature always triggered the overt movement of a focused phrase,

the DP *Hanako-o* would have to appear in the sentence-initial position, or to the left of the VP

adverb *kinoo* in (65), by moving into [Spec, TP].   The fact that it does not need to can be

captured by assuming that the movement of the focus feature does not necessarily accompany

the overt movement of the focused phrase.

Thus we have a good reason to assume that the relevant covert movement is the movement of the focus feature, but not the topic feature.

4.6 Semantic Compatibility of Type 1 QPs with the Topic and the Focus Feature

Thus far we have proposed that the topic and the focus feature may appear on Type 1 QPs but not on Type 2 QPs.   Type 1 QPs are those QPs with a quantifier in [Spec, DP]. Thus it is the presence of a quantifier in [Spec, DP] that enables a QP to bear the topic or the focus feature.[18]   This does not mean that the semantic property of Type 1 QPs is irrelevant to the semantic nature of the topic and the focus feature.   Rather, the semantics of Type 1 QPs are amenable to that of these features, as the following considerations suggest:

4.6.1 The Topic Feature and Type 1 QPs

Recall our analysis in Chapter 3 in which we showed that the presence of a quantifier in [Spec, DP] of a QP gives rise to the presuppositional interpretation of the QP.   The presuppositional reading of a QP is one in which the QP refers to a subset of a set of entities referred to by the head noun.   Under the presuppositional reading of the QP *san-nin-no gakusei-ga/o* 'three students', for example, it refers to three students in the set of students that are mentioned in the previous discourse.   Thus a presuppositional QP may be said to be "anaphoric" in the sense that it refers to information in the previous discourse.   The topic feature of a DP (including that of a QP) provides the DP with a topic interpretation whereby the DP refers to what the sentence is about (Miyagawa (2010: 70, 74) while the rest of the sentence represents the "comment" about the topic.   We may say that a topic DP is

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[18] Note that non-quantificational DPs may also bear the topic feature if they are definite.   In the case of definite DPs, we may say that a demonstrative in [Spec, DP] or the feature on D allows these DPs to have the topic feature.   See our discussion in 4.3.

anaphoric in the sense that it refers back to a piece of information that has been mentioned previously, as we have already seen in Section 3.1:

(66) A: Taroo-wa dare-o   aisiteiru-no

               Taro-Top who-Acc love-Q

               'Who does Taro love?'

      B: i) Hanako-desu.   ??Taroo-ga   Hanako-o   aisitei-mas-u

             Hanako-is   Taro-Nom Hanako-Acc love-Pol-Pres

             'Hanako.   Taro loves Hanako.'

          ii) Hanako-desu.   Hanako-o   Taroo-ga   aisitei-mas-u

             Hanako-is   Hanako-Acc Taro-Nom love-Pol-Pres

             Lit. 'Hanako.   Hanako, Taro loves.'

(67) A: Dare-ga   Hanako-o   aisiteiru-no

               who-Nom Hanako-Acc love-Q

               'Who loves Hanako?'

      B: i) Taroo-desu. Taroo-ga   Hanako-o   aisitei-mas-u

             Taro-is   Taro-Nom Hanako-Acc love-Pol-Pres

             'Taro.   Taro loves Hanako.'

          ii) Taroo-desu.   ??Hanako-o   Taroo-ga   aisitei-mas-u

             Taro-is   Hanako-Acc Taro-Nom love-Pol-Pres

             Lit. 'Taro.   Hanako, Taro loves.'

In (66Bii) and (67Bi), the topic phrase, namely the scrambled object in (66Bii) and the subject in (67Bi), is anaphoric in the sense that it refers back to the information denoted by the DP in

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the preceding short answer.   Because of this similarity of the semantics of the Type 1 QP to that of the topic DPs in (66) and (67), we have a good reason to maintain that the topic feature is compatible with Type 1 QPs.

4.6.2 The Focus Feature and Type 1 QPs

As for the compatibility of the focus feature with Type 1 QPs, the following consideration of the semantics of Type 1 QPs provides us a good reason for their compatibility.   Rooth (1985, 1992, 1996) characterize the focus phrase as one that evokes a set of alternative propositions.   For example, sentence (68a), with a focus on the object *coffee*, evokes a set of alternative propositions (e.g. propositions such as *Ede wants tea.* and *Ede wants water.*) in the form of (68b), where the variable *x* could be assigned a value other than the referent of *coffee*.

(68)   a.   Ede wants [coffee]$_F$.

   b.   Ede wants *x*.

In other words, the referent of the focus DP *coffee* in (68a) is understood to be put in contrast with other referents such as tea and water in the set of objects that is established in the discourse where (68a) is uttered.

This semantic property of "contrastiveness" of focus phrases is shared by Type 1 QPs. Recall that the Type 1 QP is interpreted as presuppositional in the sense that it refers to a subset of a set of entities from the preceding discourse.   For instance, the QP *san-nin-no gakusei-ga* 'three students' in (69), under its Type 1, presuppositional reading, refers to three students belonging to the group of students mentioned previously.

(69) *San-nin-no gakusei-ga*   ki-ta

   3-Cl-Gen   student-Nom come-Past

   'Three students came.'

In asserting (69), the QP *san-nin-no gakusei-ga* is put in contrast with the other students of the same group of students, evoking a set of alternative propositions in the form of (70), in the sense that (69) implies that the other students in the same group did not come.

(70) *x* came.

Thus we can say that Type 1 QPs are another kind of focus phrase since Type 1 QPs share the semantic property of contrastiveness with focus phrases in the sense described above.

   A questions arises with QPs with a universal quantifier such as *subete-no* 'every'. This is because the QP such as the subject QP in (71), for example, refers to all the members of the set of students and thus its referents are apparently not put in contrast with any members belonging to the same set of students.

(71) Subete-no gakusei-ga   ki-ta

   every-Gen student-Nom come-Past

   'Every student came.'

This problem, however, can be circumvented by saying that universal QPs are indeed put in contrast with a set of objects but that the relevant set in contrast is an empty set.   For instance, the referents of the QP *subete-no gakusei-ga* is put in contrast with a set of students although this set does not contain any students.

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The treatment of Type 1 QPs as a subcase of focused constituents can also be justified on empirical grounds by consideration of their phonological property. Focused constituents characteristically have a phonological prominence in the sense that they bear a focal stress. Thus the focused object DP *coffee* in (68a) is phonologically prominent in that it carries a phonological stress on it. As for QPs, it has been pointed out in the literature (Lakoff (1966), Milsark (1974, 1977), among others) that the English quantifiers *some* and *many* are stressed when the QP containing one of them have a presuppositional reading, while they are not stressed under the QP's nonpresuppositional reading. Thus the subject of an individual-level predicate allows only the stressed *some* since it requires its subject to have a presuppositional reading ((72)). In contrast, only the unstressed form of *some* is allowed in the post-copular position of the *there*-construction since a DP in this position is required to be nonpresuppositional ((73)).

(72)   {SOME/*Sm} linguistics are tall.

(73)   There are {*SOME/sm} salesmen in the bedroom.

These facts accord with our analysis of Type 1 QPs as focused phrases. A Type 1 QP has a presuppositional reading, in which the referents of the QP is put in contrast with other objects in the way parallel to the referents of focused phrases. Therefore, we have a good reason to believe that Type 1 QPs are focused phrases and thus are compatible with the focus feature.

Before closing this section, it should be stressed that it is not the mere fact that a QP is presuppositional that makes the QP compatible with the topic feature. In this section we have shown that the semantics of Type 1 QPs is compatible with the topic and the focus

feature. On the other hand, we have also shown that Type 2 QPs may have a presuppositional interpretation, as well as a nonpresuppositional one. What is important here is that the presuppositionality of a QP alone does not ensure that the QP bears the topic or the focus feature. Rather, it is the presence of a quantifier in [Spec, DP] that enables the QP to have one of these features. Thus, even if a Type 2 QP has a presuppositional interpretation, it cannot have the topic/focus feature since it does not have a quantifier in its [Spec, DP].

4.6.3   A Brief Note on Contrastive Topic *Wa*

In the preceding section we have characterized Type 1 QPs as focus phrases based on their contrastive meaning in the sense that the referents of Type 1 QPs are put in contrast to the other objects in the same set of objects:

(74)   *Hotondo-no gakusei-ga*   kaet-ta

　　　most-Gen   student-Nom return-Past

　　　'Most of the students went home.'

In (74), for example, the referents of *hotondo-no gakusei-ga* are in contrast to the other members who did not go home.

Note that the meaning of contrastiveness of Type 1 QPs should not be identified with the contrastive meaning associated with the *contrastive topic* marker *wa,* as exemplified below:

(75)   *Hotondo-no gakusei-wa*   kaet-ta

　　　most-Gen   student-Cont return-Past

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'Most of the students went home.'

Indeed while any quantifier in [Spec, DP] may yield a presuppositional, hence contrastive reading for the QP, the contrastive *wa* cannot be attached to just any QP, as discussed in Kaga (1991) and Hirose and Kaga (1997):[19]

(76) a. * Subete-no mondai-*wa*   toi-ta

         every-Gen problem-Cont solve-Past

         'I solved all the problems.'

   b.   Hotondo-no mondai-*wa*   toi-ta

         most-Gen   problem-Cont solve-Past

         'I solved most of the problems.'

   c. * Takusan-no mondai-*wa*   toi-ta

         many-Gen   problem-Cont solve-Past

         'I solved many problems.'

---

[19] The examples in Kaga (1991) and Hirose and Kaga (1997) involve the contrastive *wa* attached to floated quantifiers:

(i)   a.   *Mondai-o   *zenbu-wa* toi-ta
              problem-Acc all-Cont   solve-Past
              'I solved all the problems.'
      b.   Mondai-o   *daibubun-wa* toi-ta
              problem-Acc most-Cont   solve-Past
              'I solved most of the problems.'
      c. * Mondai-o   *takusan-wa* toi-ta
              problem-Acc many-Cont solve-Past
              'I solved many problems.'
      d.   Mondai-o   *ikutuka-wa* toi-ta
              problem-Acc some-Cont solve-Past
              'I solved many problems.'

Since comparison needs to be made between the contrastive *wa* and the Case-particle in the text, I have provided examples with the contrastive *wa* attached to a QP with a prenominal quantifier.   This does not affect the point made in Kaga (1991) and Hirose and Kaga (1997) since we obtain in (79) the same pattern of acceptability as (i).

c.   Ikutuka-no mondai-*wa*   toi-ta

some-Gen   problem-Cont solve-Past

'I solved some problems.'

Replacing the contrastive *wa* with a Case-particle makes the sentences all acceptable:

(77) a.   Subete-no mondai-*o*   toi-ta

every-Gen problem-Acc solve-Past

'I solved all the problems.'

b.   Hotondo-no mondai-*o*   toi-ta

most-Gen   problem-Acc solve-Past

'I solved most of the problems.'

c.   Takusan-no mondai-*o*   toi-ta

many-Gen   problem-Acc solve-Past

'I solved many problems.'

c.   Ikutuka-no mondai-*o*   toi-ta

some-Gen   problem-Acc solve-Past

'I solved some problems.'

While I maintain that Type 1 QPs are contrastive in the sense of our analysis in the preceding

sections, I adopt the analysis of the contrastive *wa* on QPs developed in Kaga (1991) and

Hirose and Kaga (1997), in which the use of the contrastive *wa* on a QP puts the value of the

QP on the quantifier scale in contrast to another value on the same quantifier scale.

Therefore, the contrastiveness of the contrastive *wa* is distinct from that of Type 1 QPs.

Type 1 QPs are contrastive in the sense that it is the referents of a QP, not its value on a

quantifier scale, that are put in contrast to other referents.

Kaga (1991) and Hirose and Kaga (1997) propose that quantifiers form an *inherent contrastive pair* (henceforth, an IC pair) with each other on the quantifier scale. The quantifier scale is divided into two kinds, the *Cardinal Scale* and the *Set Scale*. Cardinal quantifiers such as *ikutuka* and *ooku* form an IC pair on the Cardinal Scale. On the other hand, it is on the Set Scale that the strong quantifiers *hotondo* and *subete* form an IC pair separately from the cardinal quantifiers, since this group of quantifiers are inherently presuppositional, not simply denoting a particular amount on the cardinal scale.[20]

(78) a. The Set Scale

———————————|————————|————

       most   *all*   (English)
 daibubun/hotondo   *zenbu/subete*   (Japanese)
          an IC pair

b. The Cardinal Scale

———————————|————————|————

    some   *many*   (English)
   ikutuka   *takusan/ooku*   (Japanese)
      an IC pair   (Kaga (1991: 14))
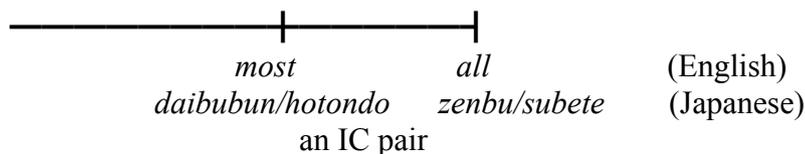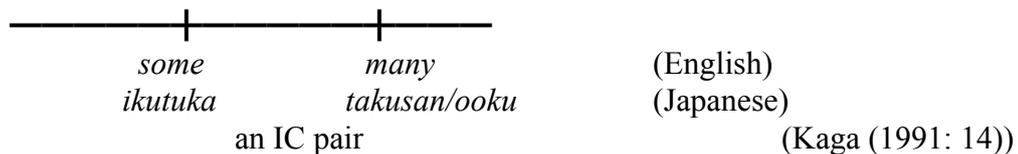
When the contrastive *wa* is attached to a DP containing a quantifier, the quantifier is put in contrast to the other member of the IC pair. Furthermore, in affirmative sentences, a quantifier must be put in contrast to the other quantifier with an upper value. This accounts for the difference in acceptability between (76a) and (76b). In (76a), the use of the contrastive *wa* is contrasted with the universal quantifier, the quantifier with an upper value, and implies the denial of the upper value on the IC pair, as shown in (79):

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[20] The original chart for the scales does not contain the quantifiers *hotondo*, *subete* and *ooku*. However, this does not mean that the quantifiers not listed in the original chart do not form an IC pair with another quantifier. See Kaga (1991) and Hirose and Kaga (1997) for discussion.

(79) a. Hotondo-no mondai-*wa*   toi-ta-ga,   subete-*wa* tok-anakat-ta

         most-Gen   problem-Cont solve-Past-though all-Cont   solve-Neg-Past

         'I solved most of the problems, but I didn't solve all of them.'

    b. Ikutuka-no mondai-*wa*   toi-ta-ga,   takusan-*wa* tok-anakat-ta

         most-Gen   problem-Cont solve-Past-though many-Cont solve-Neg-Past

         'I solved some problems, but I didn't solve many.'

The ungrammaticality of (76a) and (76c), where *wa* is attached to QPs with *subete-no* and

ooku-no, respectively, follows from this analysis.   In (79a), *subete-no mondai-wa* should be

contrasted with an upper value on the Set Scale.   However, since the universal quantifier

subete-no denotes the value at the upper end, there is no upper value to be contrasted with the

value denoted by the universal quantifier.   Likewise, (76c) is ungrammatical since there is no

upper value to be contrasted with *ooku-no* in the Cardinality Scale.

        Thus the contrastive meaning of QPs with contrastive *wa* is of a quite different nature:

Wa denotes contrastiveness in the domain of the quantifier scale.   On the other hand, the

contrastiveness associated to Type 1 QPs is in the domain of the referents of QPs.

4.7   Locality of Topic-Triggered Scrambling and QP Scope

4.7.1   Long-Distance Scrambling and Lack of Long-Distance Scope

        In the preceding sections, we have proposed that the topic and the focus feature play a

crucial role in determining QP scope.   If a QP is scrambled by the topic feature, the scope of

the QP is determined where its topic feature is licensed, namely [Spec, TP].   In addition, if a

QP undergoes covert movement triggered by the focus feature, it takes scope where its focus

feature is licensed.   On the other hand, if scrambling of a QP is not driven by the topic

feature, its scope is determined in its original position and therefore it can only take narrow

scope.

This leads us to the following prediction: If scrambling of a QP occurs but it cannot be an instance of the scrambling driven by the topic feature, that QP obligatorily takes narrow scope.   This is the case with long-distance scrambling, the scrambling of a constituent out of a finite clause.

In the previous literature on scrambling, it has been suggested that long-distance scrambling can only be a case of A'-movement, while clause-internal scrambling can be either A- or A'-movement (Saito (1992)).   Saito (1992) points out the following piece of evidence for this distinction.   Firstly, in clause-internal scrambling a scrambled object DP can bind an anaphor in the subject.   This tells us that clause-internal scrambling can be an instance of A-movement:

(80) a. ?*Otagai$_i$-no   sensei-ga   karera$_i$-o hihansi-ta   (koto)

        each.other-Gen teacher-Nom they-Acc criticize-Past (fact)

        'Each other$_i$'s teachers criticized them$_i$.'

      b.   ? Karera$_i$-o otagai$_i$-no   sensei-ga t_i hihansi-ta   (koto)

        they-Acc each.other-Gen teacher-Nom criticize-Past (fact)

        'Them$_i$, each other$_i$'s teachers criticized.'   (Saito (1992: 74-75))

In contrast, a long-scrambled object DP cannot bind an anaphor in the matrix clause, as Saito points out:

(81) a. * Otagai$_i$-no   sensei-ga   [$_{CP}$ Hanako-ga   karera$_i$-o hihansita to]   itta (koto)

        each.other-Gen teacher-Nom   Hanako-Nom they-Acc criticized Comp said fact

        'Each other$_i$'s teachers said that Hanako criticized them$_i$.'

b. * Karera$_i$-o otagai$_i$-no   sensei-ga   [$_{CP}$ Hanako-ga t_i hihansita to]   itta (koto)

they-Acc each.other-Gen teacher-Nom   Hanako-Nom criticized Comp said fact

'Each other$_i$'s teachers said that Hanako criticized them$_i$.'

(Saito (1992: 75-76))

Unlike (80b), the anaphor in the matrix subject cannot have the scrambled *karera-o* as its

antecedent.   This means that long-distance scrambling can only be a case of A'-movement,

as Saito (1992) argues.

In the preceding sections in this chapter, we have identified two types of scrambling,

one into [Spec, TP] triggered by the topic feature and one into a higher position not triggered

by the topic feature.   Miyagawa (2001) shows that long-distance scrambling is not a

movement into [Spec, TP] by pointing out the following example:

(82) Sono-syukudai-o   zen'in-ga   [sensei-ga t_i dasu   to]   omowa-nakat-ta[21]

that-homework-Acc everyone-Nom teacher-Nom assign Comp think-Neg-Past

Lit. 'That homework, everyone did not think that the teacher would assign.'

[unambiguous: *Neg > ∀, ∀ > Neg]

(Miyagawa (2001: 302) (slightly modified))

In the framework of Miyagawa (2010), this means that long-distance scrambling is not driven

by the topic feature of the matrix clause.   If it were, the long-scrambled object in (82) should

allow the subject *zen'in* to take narrow scope under negation, which is not the case with (82).

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[21] I have slightly revised Miyagawa's (2001) original example by adding the demonstrative *sono* to
the scrambled object.   Miyagawa's (2001) original example involved a bare DP *tesuto-o* as the
scrambled object, but bare DPs have been found to be resistant to the topic/focus feature, as we
discussed in Chapter 4, unless we force a definite interpretation on them.   The use of the
demonstrative *sono-* 'that' makes the object DP unambiguously interpreted as definite and thus helps
to detect the relevant reading without being influenced by the indefinite reading of the object.

Thus since long-distance scrambling is not triggered by the topic feature on the matrix T, we predict that a long-scrambled QP may not take wide scope over the matrix subject QP. This is indeed borne out by the examples provided by Tada (1990) in (83) and an additional set of examples in (84):

(83) a. *Dareka-ga*   [John-ga *daremo-o*   aisite i-ru   to]   omotte i-ru

someone-Nom John-Nom everyone-Acc love be-Pres Comp think   be-Pres

'Someone thinks that John loves everyone.'

[unambiguous: ∃ > ∀, *∀ > ∃]

    b. *Daremo-o*   *dareka-ga*   [John-ga t_i aisite i-ru   to]   omotte i-ru

everyone-Acc somone-Nom John-Nom   love be-Pres Comp think   be-Pres

Lit. 'Everyone, someone thinks that John loves.'

[unambiguous: ∃ > ∀, *∀ > ∃]   (Tada (1990) (cited in Nemoto (1993))

(84) a. *Dareka-ga*   [Yamada-sensei-ga *subete-no gakusei-ni*   suisenzyoo-o

someone-Nom Yamada-teacher-Nom every-Gen student-Dat recommendation-Acc

kai-ta   to]   omotte i-ru

write-Past Comp think   be-Pres

'Someone believes that Prof. Yamada write a recommendation letter to every student.'

[unambiguous: ∃ > ∀, *∀ > ∃]

    b. *Subete-no gakusei-ni_i*   *dareka-ga*   [Yamada-sensei-ga t_i suisenzyoo-o

every-Gen student-Dat someone-Nom Yamada-teacher-Nom recommendation-Acc

kai-ta   to]   omotte i-ru

write-Past Comp think   be-Pres

[unambiguous: ∃ > ∀, *∀ > ∃]

Unlike the cases of clause-internal scrambling that we have discussed, a QP scrambled out of a finite complement clause may not take scope over the matrix subject QP.   This is so since in our analysis the long-scrambled QP is not triggered by the topic feature on the matrix T. The structure of (84b), for example, is given as follows:

(85) [TP subete-no gakusei-ni$_i$ [TP dareka-ga [vP .. [CP [*t'*$_i$ [TP Yamada-sensei-ga [vP *t*$_i$ ... V]]]
                              [topic]   **[θ]**
                              SI head   SI head
                              for *dareka-ga*   for *subete-no gakusei-ni*
          →   ∃ > ∀

The scrambled position to the left of the matrix subject is not the SI head of the long-scrambled QP *subete-no gakusei-ni* since it is not a position where it is licensed as the topic.   Its SI head thus is identified as its original position in the complement clause.   On the other hand, it is the matrix subject *dareka-ga* whose topic feature is licensed.   Since the SI head of *dareka-ga* c-commands that of the scrambled *subete-no gakusei-ni*, the former QP necessarily takes wide scope over the latter.

At this point it is worth asking why it is that long-distance scrambling cannot be triggered by the topic feature of the matrix clause.   We suggest that this restriction on scrambling is assimilated to the case known as super-raising, as in:

(86)   *John$_i$ seems that it is told *t*$_i$ [that Mary has disappeared]

In (86), the movement of the DP *John* to the matrix subject position has illegally skipped the subject position in the complement clause occupied by *it*.   Since this movement has skipped

the "closer" subject position, it violates a requirement on the minimality of movement posed, for example, by Minimality Condition (Rizzi (1990)) or the Minimal Link Condition (Chomsky (1995)).

The restriction on scrambling that we have discussed so far can be captured in a similar way.   For complex sentences involving a finite complement clause, suppose that both the matrix clause and the complement clause have the topic feature on their T.   Then for a DP with the corresponding topic feature in the complement clause, the closer T having the topic feature is the T of the complement clause.   If that DP were to move to the matrix [Spec, TP], it would illegally have to skip the closer [Spec, TP] in the complement clause.

(87) [TP   [T   [vP [CP [TP   [T [vP [vP   DP
                    [topic]   [topic]
     a.   ↑ |
                                           |_____|
     b.   ↑ |
               |____×_____|

Therefore, long-distance scrambling of a DP cannot land the DP to the matrix [Spec, TP], but to the position without the topic feature.

If this analysis is on the right track, we predict the covert focus movement, proposed earlier in this chapter, is subject to the same minimality requirement, since the covert movement of the focus feature of a QP has been defined as the movement triggered by the corresponding focus feature on T.   This seems correct since a QP in a finite complement clause cannot take scope over negation in the matrix clause.   Compare (88) and (89):

(88) Taroo-wa paatii-ni   *san-nin-no hito-o*   sasow-*anakat*-ta
      Taro-Top party-Dat 3-Cl-Gen   person-Acc invite-Neg-Past
      'Taro did not invite three people to the party.'

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[ambiguous: 3 > Neg, ?Neg > 3]   (= (50b))

(89) Taroo-wa [Hanako-ga   paatii-ni *san-nin-no hito-o*   sasou to]   omow-*anakat*-ta

Taro-Top   Hanako-Nom party-Dat 3-Cl-Gen person-Acc invite Comp think-Neg-Past

'Taro did not think that Hanako would invite three people to the party.'

[unambiguous: *3 > Neg, Neg > 3]

Unlike (88), where the object QP may take wide scope over negation, it is impossible for the

embedded object QP *san-nin-no hito-o* to take scope over negation in the matrix clause.

This is so, in our analysis, the focus feature of the embedded QP may not be raised over the

embedded T to the matrix T since it is constrained by the minimality requirement:

(90) [TP   [T   [NegP Neg [vP [VP   [CP   [TP   [T   [vP [VP   QP V]]]]]]]]]
                     [focus]   [focus]
       a.
       b.

Thus our approach to QP scope can account for the reason why long-distance

scrambling cannot lead to long-distance scope.   Although the lack of long-distance scope

with long-distance scrambling could also be accounted for simply by appealing to the

distinction between A- and A'-scrambling, our approach has an advantage over such an

account since it can also give a principled account of the lack of long-distance scope by

assimilating scrambling to the case of super-raising.   Moreover, our approach can also give a

unified account of the scope of QP with respect to negation, since the covert movement of the

focus feature is subject to the same minimality requirement on movement.

4.7.2 Scrambling Out of a Non-Finite Clause and QP Scope

Parallelism between QP scope and the availability of A-scrambling has also been pointed out by Nemoto (1993), who points out that scrambling out of a control clause is an instance of A-movement and that scrambling of a QP out of a control clause allows the QP to take wide scope.   Consider the following examples:[22]

(91) a. * Otagai$_i$-no   sensei-ga [*PRO* karera$_i$-o hihansi-yoo   to]   omotte i-ru

        each.other-Gen teacher-Nom   they-Acc criticize-Mod Comp think   be-Pres

        Lit. 'Each other's teachers are thinking of criticizing them.'

    b. Karera$_i$-o otagai$_i$-no   sensei-ga [*PRO t$_i$* hihansi-yoo   to]   omotte i-ru

        they-Acc each.other-Gen teacher-Nom   criticize-Mod Comp think   be-Pres

        Lit. 'Them, each other's teachers are thinking of criticizing.'

(92) a. * Otagai$_i$-no   sensei-ga [*PRO* karera$_i$-o hihansi-] tagatte i-ru

        each.other-Gen teacher-Nom   they-Acc criticize   want be-Pres

---

[22] The examples that Nemoto (1993) observes involves object-control, as opposed to our subject-control sentences in the text:

(i) a. * Joe-ga   otagai$_i$-no   yuujin-ni [*PRO* [Michael to   Janet]$_i$-o   hihansuru yoo(ni)]
        Joe-Nom each.other-Gen friend-Dat   Michael and Janet-Acc criticize
        tanonda (koto)
        asked   fact
        'Joe asked each other's friends to criticize Michael and Janet.'
    b. [Michael to Janet]$_i$-o   Joe-ga   otagai$_i$-no   yuujin-ni [*PRO t$_i$* hihansuru
        Michael and Janet-Acc Joe-Nom each.other-Gen friend-Dat   criticize
        yoo(ni)] tanonda (koto)
            asked   fact
        'Joe asked each other's friends to criticize Michael and Janet.'
                           (Nemoto (1993: 44))

Nemoto (1993) observes that the binding of the anaphor *otagai* is possible in (ib) and hence concludes that scrambling out of a control clause is A-movement.   However, I do not find her example in (ib) to be as acceptable as the instance of anaphor binding in simple sentences.   Instead of the object-control construction which Nemoto discusses, I find her point to be proved by the subject control construction. Therefore, I only discuss the subject-control construction in what follows in the text.

Lit. 'Each other's teachers are thinking of criticizing them.'

b. Karera$_i$-o otagai$_i$-no   sensei-ga [*PRO t*$_i$ hihansi-] tagatte i-ru

they-Acc each.other-Gen teacher-Nom   criticize want be-Pres

Lit. 'Them, each other's teachers are thinking of criticizing.'

Unlike the cases of long-distance scrambling that we considered above, scrambling of a DP out of a control clause allows the DP to bind an anaphor in the matrix clause.   This shows that scrambling out of a control clause is an instance of A-movement.

Furthermore, Nemoto (1993) points out that scrambling of a QP out of a control clause allows the QP to take scope.   Consider:[23]

(93) a. *Subete-no siken-o   san-nin-no gakusei-ga* [*t*$_i$ uke-] tagat-ta

every-Gen test-Acc 3-Cl-Gen   student-Nom   take-want-Past

Lit. 'Every test, three students wanted to take.'

[ambiguous: 3 > ∀, ∀ > 3]

b. *Subete-no siken-o   san-nin-no gakusei-ga* [*t*$_i$ uke-yoo   to]   omotte i-ru

every-Gen test-Acc 3-Cl-Gen   student-Nom   take-Mod Comp think   be-Pres

Lit. 'Every test, three students are thinking of taking.'

---

[23] As with the examples of anaphor-binding, the examples of QP scope that Nemoto (1993) points out involve object-control:

(i) *Daremo-o   dareka-ga*   Michael-ni [*PRO t*$_i$ naguru-yoo-ni] meiziteoita
    everyone-Acc someone-Nom Michael-Dat   hit   has.commanded
    Lit. 'Everyone, someone has commanded Michael to hit.'
    [ambiguous: ∃ > ∀, ∀ > ∃ (the judgment by Nemoto)]

(Nemoto (1993: 52))

To my ear, however, it is questionable if the scrambled universal QP can really take wide scope over the matrix subject in this particular example.   Nonetheless, Nemoto's point can be made more clearly with our examples in (93), which are to me much clearer cases of scope ambiguity than Nemoto's.

[ambiguous: $3 > \forall$, $\forall > 3$]

In contrast to the scrambling out of a finite clause, the scrambling out of a control clause in (93) allows the scrambled QP to take wide scope.

In our terms, this correlation between the A-scrambling and the availability of the matrix scope of a scrambled QP can be explained as follows.   The fact that the scrambled DP can bind an anaphor in (91) and (92) suggests that the scrambled DP has moved to [Spec, TP] in the matrix clause.   This is confirmed by the availability of the partial negation reading in the following examples:

(94) a. *Zen'in-ga* [*PRO* sono siken-o   uke-yoo   to]   omow-*anakat*-ta

everyone-Nom   that   test-Acc take-Mod Comp think-Neg-Past

'Everyone did not think of taking that test.'

[unambiguous: *Neg > $\forall$, $\forall$ > Neg]

b. Sono siken-o   *zen'in-ga* [t_i uke-yoo   to]   omow-*anakat*-ta

that   test-Acc everyone-Nom take-Mod Comp think-Neg-Past

Lit. 'Every test, three students are thinking of taking.'

[ambiguous: Neg > $\forall$, $\forall$ > Neg]

As we see in (94b), the scrambling of the object DP *sono siken-o* to the left of the matrix subject *zen'in-ga* allows the subject to take narrow scope under negation.   This tells us that the scrambling out of a control clause is triggered by the topic feature on the matrix T.   If so, the structures of sentence (93b), for example, is represented as follows:

(95) a. [$_{TP}$ subete-no siken-o [$_{vP}$ san-nin-no gakusei-ga [*PRO t$_i$* uke-yoo to] omotte i-ru]]]
           [topic]   **[θ]**
           SI head for   SI head for
           subete-no siken-o   *san-nin-no gakusei-ga*

    → ∀ > 3

b. [$_{TP}$ subete-no siken-o [$_{TP}$ san-nin-no gakusei-ga [*PRO t$_i$* uke-yoo to] omotte i-ru]]]
                   [topic]   **[θ]**
                   SI head for   SI head for
            san-nin-no gakusei-ga   *subete-no siken-o*

    → 3 > ∀

As represented in (95), what happens with the scrambling out of a control clause is just the same as in simple sentences. In the derivation in (95a), where the object QP is scrambled by the topic feature on the matrix T, the SI head for the scrambled object QP is identified as the matrix [Spec, TP], whereas the SI head of the matrix subject is [Spec, vP], the position where the subject's thematic interpretation is determined. This derivation yields the wide scope of the scrambled object (the ∀ > 3 reading). In the other derivation in (95b), it is the matrix subject that has moved by the topic feature of T, an option also available in simple sentences. In this derivation, the configurational relation between the two SI heads is reversed. The SI head of the subject QP is the matrix [Spec, TP], whereas that of the scrambled object is its original position. This derivation gives wide scope to the matrix subject. Hence the ambiguity of the examples in (93) is correctly accounted for.

    The above facts tell us that T in the non-finite complement clause in the cases we have examined so far somehow does not count as the "closer" attractor for the object DP in that non-finite clause. Although I will not discuss why this is the case, we predict that this deficiency of the non-finite T also allows the covert movement of the focus feature of a QP to skip the non-finite T to the matrix T. This should be so since the covert movement of the focus feature, as we have defined, is another case of movement driven by the corresponding feature on T. Indeed, the transparency of the non-finite clause with respect to the covert

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movement of the focus feature can be witnessed in the scope of QP and negation.   Compare

the following examples with (89), which we have pointed out in Section 4.5:

(96) a.   Taroo-ga   *san-nin(-izyoo)-no gakusei-o*   home-yoo   to   omow-*anakat*-ta

　　　　　Taro-Nom 3-Cl(-or.more)-Gen student-Acc praise-Mod Comp think-Neg-Past

　　　　　'Taro did not think of praising three (or more) students.'

　　　　　[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

　　　b.   Keisatu-ga *san-nin(-izyoo)-no   tooboohan-o* taihosi-yoo to   omow-*anakat*-ta

　　　　　police-Nom 3-Cl(-or.more)-Gen fugitive-Acc arrest-Mod Comp think-Neg-Past

　　　　　'The police did not think of arresting three (or more) fugitive criminals.'

　　　　　[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]   (= (61))

As opposed to example (89), where the embedded QP cannot take scope over the matrix

negation, it is possible for the QP *san-nin(-izyoo)-no gakusei/tooboohan-o* to take wide scope

over the matrix negation.   The derivations of (96a), for example, are represented as follows:

(97) a.   [$_{TP}$ Taroo-ga [[focus]$_i$ [$_{NegP}$ Neg [$_{vP}$ [*PRO* san-nin(-izyoo)-no gakusei-o$_i$
　　　　　　　　　　　　　[focus]　　　**Neg**
　　　　　　　　　　　　SI head for
　　　　　　　　　　san-nin-no gakusei-o
　　　　home-yoo to] omow]]]
　　　　　→ 3 > Neg

　　　b.   [$_{TP}$ Taroo-ga [$_{NegP}$ Neg [$_{vP}$ [*PRO* san-nin(-izyoo)-no gakusei-o$_i$ home-yoo to]
　　　　　　　　　　　　　　　Neg　　　　　　　　　**[θ]**
　　　　　　　　　　　　　　　　　　　　　　　SI head for
　　　　　　　　　　　　　　　　　　　　　san-nin-no gakusei-o
　　　　omow]]]
　　　　→Neg > 3

4.8 Cases of Optional Movement to [Spec, TP]

Throughout this chapter, we have been assuming, as with Miyagawa (2010), that the movement to [Spec, TP] triggered by the topic feature is obligatory. This is supported by the fact that the subject *zen'in* in the SOV order may only take wide scope with respect to negation. The structure of (98a), for example, is represented as (98b):

(98) a. *Zen'in-ga*   siken-o   uke-*nakat*-ta

       everyone-Nom test-Acc take-Neg-Past

       'Everyone did not take the test.'

       [unambiguous: $\forall$ > Neg, *Neg > $\forall$]

b.
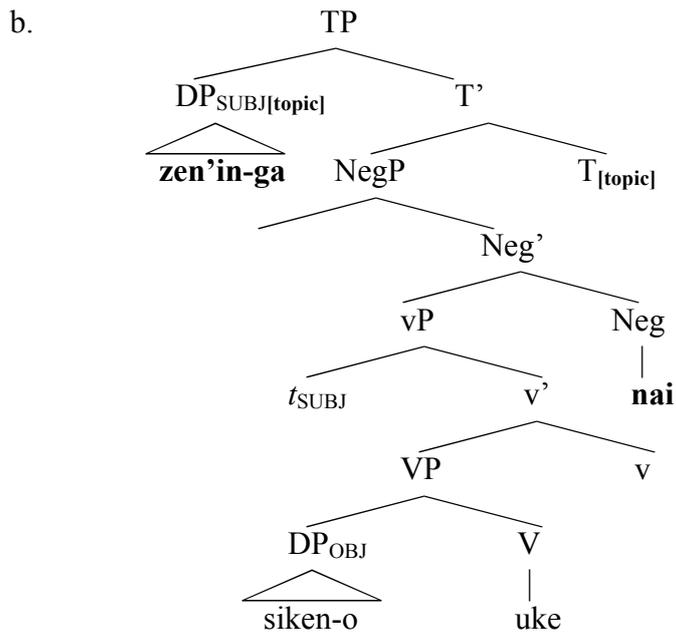
However, in certain environments the subject QP may take narrow scope under negation. Such cases are found with the unaccusative and the passive construction (Homma (1998), Miyagawa (2001)):

(99) the subject of unaccusative verbs:

    a. *Zen'in-ga*   ko-*nakat*-ta

       everyone-Nom come-Neg-Past

       'Everyone did not come.'

       [ambiguous: $\forall$ > Neg, Neg > $\forall$]

    b. *Zen'in-ga*   taore-*nakat*-ta

       everyone-Nom fall.down-Neg-Past

       'Everyone did not fall down.'

       [ambiguous: $\forall$ > Neg, Neg > $\forall$]

(100) the subject of passive verbs:

    a. *Zen'in-ga*   seme-rare-*nakat*-ta

       everyone-Nom blame-Pass-Neg-Past

       'Everyone wasn't blamed.'

       [ambiguous: $\forall$ > Neg, Neg > $\forall$]

    b. *Zen'in-ga*   sono-syokuzikai-ni sasow-are-*nakat*-ta

       everyone-Nom that-dinner-Dat   invite-Pass-Neg-Past

       'Everyone wasn't invited to the dinner.'

       [ambiguous: $\forall$ > Neg, Neg > $\forall$]

These facts tell us that the subject of unaccusative and passive verbs does not obligatorily move to [Spec, TP], unlike that of agentive transitive verbs such as *ukeru* in (98).   If we assume that the subject of unaccusative and passive verbs originates as an internal argument in the object position in VP, the subject QP in (99a), for example, is derived in either of the following two ways:

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(101) a.

```
                        TP
            ┌────────────┴──────────┐
      DP_SUBJ[topic]                T'
      ┌────┴────┐          ┌────────┴────────┐
   zen'in-ga   NegP                      T[topic]
           ┌────┴──────────┐
                          Neg'
                 ┌──────────┴──────┐
                vP                 Neg
          ┌──────┴──────┐          │
       t_SUBJ          v'         nai
                  ┌─────┴─────┐
                 VP           v
            ┌─────┴─────┐
          t_SUBJ        V
                        │
                        ko
```

b.

```
                  TP
         ┌─────────┴────────┐
                           T'
                 ┌──────────┴──────┐
              NegP                  T
         ┌─────┴──────────┐
                        Neg'
               ┌──────────┴──────┐
              vP                 Neg
         ┌─────┴──────┐          │
                     v'         nai
                ┌─────┴─────┐
               VP           v
          ┌─────┴─────┐
      DP_SUBJ         V
      ┌───┴───┐       │
    zen'in-ga         ko
```
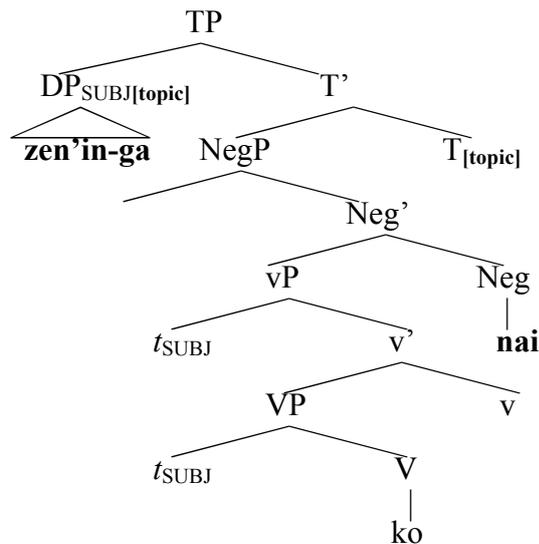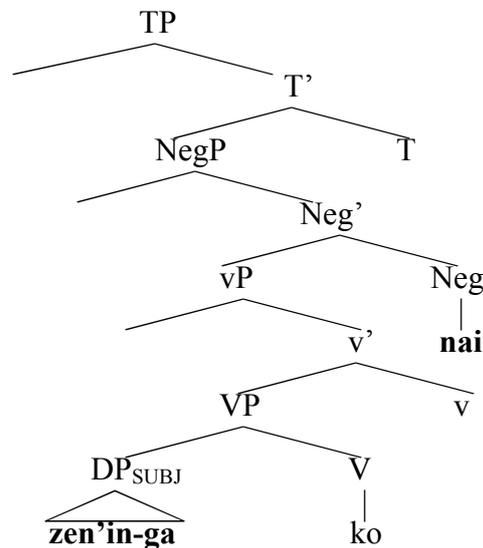
This accounts for the ambiguity of the examples in (99) and (100). If the subject QP *zen'in* is moved to [Spec, TP] by the topic feature, it is the subject QP that takes wide scope since in this case [Spec, TP] is the SI head for the subject. On the other hand, if the subject remains in its original position, it takes narrow scope under negation. The object position in this case is the SI head for *zen'in* since it is the position where it has its thematic role determined.[24]

---

[24] To my knowledge, a piece of independent evidence for the optionality of subject raising in the unaccusative and the passive construction comes from the fact that the subject of unaccusatives and passives may have their Case-particle omitted. To begin with, the Accusative Case particle *–o* may only be deleted in the original object position. If the object is scrambled, the Case particle may not be deleted (Saito (1983, 1985)):

The relevant generalization with respect to the movement of the subject to [Spec, TP] may be stated as follows:

(102) The movement to [Spec, TP] by the topic feature is obligatory unless the clause lacks an external argument.

Thus in (98) the movement of a constituent to [Spec, TP] is obligatory since the sentence involves an external argument.   Note that [Spec, TP] may be filled by either of the subject and the object: The existence of an external argument in (98) makes it necessary for [Spec,

---

(i) a. Taroo-ga *dare(-o)* seme-ta-no
        Taro-Nom who-Acc blame-Past-Q
        'Who did Taro blame?'
     b. *Dare*(-o)* Taroo-ga seme-ta-no
        who-Acc Taro-Nom blame-Past-Q
        'Who did Taro blame?'

Thus the relevant generalization is that for a DP to appear without a Case-particle the DP must be in the object position.   As for the subject, the subject of an unaccusative verb or a passive verb may appear without a Case-particle *–ga*, but the subject of a transitive verb may not have its Case particle deleted:

(ii) a. *Dare(-ga)* ki-ta-no?
        who-Nom come-Past-Q
        'Who came?'
      b. *Dare(-ga)* seme-rare-ta-no
        who-Nom blame-Pass-Past-Q
        'Who was blamed?'

(iii) a. *Dare*(-ga)* Taroo-o seme-ta-no
        who-Nom Taro-Acc blame-Past-Q
        'Who blamed Taro?'
       b. Taroo-o *dare*(-ga)* seme-ta-no
        Taro-Acc who-Nom blame-Past-Q
        'Who blamed Taro?'

Thus the fact that the deletion of Case-particle is possible in (ii) strongly suggests that the subject of unaccusative and passive verbs may remain in its underlying object position, without moving to [Spec, TP].   See also Yatsushiro (1996) for arguments for the optionality of subject raising in the unaccusative and the passive construction.   See also Kuroda (1988), who argues that the movement to the subject position is optional in Japanese, although Kuroda does not distinguish predicate types for subject raising.

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TP] to be filled, but it can be the object that is attracted by the topic feature into [Spec, TP].

On the other hand, the lack of an external argument in (99) and (100) makes it possible for T

to lack the topic feature so that the movement of a constituent to [Spec, TP] does not take

place.[25]

4.9   Shibata's (2015) Analysis of the Scope of QPs and Negation

An account similar to ours with respect to the behavior of a scrambled NP-FQ with

respect to pronominal binding and wide scope over the subject, and the scope interaction

between an object QP and negation has been proposed by Shibata (2015).   In this section we

compare Shibata's analysis of these three kinds of phenomenon and our analysis of them

presented so far.

Shibata proposes that scrambling to the left of the subject is either a semantically

vacuous movement or a movement to [Spec, Top(ic)P], a projection above TP, where the

object's topicality or definiteness feature is checked:

---

[25] Although it is beyond the scope of the present work to account for the optionality of movement to
[Spec, TP] of the subject of unaccusatives and passives, one possible account for it will be the
following.   Suppose that at the point where the vP phase is transferred to semantics the subject of an
unaccusative/passive verb remains in its original position, as in (i):

(i)   [$_{CP}$ C [$_{TP}$ T [$_{vP}$ v [$_{VP}$ DP-ga V]]]
                                              ⇩
                              transferred to semantics

Then in the next phase, the CP phase, there is no constituent that would serve as the target of the topic
probe on T.   In other words, the topic feature on T, if T has one, would be redundant since it does not
attract any constituent and therefore would not have any semantic consequences.   Thus for an
economy reason the topic feature does not appear on T in this case.   On the other hand, suppose that
the subject DP-*ga* of unaccusative/passive verbs may move to the edge position of the vP phase, as in:

(ii)   [$_{CP}$ C [$_{TP}$ T [$_{vP}$ DP-ga v [$_{VP}$ V]]]
                                              ⇩
                              transferred to semantics

In this case the appearance of the topic feature on T has a semantic consequence since it has a
constituent to attract to its Spec.

(103)   [TopP Obj Top [TP Subj ... [PrtP Prt ...

As Shibata argues, an NP-FQ such as *kaisya-o mit-tu-izyoo* 'three or more companies' is

"indefinite/non-specific" so that it cannot be a topic.   Thus the scrambling of the object

NP-FQ in (104) may only be an instance of a semantically vacuous movement and hence the

object cannot bind a pronominal:

(104) *? [Kaisya-o   mit-tu-izyoo]$_i$ [soko$_i$-no syain-ga] t_i hihansi-ta

          company-Acc 3-Cl-or.more   it-Gen   employee-Nom criticize-Past

          Lit. 'Three or more companies, its employee(s) criticized.'   (Shibata (2015: 261))

In addition, Shibata also suggests that the impossibility of an NP-FQ's taking wide scope over

the subject is ascribed to the incompatibility of the topicality/definiteness feature and the

NP-FQ: An NP-FQ may only undergo a semantically vacuous scrambling, so that the

scrambled NP-FQ object must take narrow scope:[26]

(105)   [Gakusee-o   yo-nin-izyoo]$_i$ san-nin-no sensee-ga t_i suisensi-ta

          student-Acc 4-Cl-or.more   3-Cl-Gen teacher-Nom recommend-Past

          'Three teachers recommended four or more students.'

          (Prominent: Subj. > Obj.)   (Shibata (2015: 263))

---

[26] For Shibata (2015), the (un)availability of scope readings involving a subject and an object is a
matter of "prominence."   Thus the widely observed rigidity of scope between a subject and an object
in the canonical order in Japanese is regarded by Shibata as the prominence of the scope order Subj >
Obj.   The fact in (105) is taken by Shibata as a case where the scrambling "does not affect the
prominence of scope readings (Shibata (2015: 263))."   See Shibata (2015) for details.   We discuss
the rigidity of scope in Japanese in Chapter 5.

Shibata does not seem to discuss extensively the precise semantic characterization of "definite/specific" DPs, only suggesting that the crucial condition for a DP's being a topic is the "definiteness" of the DP, pointing out that a DP in the form Numeral-Cl-Gen NP-Case can have a definite interpretation while a DP in the form NP-Case Numeral-Cl does not:

(106) a.   Taroo-ga *san-nin-no gakusei-o* sikat-ta

     san-nin-no gakusei-o = the three students

   b.   Taroo-ga *gakusei-o san-nin* sikat-ta

     gakusei-o san-nin ≠ the three students

However, if one is to propose a semantic characterization of the DPs that can serve as the topic in the relevant sense, that semantic characterization would be stated in a better way in terms of presuppositionality in the sense of Diesing (1990), not in terms of definiteness. Consider the reading of the scrambled QP in (7b), repeated here as (107), for example:

(107)   Mit-tu-no tesuto-o zen'in-ga   uke-nakat-ta

     3-Cl-Gen test-Acc everyone-Nom take-Neg-Past

     Lit. 'Three tests, everyone did not take.'

     [ambiguous: $\forall >$ Neg, Neg $> \forall$]   (= (7b))

In order for the sentence to have the Neg $> \forall$ reading, the scrambled object QP does not have to have a definite reading.   The presuppositional reading of it, where it is paraphrased as "three of the tests," allows us to obtain the Neg $> \forall$ reading.   This means that it is not the definiteness of the scrambled object QP, but its presuppositionality, that allows the object QP to be a topic.

Moreover, as we have discussed extensively in Section 4.3, a more adequate characterization of "topic" DPs in the relevant sense must be stated in syntactic terms, not in semantic terms such as definiteness or presuppositionality: Only DPs with a quantifier/determiner in [Spec, DP] can bear the topic feature and hence can be the scrambled by the topic feature.   See Section 4.3 for a discussion.

Shibata (2015) also provides an extensive analysis of the scope of an object QP and negation.   Shibata points out that the object in Japanese can easily take wide scope over negation: Some QPs can only take wide scope over negation while some others may either take wide or narrow scope.

(108)   Taroo-wa pan-ka-kome-o   kaw-nakat-ta

Taro-Top bread-or-rice-Acc buy-Neg-Past

Lit. 'Taro didn't buy bread or/and rice.'

[unambiguous: Obj. > Neg, *Neg > Obj.]   (Shibata (2015: 231))

(109)   Taroo-wa go-nin-izyoo-no   gakusei-o   sikar-anakat-ta

Taro-Top 5-Cl-or.more-Gen student-Acc scold-Neg-Past

[ambiguous: Obj. > Neg, Neg > Obj.]   (Shibata (2015: 230))

These observations have led Shibata to conclude that the object DP in Japanese must be obligatorily raised over negation into the functional projection called PrtP (for Particle Phrase), where the object DP has its Case.   This is shown as below:

(110)   [$_{TP}$ T [$_{PrtP}$ [$_{NP}$ NP-*o*]$_i$ Prt [$_{NegP}$ Neg [$_{vP}$ t_i v [... t_i ...]]]]]

(Shibata (2015: 254))

Since this movement raises the object over negation, it allows the object to take scope over negation.

However, the claim that *all* object DPs must move over negation, hence over the underlying position of the subject [Spec, vP], seems to be too strong.   The overt movement of the object over [Spec, vP] can be diagnosed by the (im)possibility of the object's intervening the subject and the floated numeral quantifier associated with the subject (Miyagawa (2010)).   As shown in Miyagawa (2010), this diagnosis tells us that some types of DP such as DPs with *mo* is raised over [Spec, vP]:

(111)   Gakusei-ga   uisukii-mo san-nin non-da

   student-Nom whisky-also 3-Cl   drink-Past

   'Three students drank whisky, too.'

The fact that the floating numeral *san-nin* may be separated by *uisukii-mo* is accounted for, as Miyagawa (2010) argues, by the overt movement of the object over [Spec, vP] into the TP-domain.   However, as also pointed out by Miyagawa, not all object DPs can separate the subject DP and its floating numeral.

(112) *Gakusei-ga   uisukii-o   san-nin non-da

   student-Nom whisky-Acc 3-Cl   drink-Past

   'Three students drank whisky.'

This shows that the overt movement of the object only applies to some kinds of DP, but not all DPs.

Secondly, Shibata claims that object QPs either take obligatory wide scope or are scopally ambiguous with respect to negation.   This amounts to saying that *all* object QPs must be able to take wide scope over negation.   However, this seems descriptively inadequate.   There are at least two types of object that favor narrow scope under negation. The first type is a B-NP that has an existential interpretation.   As the following example shows, the object existential B-NP may not take wide scope over negation: The sentence cannot be interpreted as "There are some students who were not praised by Prof. Yamada."

(113)   Yamada-sensei-wa   *gakusei-o*   home-*nakat*-ta

Yamada-teacher-Top student-Acc praise-Neg-Past

'Prof. Yamada didn't praise students.'

The second type of object that has difficulty taking wide scope is an NP-FQ in the reversed order.

(114) a.   Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-*nakat*-ta

police-Top fugitive-Acc 3-Cl(-or.more) arrest-Neg-Past

'The police did not arrest three or more fugitive criminals.'

b.   Keisatu-wa *san-nin(-izyoo) tooboohan-o* taihosi-*nakat*-ta

police-Top 3-Cl(-or.more) fugitive-Acc arrest-Neg-Past

'The police did not arrest three (or more) fugitive criminals.'

The reversed NP-FQ in the object position in (114b) may only take, or at least strongly favors, narrow scope under negation, while (114a) can be taken to be ambiguous between the two relevant readings.

The existence of at least two kinds of QP favoring narrow scope poses a problem for Shibata's (2015) claim that *all* object DPs are raised over negation, since his analysis predicts that *all* object QPs take wide scope over negation.

4.10   Summary of Chapter 4

This chapter has pointed out that the distinction between Type 1 and Type 2 QPs affects the way in which these two types of QP undergo scrambling: A Type 1 QP may be the target of the topic feature and be scrambled into [Spec, TP], while a Type 2 QP may not. We have accounted for the difference of the scope property between these two types of QP by introducing our system for determining QP scope, in which the syntactic positions called SI positions and SI heads play a central role.   Scrambling of a Type 1 QP by the topic feature gives the Type 1 QP a wide scope since the position where its topic feature is licensed counts as its SI head, while a Type 2 QP has its scope determined only in the position where it is assigned a thematic role since it cannot have the topic feature.

We then introduced the covert movement of QPs into the present analysis.   The relevant covert movement is identified as the movement of a QP triggered by the focus feature, accompanied by the deletion of the phonetic feature of the higher copy (that is, the pronunciation of the lower copy).   The covert movement, as well as the overt movement driven by the topic feature, applies to the Type 1 QP, but not to the Type 2 QP.   This helps to account for the scope of a Type 1 QP with respect to negation.   We have also supported our analysis by pointing out the parallelism between the scrambling to [Spec, TP] by the topic feature and the possibility of wide scope: Where movement by the topic feature is possible, wide scope is possible.

Chapter 5

Inverse Scope in Japanese

5.1 Introduction

This chapter discusses a consequence of the introduction of the covert focus movement of Type 1 QPs.   Our goal is to show that the covert movement of the focus feature can successfully account for both the availability and the unavailability of *inverse scope* of QPs in the basic order of Subject QP – Object QP in Japanese.   After we discuss the way in which the QP scope paradigm in Japanese can be dealt with in terms of the topic feature and the covert movement of the focus feature (Section 5.2), we point out some cases of inverse scope in Japanese, which we show is successfully captured by the interaction of the topic and the focus feature (Section 5.3).   We also suggest in Section 5.4 that our approach can capture the variability of judgments on QP scope interaction.

5.2 Covert Focus Movement and QP-QP Scope Interaction

In Chapter 4 we proposed that Type 1 QPs may undergo covert focus movement while Type 2 QPs may not.   Before going on, a comment is in order as to whether the employment of covert focus movement will affect our explanation of the scope interaction between two QPs.   Recall the following paradigm of QP-QP scope interaction between a subject and an object QP:

(1) a. *San-nin-no gakusei-ga   subete-no siken-o*   uke-ta

  3-Cl-Gen   student-Nom every-Gen test-Acc take-Past

  'Three students took every exam.'

  [unambiguous: $3 > \forall$, $*\forall > 3$]

b.   *Subete-no siken-o   san-nin-no gakusei-ga   uke-ta*

every-Gen test-Acc 3-Cl-Gen   student-Nom take-Past

Lit. 'Every exam, three students took.'

[ambiguous: 3 > ∀, ∀ > 3]

As has been widely observed in the literature, a sentence with the canonical order of two QPs in (1a) is interpreted unambiguously with the wide scope of the subject QP being the only option.   In contrast, the two QPs in the reverse order as in (1b) yields the two scope interpretations.

In Chapter 4 we accounted for the nonambiguity of (1a) by appealing to the surface positions of the two QPs as illustrated in (2), where the subject is moved into [Spec, TP] by the topic feature while the object remains in its original position:[1]

(2)   [$_{TP}$ **san-nin-no gakusei-ga$_i$** [$_{T'}$ [$_{vP}$ *t*$_i$ [$_{VP}$ **subete-no siken-o** uketa]]]]
          [topic]   **[θ]**   **[θ]**
       → *san-nin-no gakusei-ga$_i$ > subete-no siken-o*

In (2) the subject *san-nin-no gakusei-ga* in [Spec, TP], being the SI head of its chain, c-commands the QP *subete-no siken-o* in the object position.   This makes the subject QP obligatorily take wide scope over the object QP.

If the covert focus movement is an option available for Type 1 QPs such as *subete-no siken-o* in (1a), we must block the representation in (3) where the focus feature has moved over the subject QP.   If (3) were a possible derivation, we would wrongly predict that the

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[1] A question arises as to whether (2) should be the only representation for (1), for the subject QP *san-nin-no gakusei-ga* should not be in [Spec, TP] if it is a Type 2 QP, an option available for a QP with a prenominal numeral quantifier such as *san-nin-no*, as we have already discussed.   We will return to this question shortly in this section.

inverse scope Obj > Subj was available for sentences such as (1a).

(3)   [$_{TP}$ **[focus]**$_j$ [**san-nin-no gakusei-ga**$_i$ [$_{T'}$ [$_{vP}$ t_i [$_{VP}$ subete-no siken-o$_j$ uketa]]]]
       [focus]   **[topic]**   [θ]   [θ]

We would like to propose that the movement of the topic and the focus feature by their

corresponding probe on T is subject to the following constraint.

(4)   A topic/focus feature cannot be raised over another topic/focus feature.[2]

If we assume (4), the representation in (3) is ruled out since the focus feature is raised over

the topic feature of the subject QP.   The representation allowed for (1a) must thus be either

of the following two options:

(5)   a.   [$_{TP}$ **san-nin-no gakusei-ga**$_i$ [**[focus]**$_j$ [$_{T'}$ [$_{vP}$ t_i [$_{VP}$ subete-no siken-o$_j$ uketa]]]]
                  [topic]   **[focus]**   [θ]   [θ]

       b.   [$_{TP}$ **san-nin-no gakusei-ga**$_i$ [$_{T'}$ [$_{vP}$ t_i [$_{VP}$ **subete-no siken-o** uketa]]]]
                  [topic]   [θ]   **[θ]**

In (5a) the covert focus movement occurs, but the focus feature does not move over the topic

feature of the subject QP, moving to a lower Spec position in TP.[3]   The subject QP then

asymmetrically c-commands the focus feature of the object and the sentence is correctly

predicted to have only the Subject > Object scope order.   In addition to (5a), (5b) is another

option in which the covert focus movement does not occur.   The subject asymmetrically

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[2] The idea that the covert movement is constrained by some version of the Minimality Condition
(Rizzi (1990)) is also pursued in Saito (2005), who proposes that QR, which he takes to be the covert
movement of the [q](uantifier) feature, is subject to a minimality constraint in (i):

(i) QR does not raise a q-feature across another q-feature.   (Saito (2005))

[3] We assume that an XP may have multiple specifier positions.   See Chapter 4.

c-commands the object so that (5b) yields only the Subject > Object scope order.

The example in (1b), where the object QP is scrambled to the left of the subject, has the following derivations:

(6)   a.   If the object is scrambled by the topic feature:

        i)   [$_{TP}$ **subete-no siken-o$_j$** [$_{T'}$ [$_{vP}$ **san-nin-no gakusei-ga$_i$** [$_{VP}$ t_j uketa]]]]
                [topic]   **[θ]**   **[θ]**

            - no covert focus movement from the subject

        => $\forall > 3$

        ii) * [$_{TP}$ **subete-no siken-o$_j$** [**[focus]$_i$** [$_{T'}$ [$_{vP}$ san-nin-no gakusei-ga$_i$ [$_{VP}$ t_j uketa]]]]
              [topic]   **[focus]**   [θ]   [θ]

            - a violation of the minimality constraint in (4)

        iii) * [$_{TP}$ **[focus]$_i$** [**subete-no siken-o$_j$** [$_{T'}$ [$_{vP}$ san-nin-no gakusei-ga$_i$ [$_{VP}$ t_j uketa]]]]
              [focus]   **[topic]**   [θ]   [θ]

            - a violation of the order constraint in (7)

        b.   If the object is scrambled, but not by the topic feature:

        i)   [$_{TP}$ subete-no siken-o$_j$ [$_{TP}$ **san-nin-no gakusei-ga$_i$** [$_{vP}$ t_i [$_{VP}$ t_j uketa]]]]
                               [topic]   [θ]   **[θ]**

          -no covert focus movement from the object

        => $3 > \forall$

        ii) [$_{TP}$ subete-no siken-o$_j$ [$_{TP}$ **san-nin-no gakusei-ga$_i$** [**[focus]$_j$** [$_{vP}$ t_i [$_{VP}$ t_j uketa]]]]
                            [topic]   **[focus]**   [θ]   [θ]

            - covert focus movement from the object ("before" scrambling)

        => $3 > \forall$

If the object is scrambled by the topic feature, (1b) may have (6ai) as its derivation.   The subject may not launch the focus feature as in (6aii) since the topic feature of the scrambled object would be raised over this focus feature.   The derivation in (6aiii) does not violate the minimality constraint in (4) since the covertly-moved focus feature and the topic-driven object maintain their base order.   We would like to propose that the derivation in (6aiii) is

banned by another constraint in (7):

(7)   A topic and a focus feature may not be in the following configuration in a single TP:

* [$_{TP}$ [focus] [[topic] [...]]]

(where [focus] and [topic] represent a feature on either an overtly-moved or covertly-

moved constituent)

In (6aiii) the focus feature is mapped to a configurationally higher position than the topic

feature, violating the order constraint in (7).   I discuss the relevance of the order constraint

for a different set of facts about QP scope in Japanese in Chapter 7, coupled with an argument

for justifying this constraint, since assuming (7) does not make any difference in predictions

about the scope interpretations in (1b).

    If the scrambling of the object is not triggered by the topic feature, the sentence has

either of the two derivations in (6b).   (6bi) is the structure where no covert focus movement

occurs.   If covert focus movement takes place, it has to be from the object position as in

(6bii).   In (6bii) the focus feature moves from the object position "before" the scrambling of

the object takes place.   It reaches [Spec, TP] but cannot move over the subject since it would

be raised over the topic feature of the subject and thus would violate the minimality constraint

in (4).   The focus feature movement in (6bii) could not occur "after" scrambling.   This

derivation is banned for two reasons: i) it would be a lowering operation, which is generally

banned in syntax, and ii) the scrambling of the object QP with the focus feature over the

subject topic feature would violate the minimality constraint in (4).

    Now a question arises as to what happens when the subject is a Type 2 QP in the order

Subject-Object.   In Chapter 4 we showed that a Type 2 QP may not bear the topic feature

and thus cannot move into [Spec, TP].   This means that the canonical order Subject-Object

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with a Type 2 QP subject would lead to ungrammaticality since in the canonical order the

subject must be raised to [Spec, TP] by the topic feature, as we have seen in Chapter 4.

However, examples with an NP-FQ subject in the order Subject-Object such as (8) have often

been cited as grammatical sentences in the past literature.

(8)   *Gakusei-ga   san-nin* sake-o   non-da

       student-Nom 3-Cl   liquor-Acc drink-Past

       'Three students drank sake.'

This might mean that the requirement that the subject be the topic of the clause in the

canonical order Subject-Object is cancelled in (8) for some reason.   If this were the case,

then it would be predicted that (9) could have a wide scope reading for the object since (10)

could be a possible derivation:

(9)   *Gakusei-ga   san-nin subete-no siken-o* uke-ta

       student-Nom 3-Cl   every-Gen test-Acc take-Past

        'Three students took every test.'

(10)   [$_{TP}$ **[focus]$_j$** [$_{vP}$ **gakusei-ga san-nin** [$_{vP}$ subete-no siken-o$_j$ uketa]]]]
          [focus]   **[θ]**   [θ]

However, it seems difficult to obtain the inverse scope reading for (9).   Therefore, we must

say that (10) is not allowed for (9).   Then how can we block the derivation in (10)?

       We would like to solve this question in the following way.   Suppose that the following

principle in (11) makes the topic feature licensing obligatory:

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(11) The topic feature on T must be realized overtly.

Suppose also that the subject QP, even though it is of Type 2, is forced to move into [Spec, TP] by the topic feature in order to observe the principle in (11).   Then the subject QP bears the topic feature and thus blocks the covert focus movement of the object QP over the subject. Therefore, the grammaticality of (8) and the nonambiguity of (9) is accounted for correctly.

On this account, a Type 2 QP subject in the order Subject-Object has to violate one of the two requirements: It violates the requirement that a Type 2 QP may not have the topic feature, or else it violates the requirement in (11) that the topic feature must be overtly realized.   Thus our account does not seem to be adequate since it does not predict the grammatical examples in (8) and (9) to be as grammatical as they are.

However, our account developed so far can also be supported by the presence of speakers of Japanese for whom sentences with a Type 2 QP subject are judged to be low in acceptability.   Firstly, some speakers find sentences with an NP-FQ in the subject position as in (8) (repeated as (12a)) to be degraded in acceptability, as opposed to (12b) which is perfectly acceptable.[4]

(12) a. *Gakusei-ga   san-nin* sake-o   non-da

         student-Nom 3-Cl   liquor-Acc drink-Past

         'Three students drank sake.'

      b. *San-nin-no/Subete-no gakusei-ga*   sake-o   non-da

         3-Cl-Gen/every-Gen   student-Nom liquor-Acc drink-Past

         'Three students/Every student drank sake.'

---

[4] This tendency in judgment of the NP-FQ subject has been pointed out by Nobuhiro Kaga and Koichi Takezawa (personal communication).   For me, a sentence such as (12a) is judged as "?".   The existence of this type of speakers is also reported in Terada (1990).

Recall that NP-FQs are one type of Type 2 QP.   Thus these speakers do not readily allow a Type 2 QP subject.

Secondly, sentences corresponding to (12a) are even more degraded in the Akita dialect, a dialect spoken in northern Japan, as observed in Terada (1990).   Terada points out that the subject position of an agentive predicate in the Akita dialect does not allow an NP-FQ, as in (13), whereas the object position may accommodate one ((14)):

(13)   a. * *Warasi-ga san-nin* nego-o   tzikameda

        child-Nom 3-Cl   cat-Acc caught

        'Three children caught cats.'

    b. * *Onago-ga*   *hutari* tagoyagi-o   kutta

        woman-Nom 2.Cl   octopus.ball-Acc ate

        'Two women ate octopus balls.'   (Terada (1990: 35))

(14)   a.   Gagidaisyoo-ga *warasi-o san-nin* tadaida

        child boss-Nom child-Acc 3-Cl   hit

        'The boss of the kids hit three children.'

    b.   Sono gaikokuzin-ga   *tagoyagi-o*   *ninju*   kutta

        that   foreigner-Nom octopus.ball-Acc 20(-Cl) ate

        'That foreigner ate twenty octopus balls.'   (ibid.)

The fact that an NP-FQ subject is not very acceptable or totally unacceptable can be accounted for by the following constraints that we have proposed so far:

(15)   The Type 2 QP cannot have the topic feature.   (See Chapter 4.)

(16)   The topic feature on T must be realized overtly.   (= (11))

In (12a) and (13), the subject is an NP-FQ, a Type 2 QP, and therefore cannot have the topic feature.   However, in order for a sentence to have the word order Subject-Object, the subject needs to be raised into [Spec, TP] in order to observe the constraint in (16).   Therefore, sentence (12a) is degraded for some speakers and those in (13) are ungrammatical in the Akita dialect since they violate either (15) or (16).

At this point it is also necessary to account for the presence of speakers who do not judge (12a) as low in acceptability.   In fact, sentences such as (12a), which have an NP-FQ in the subject position, have been dealt with as acceptable in the majority of studies on Japanese syntax.   These speakers' judgments are accounted for if we say that (16) must be observed even at the cost of the constraint in (15).   In other words, for these speakers (15) may be violated in the case where (16) has to be observed.

Our account along these lines yields one interesting prediction.   Suppose that a clause lacks the topic feature on T for some reason and therefore does not have to obey the constraint in (16).   Then the subject remains without the topic feature and thus is not raised into [Spec, TP] in the canonical order.   This configuration, illustrated in (17), allows the focus feature of the object to be raised over the subject QP and thus yields the inverse scope reading (Object QP > Subject QP).

(17) [$_{TP}$ **[focus]$_j$** [$_{vP}$ **QP-ga** [$_{vP}$ QP-o V]]]]
          [focus]   **[θ]**   [θ]

We show below that this is indeed the case in some particular syntactic environments.

5.3   Inverse Scope in Japanese

This section discusses instances of inverse scope in Japanese.   By inverse scope, we mean those instances where the subject QP takes narrow scope under the object QP in the basic word order Subject-Object-V.   In what follows we point out that inverse scope may be obtained in the particular type of subordinate clauses that Ueyama (1998, 2006) calls *description clauses*, as opposed to *Predication clauses* including main clauses.   Then we show that our analysis can correctly capture the possibility of inverse scope.

5.3.1   Scope is Not Always Rigid in Japanese

So far we have been assuming the observation on quantifier scope in Japanese that has been widely held since the works by Kuroda (1969/70) and Hoji (1985), who state that an object QP can take wide scope over a subject QP only if the former is scrambled to the left of the latter, but not in their basic word order.   Thus the sentences in (18a) and (19a), in which the subject and the object are in their basic word order Subject-Object, can only have the interpretation where the subject takes wide scope over the object, while either QP can take scope over the other in (18b) and (19b) since the object QP is scrambled to the front of the subject QP:

(18) a.   *Dareka-ga   daremo-o*   aisite i-ru

someone-Nom everyone-Acc love   be-Pres

[unambiguous: ∃ > ∀, *∀ > ∃]

 b.   *Daremo-o   dareka-ga*   aisite i-ru

everyone-Acc someone-Nom love   be-Pres

[ambiguous: ∃ > ∀, ∀ > ∃]

(19) a. *San-nin-no sensei-ga   subete-no   gakusei-o* home-ta

3-Cl-Gen   teacher-Nom every-Gen student-Acc praise-Past

'Three teachers praised every student.'

[unambiguous: 3 > ∀, *∀ > 3]

b. *Subete-no gakusei-o   san-nin-no sensei-ga   *home-ta

every-Gen student-Acc 3-Cl-Gen   teacher-Nom praise-Past

'Three teachers praised every student.'

[ambiguous: 3 > ∀, ∀ > 3]

Contrary to this observation, however, it is possible to construct examples where the subject QP takes narrow scope under the object QP.   The following examples, for instance, show that inverse scope is possible in certain kinds of subordinate clause:

(20) a. *At the venue of the summit conference,*

Hutari-no keikan-ga   subete-no   yoozin-o goeisure-ba mondai-wa

2.Cl-Gen police.officer-Nom every-Gen VIP-Acc guard-if   problem-Top

oki-nai-hazuda

arise-Neg-should

'If two police officers gurard every VIP, no problem should arise.'

[ambiguous: 2 > ∀, ∀ > 2]

b. *The group of burglars were chased by the police, and finally*

Hutari-no keikan-ga   hanbun-izyoo-no otoko-o   kumihuseteiru-no-ga

2.Cl-Gen police.officer-Nom half-or.more-Gen man-Acc hold.down-Gen-Nom

mieta

could.see

'I could see two police officers holding down more than half of the men.'

[ambiguous: 2 > half or more, half or more > 2]

c. *San-nin-no sensei-ga   subete-no gakusei-o*   sidoosuru-no-wa

3-Cl-Gen   teacher-Nom every-Gen student-Acc supervise-Gen-Top

hukanoo-da/muzukasii

impossible-is/difficult

'It is impossible/difficult for three professors to supervise every student.'

[ambiguous: 3 > ∀, ∀ > 3]

These examples are all felt to be ambiguous between the relevant scope readings.   In (20a),

for example, the referents of the subject QP *hutari-no keikan-ga* 'two police officers' can vary

with respect to each referent of *hotondo-no yoozin-o* 'most VIPs'.   This is a situation

described by the scope order Object > Subject.   In contrast, the ambiguity of the scope

readings of these two QPs disappears if we put them in a matrix clause.   The examples in

(21), where two QPs appear in a matrix clause, can only be interpreted to have the Subject >

Object scope reading.[5]

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[5] The availability of the inverse scope reading in Japanese in the canonical word order of Subject – Object has also been pointed out by some linguists (Kitagawa (1990), Kuroda (1994), Kuno et al. (1999), Kuno and Takami (2002), Hayashishita (2004, 2013), Ueda (2004) and Saito (2005)).   In particular, Hayashishita (2004, 2013) point out a number of cases where the object takes inverse scope over the subject in a matrix clause.   Contrary to Hayashishita's observations, however, my informants and I find it difficult, if not impossible, to obtain the inverse wide scope of the object QP over the subject in matrix clauses, while the inverse scope in the embedded clauses as illustrated in the text is found to be easier to obtain.   We discuss the inverse scope in matrix clauses in Section 5.3.3.

(21) a.   *At the venue of the summit conference,*

      Hutari-no keikan-ga   hotondo-no yoozin-o goeisi-ta

      2.Cl-Gen police.officer-Nom most-Gen   VIP-Acc guard-Past

      'Two police officers guarded most of the VIPs.'

      [unambiguous: 2 > most, *most > 2]

    b.   *The group of burglars were chased by the police, and finally*

      Hutari-no keikan-ga   hanbun-izyoo-no otoko-o   kumihuse-ta

      2.Cl-Gen police.officer-Nom half-or.more-Gen man-Acc hold.down-Past

      'Two police officers held down half or more of the men.'

      [unambiguous: 2 > half or more, *half or more > 2]

    c.   *San-nin-no sensei-ga   subete-no gakusei-o*   sidoosi-ta

      3-Cl-Gen   teacher-Nom every-Gen student-Acc supervise-Past

      'Three professors supervised every student.'

      [unambiguous: 3 > ∀, *∀ > 3]

Now if the contrast in the availability of the inverse scope reading between the examples in (20) and those in (21) is a real one, how can we explain it?   The answer, we propose, lies in the syntactic property of the embedded clauses in (20).   The type of embedded clause involved in (20) is characterized in Ueyama (1998, 2006) as expressing *description* only, as opposed to clauses that express *Predication.*   The former type of clause, which we henceforth call *description clauses*, include such subordinate clauses embedded in such constructions exemplified in (20).   The latter type of clause, which we call *Predication clauses*, is exemplified as such subordinate clauses as the complement clause of *syoomeisuru* 'to prove' and a conditional clause involving *-nara* 'if'.   Ueyama's dichotomy of the two types of clause is based on Kuroda's (1972-73) two types of judgment.   One type of

judgment, which Kuroda calls *categorical judgment* or *Predication*, is expressed by a clause in which the phrase at the left edge expresses what the clause is about and constitutes the "topic" of the clause, leaving the rest of the clause as the "comment".　The other type of judgment expressed by a clause, which Kuroda calls *thetic judgment* or *description*, does not have the topic-comment structure, but expresses a neutral description of the situation described by the clause.

　　How are these two types of clauses differentiated syntactically?　We propose that, while Predication clauses have the topic feature, as we have been assuming throughout this thesis, description clauses lack the topic feature.　The lack of the topic feature in description clauses can be verified in the following manner.　Firstly, as discussed in Chapter 4, the subject's being in [Spec, TP] by the working of the topic feature is supported by the fact that the subject *zen'in* obligatorily takes scope over negation (Miyagawa (2010)):

(22)　*Zen'in-ga*　　siken-o　uke-*nakat*-ta

　　　everyone-Nom test-Acc take-Neg-Past

　　　'Everyone did not take the test.'

　　　[unambiguous: $\forall$ > Neg, *Neg > $\forall$]

If description clauses lack the topic feature, the subject of a description clause is predicted to take narrow scope under negation since it remains in [Spec, vP]:

(23) a.

```
                    TP
                   /  \
                      T'
                     /  \
                 NegP    T
                /   \
                    Neg'
                   /    \
                 vP      Neg
                /  \      |
          DP_SUBJ   v'   nai
           /\      /  \
      zen'in-ga  VP    v
                /  \
          DP_OBJ    V
            /\
         siken-o
```
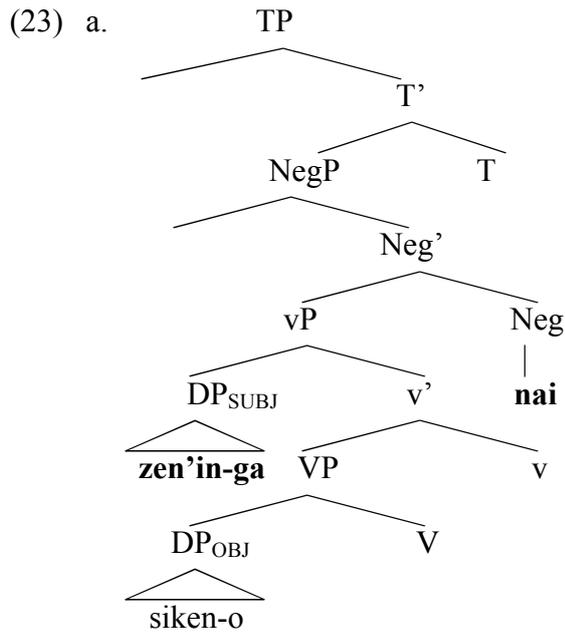
This prediction seems to be borne out since in description clauses the subject *zen'in* may take scope under negation:

(24) a. *Zen'in-ga*   yoozin-o goeis-*inak*-ereba, mondai-ga   oki-ru

       everyone-Nom VIP-Acc guard-Neg-if   problem-Nom arise-Pres

       'If everyone does not guard a VIP, a problem will arise.'

    b. *Zen'in-ga*   yoozin-o goeisitei-*nai*-no-ga   mie-ta

       everyone-Nom VIP-Acc guard-Neg-Gen-Nom could.see-Past

       'I saw everyone not guarding a VIP.'

    c. *Since all our kids want to eat ice cream after lunch, I have to give all of them some ice cream. There will be no problem if everyone gets some ice cream, but ...*

       Zen'in-ga   aisukuriimu-o tabe-*nai*-no-wa   hukanoo-da/muzukasii

       everyone-Nom ice.cream-Acc eat-Neg-Gen-Nom impossible/difficult

       'It is impossible/difficult for everyone not to eat some ice cream.'

In these examples, it is possible to interpret the subject *zen'in* to be under the scope of negation, while *zen'in* in the subject position of matrix clauses may only take wide scope as in (22).

A second piece of evidence for the lack of the topic feature in description clauses comes from the presence of a Weak Crossover (WCO) effect in description clauses.   Miyagawa (2010) characterizes [Spec, TP], the position to which a topic DP moves, as an A-position. Miyagawa supports this characterization of [Spec, TP] by pointing out the lack of an WCO effect with an object QP in this position:

(25) a. ?*Sakihodo e_i e_j yonda hito-ga   futatu-izyou-no   meiwaku meeru$_j$-o kesi-ta

just.now   read   person-Nom 2-more.than-Gen spam   mail-Acc delete-Past

'The person who read them just now deleted more than two pieces of spam mail.'

   b.   Futatu-izyou-no meiwaku meeru$_j$-o sakihodo e_i e_j yonda hito-ga   kesi-ta

2-more.than-Gen spam   mail-Acc just.now   read   person-Nom delete-Past

Lit. 'More than two pieces of spam mail, the person who read them just now

deleted.'

(Miyagawa (2010: 67-68))

Now if description clauses lack the topic feature to attract a DP to [Spec, TP], the scrambling of an object in description clauses cannot be an instance of A-movement, since the A-position [Spec, TP] is not available for the scrambled object.   Therefore, it is predicted that the scrambling of an object QP in description clauses will exhibit a WCO effect.   This prediction is indeed borne out by the following examples pointed out by Ueyama (1998, 2007), in which the scrambled object QP exhibits a WCO effect:

(26) a. * Imasara   dokoka   huta-tu-no kaisya$_i$-ni   soko$_i$-no torihikisaki-ga

at.this.late.date somewhere 2-Cl-Gen company-Dat it-Gen   client.company-Nom

ayamaru-no-wa   hukanoo-da

apologize-Gen-Top impossible-be

'It is impossible for two companies to be apologized by their client companies.'

b. * Mittsu-izyoo-no kaisya$_i$-ni   soko$_i$-no torihikisaki-ga   syazaisiteiru-no-ga

3.Cl-over-Gen   company-Dat it-Gen   client.company-Nom apologize-Gen-Nom

kikoeta

was.heard

'I heard more than three companies being apologized by their client companies.'

c. * Dokoka   hutatu-no zidoosya-gaisya$_i$-o soko$_i$-no bengosi-ga   uttae-tara,

somewhere 2.Cl-Gen car-company-Acc it-Gen   lawyer-Nom sue-if

sugu   sono-bengosi-tati-ni intabyuu-ni itte kudasai

quickly it-lawyer-Pl-Dat   interview-to go please

'If two companies are sued by their lawyers, please go and interview the lawyers

immediately.'   ((a-c) from Ueyama (2007))

d.?* John-ni-sae [55%-no   robotto$_i$-o [so-re$_i$-no   sekkeisya]-ga

John-Dat-even 55%-Gen robot-Acc that-thing-Gen designer-Nom

kowasiteiru tokoro]-ga   mieta   rasii

destroying   Comp-Nom could.see they.say

'They say that even John could see its designer destroying 55% of the robots.'

(Ueyama (1998))

In contrast, the WCO effect is circumvented in Predication clauses, including matrix clauses,
as Ueyama points out:

(27) Predication clauses (the -*nara* conditional clause):

Dokoka   hutatu-no zidoosya-gaisya$_i$-o soko$_i$-no bengosi-ga   uttaeta-*no-nara*,

somewhere 2-Cl-Gen car.company-Acc it-Gen   lawyer-Nom sue-Gen-if

sugu   sono-bengosi-tati-ni intabyuu-ni itte kudasai

quickly it-lawyer-Pl-Dat   interview-to go please

'If it is true that two companies are sued by their lawyers, please go and interview the

lawyers immediately.'

(Ueyama (2007))

(28) Predication clauses (matrix clauses):

a.   Dokoka   hutatu-no kaisya$_i$-ni   soko$_i$-no torihikisaki-ga   ayamatta

somehere 2.Cl-Gen company-Dat it-Gen   client.company-Nom apologized

Lit. 'Two companies, their client company apologized. (Two companies are such

that their client company apologized them.)'

b.   Mittsu-izyoo-no kaisya$_i$-ni   soko$_i$-no torihikisaki-ga   syazaisita

3.Cl-over-Gen   company-Dat it-Gen   client.company-Nom apologized

Lit. 'More than three companies, their client companies apologized.'

c.   Dokoka   hutatu-no zidoosya-gaisya$_i$-o soko$_i$-no bengosi-ga   uttaeta

somewhere 2.Cl-Gen car.company-Acc it-Gen   lawyer-Nom sued

Lit. 'Two companies, their lawyers sued.'   (ibid.)

Now if the presence of a WCO effect with the scrambling of the object QP in

description clauses signals the lack of the topic feature in description clauses, this in turn

means that the subject QP remains in [Spec, vP] without being raised to [Spec, TP] by the

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topic feature, as opposed to the subject of a matrix clause that is raised to [Spec, TP] by the topic feature.   Then, the subject of a description clause allows the focus feature of the object QP to be raised over the subject, thereby allowing the object QP to take wide scope over the subject QP.   The structure of (20b), for example, is illustrated below:

(29) [$_{TP}$ **[focus]$_j$** [$_{vP}$ **hutari-no keikan-ga** [$_{vP}$ hotondo-no yoozin-o goeisiteiru]]]-no-ga
          [focus]   **[θ]**   **[θ]**

         mieta

Note that the examples in (20) allow the narrow scope of the object QP as well.   This is explained by saying that the object QP has the option of not launching the focus feature, as we have been assuming.   If this option is taken, the derivation for (20b) is shown as follows:

(30) [$_{TP}$ [$_{vP}$ **[hutari-no keikan-ga]** [$_{vP}$ **[hotondo-no yoozin-o]** goeisiteiru]]]-no-ga mieta
                      [θ]   **[θ]**

In (30) the SI head of the subject and that of the object are both their underlying positions. Since the underlying position of the subject, namely [Spec, vP], c-commands the position of the object QP, this structure yields the wide scope of the subject over the object.   Thus because of these two derivations, the sentences in (20) are correctly predicted to be ambiguous between the relevant two scope readings.

       Note also that the scope ambiguity is maintained when the object is scrambled to the left of the subject in (20), as shown in (31):[6]

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[6] With respect to the scope pattern in description clauses, Ueyama (1998) makes a quite different observation from the ones made in the present section.   She observes that the scope order of the subject and the object QPs is invariably Subject > Object in description clauses irrespective of their surface word order.   Thus the following examples, as Ueyama (1998) observes, are both unambiguous with the Subject > Object (Dative) the only reading:

(i)   a.   Kono-gakusei-ni-wa *hutari-izyoo-no hito-ga*   *kanarino-kazu-no seizika-ni*

(31) a. *At the venue of the summit conference,*

    Hotondo-no yoozin-o hutari-no keikan-ga   goeisiteiru-no-ga   mieta

    most-Gen   VIP-Acc 2.Cl-Gen police.officer-Nom guarding-Gen-Nom could.see

    'I could see two police officers guarding most of the VIPs.'

    [ambiguous: 2 > most, most > 2]

  b. *The group of burglars were chased by the police, and finally*

    Hanbun-izyoo-no otoko-o   *hutari-no keikan-ga*   kumihuseteiru-no-ga

    half-or.more-Gen man-Acc 2.Cl-Gen police.officer-Nom hold.down-Gen-Nom

    mieta

    could.see

    'I could see two police officers holding down more than half of the men.'

    [ambiguous: 2 > half or more, half or more > 2]

  c. *Subete-no gakusei-o*   *san-nin-no sensei-ga*   sidoosuru-no-wa   muzukasii

    every-Gen student-Acc 3-Cl-Gen   teacher-Nom supervise-Gen-Top difficult

---

    this-student-Dat-Top 2-Cl-over-Gen person-Nom large-number-Gen politician-Dat
    tirasi-o   watasiteiru-tokoro-ga mieta   rasii
    flyer-Acc handing.out-place-Nom could.see seem
    'It seems that this student could see more than two people handing out flyers to quite
    many politicians.'
     [unambiguous: two or more > many, *many > two or more]
  b. Kono-gakusei-ni-wa *kanarino-kazu-no seizika-ni*   hutari-izyoo-no hito-ga
    this-student-Dat-Top large-number-Gen politician-Dat 2.Cl-over-Gen   person-Nom
    tirasi-o   watasiteiru-tokoro-ga mieta   rasii
    flyer-Acc handing.out-place-Nom could.see seem
    'It seems that this student could see more than two people handing out flyers to quite
    many politicians.'
    [unambiguous: two or more > many, *many > two or more]

However, if we closely examine these particular examples, we can find that the (dative) object QP involved in (i) may be understood exclusively as denoting that the number of politicians is quite large, but not that the proportion of the politicians in a certain set of politicians is quite large. If so, this means that the QP *kanari-no kazu-no seizika-ni* must be a Type 2 QP, a QP that is incompatible with the topic or the focus feature. Then the lack of the wide scope reading of the object (dative) QP in both of the examples in (i) may be ascribed the absence of the topic and the focus feature of the QPs involved.

'It is difficult for three professors to supervise every student.'

[ambiguous: 3 > ∀, ∀ > 3]

Recall that description clauses lack the topic feature so that the scrambling of the object in (31) cannot be an operation triggered by the topic feature.   However, the object QP may launch the focus feature covertly.   If the focus feature is launched, it may be raised over the subject as in the case of the canonical order in (29).   This derivation yields the Object > Subject scope order.   In the other derivation, the object does not launch the focus feature, in which case the object takes narrow scope under the subject.   The two derivations of (31a), for example, are illustrated in (32).   Note that the covert movement of the focus feature needs to be from the object position: Otherwise the movement of the focus feature to [Spec, TP] from the scrambled object would be an illegitimate operation of lowering:

(32) a.   [$_{TP}$ hotondo-no yoozin-o$_j$ [$_{TP}$ **[focus]$_j$** [$_{vP}$ **hutari-no keikan-ga$_i$** [$_{VP}$ t_i goeisiteiru]]]
                                    [focus]   **[θ]**   **[θ]**

-no-ga mieta

=> most > 2

b.   [$_{TP}$ hotondo-no yoozin-o$_i$ [$_{TP}$ [$_{vP}$ **hutari-no keikan-ga$_i$** [$_{VP}$ t_j goeisiteiru]]]-no-ga
                                                    [θ]   **[θ]**

mieta

=> 2 > most

Thus our account can successfully capture the scope facts of both scope orders of QPs in description clauses.

5.3.2 Topic Feature Suppressed by Topic *Wa*

Another syntactic environment where the inverse scope is observed is the sentence involving a *discourse topic* DP (in Miyagawa's (2010) terms), a DP with the particle *wa*. Consider the following examples:[7]

(33) a.   Nihon-de-wa *hutari-no keikan-ga*   *subete-no yoozin-o* goeisu-ru

        Japan-in-Top 2.Cl-Gen police.officer-Nom every-Gen VIP-Acc guard-Pres

        'In Japan, two police officers guard every VIP.'

        [ambiguous: 2 > ∀, ∀ > 2]

    b.   Kono-daigaku-wa *san-nin-no sensei-ga*   *subete-no gakusei-o*   sidoosu-ru

        this-college-Top   3-Cl-Gen teacher-Nom every-Gen student-Acc supervise-Pres

        'At this college, three professors supervise every student.'

        [ambiguous: 3 > ∀, ∀ > 3]

These examples are felt to be ambiguous between the indicated readings, as opposed to the following sentences without a *wa*-marked phrase, which can only have the wide scope reading of the subject QP, as we have observed:

(34) a.   *Hutari-no keikan-ga*   *subete-no*   *yoozin-o* goeisi-ta

        2.Cl-Gen police.officer-Nom every-Gen VIP-Acc guard-Past

        'Two police officers guarded every VIP.'

        [unambiguous: 2 > ∀, *∀ > 2]

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[7] I appreciate Yoshihito Dobashi (personal communication) for bringing this effect of the topic *wa* to my attention.

b. *San-nin-no sensei-ga*   *subete-no gakusei-o*   sidoosi-ta

   3-Cl-Gen   teacher-Nom every-Gen student-Acc supervise-Past

   'Three professors supervised every student.'

   [unambiguous: 3 > ∀, *∀ > 3]

The difference in the interpretations between (33) and (34) can be ascribed to the presence/absence of the topic feature on T.   As the following examples in (35) show, the subject QP to the right of a discourse topic *wa*-phrase may take narrow scope under negation:

(35) a.   Sono-samitto-de-wa *zen'in-ga* yoozin-o goeis-*inakat*-ta

     that-summit-at-Top everyone-Nom VIP-Acc guard-Neg-Past

     'At that summit, everyone didn't guard a VIP.'

     [ambiguous: Neg > ∀, ∀ > Neg]

   b.   Sono-daigaku-wa *zen'in-ga* gakusei-o sidoosi-*nai*

     that-college-Top everyone-Nom student-Acc supervise-Neg-Pres

     'At that college everyone doesn't supervise a student.'

     [ambiguous: Neg > ∀, ∀ > Neg]

The availability of the Neg > ∀ reading with examples in (35) tells us that the subject QP *zen'in* may remain in [Spec, vP], which in turn means that the topic feature may be suppressed in the presence of a discourse topic *wa* phrase and the subject is not necessarily moved into [Spec, TP] by the topic feature.   Since the subject QP may lack the topic feature, it is possible for the focus feature of the object QP to move over the subject to [Spec, TP]. Therefore, the following representations are both available for the examples in (33):

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(36) a.　　　XP-wa [$_{TP}$ **[focus]**$_j$ [$_{vP}$ **QP-ga** [$_{vP}$ QP-o$_j$ V]
　　　　　　　　　[focus]　　　[θ]　　　[θ]

　　　　→　QP-*o* > QP-*ga*

　　b.　　　XP-wa [$_{TP}$　　　　　[$_{vP}$ **QP-ga** [$_{vP}$ **QP-o** V]
　　　　　　　　　　　　　　　　[θ]　　　[θ]

　　　　→　QP-*ga* > QP-*o*

Thus the availability of the inverse scope reading in the presence of a discourse topic *wa*-phrase can be successfully captured.

5.3.3　Speculation on Inverse Scope in Matrix Clauses

So far we have been developing our analysis based on the familiar observation that in a matrix clause without a topic *wa*-phrase the subject QP can take only wide scope with respect to the object QP in the order Subject – Object, but it may take narrow scope under the object if the object is scrambled to the left of the subject.　Thus the sentence in (37a) is unambiguous while (37b) is ambiguous:

(37) a.　*Hutari-no keikan-ga*　　　　*subete-no yoozin-o* goeisi-ta

　　　　2.Cl-Gen police.officer-Nom every-Gen VIP-Acc guard-Past

　　　　'Two police officers guarded every VIP.'

　　　　[unambiguous: 2 > ∀, *∀ > 2]

　　b.　*Subete-no yoozin-o hutari-no keikan-ga*　　　　goeisi-ta

　　　　every-Gen VIP-Acc 2.Cl-Gen police.officer-Nom guard-Past

　　　　'Every VIP two police officers guarded.'

　　　　[ambiguous: 2 > ∀, ∀ > 2]

The rigidity of scope in the order Subject – Object, as in the case of (37a), however, has been

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called into question by some linguists.   Among these linguists, Hayashishita (2013) points out a number of examples where the object QP takes inverse scope over the subject QP in a matrix clause without a discourse topic *wa*-phrase.   One of his examples to this effect is the following:

(38)   *San-nin-no sinsain-ga   subete-no abusutorakuto-o* sadokusi-ta

　　　3-Cl-Gen   reviewer-Nom every-Gen abstract-Acc   review-Past

　　　'Three reviewers read every abstract.'

(Hayashishita (2013: 34))

Hayashishita reports that inverse scope is detected by some speakers in this example, although some other speakers do not share this judgment (Hayashishita (2013: 34)).

　　　The presence of speakers who judges (38) to be ambiguous poses a problem to our analysis since our analysis predicts a sentence such as (38) to be unambiguous: In a matrix clause such as (38) the subject bearing the topic feature *must* be moved into [Spec, TP] by the topic probe on T and that this makes it impossible for the focus feature of the object QP to be raised over the subject QP.

　　　However, our approach to the "rigid" scope of QPs in the order Subject-Object also opens up the possibility of accounting for the existence of speakers who judges (38) to be ambiguous.   Suppose that in (38) the clause has the option of lacking the topic feature for some reason.   If T in this clause lacks the topic probe, it is possible for both the subject QP *san-nin-no sadokuin-ga* and the object QP *subete-no abusutorakuto-o* to lack the topic feature. In particular, since the subject may lack the topic feature and remain in [Spec, vP], the focus feature of the object, if it has one, may be covertly raised over the subject QP.   This is shown in (39):

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(39) $[_{TP}$ **[focus]$_j$** $[_{vP}$ **san-nin-no sinsain-ga** $[_{vP}$ subete-no abusutorakuto-o$_j$ sadokusita]
　　　[focus]　　　　**[θ]**　　　　　　　　　　**[θ]**

　　$\rightarrow$　$\forall > 3$

Thus the presence of the inverse scope for (38) is correctly captured. The other reading Subj
> Obj is yielded by the other derivation in which the focus feature movement does not occur:

(40) $[_{TP}$　$[_{vP}$ **san-nin-no sinsain-ga** $[_{vP}$ **subete-no abusutorakuto-o$_j$** sadokusita]
　　　　　　　　[θ]　　　　　　　　　**[θ]**

　　$\rightarrow$　$3 > \forall$

To sum up, for those speakers who allow inverse scope in the canonical order even in a
main clause without a discourse topic *wa*-phrase, the main clause may be structured as if it is
a description clause or a clause with a discourse topic *wa*-phrase. For the other group of
speakers who do not allow inverse scope in the above sense the main clause is required to
have a constituent bearing the topic feature. This structural difference captures the
variability of judgments on quantifier scope among speakers, in the same manner as it
accounts for the variability of judgments on quantifier scope in different types of clauses. If
this analysis is on the right track, then the next question will be why there is this difference
among speakers. However, I leave this question outside the scope of the present work for
future research.

5.4　Summary of Chapter 5

In this chapter, we have seen that the introduction of the covert focus feature movement
in our system enhances the empirical coverage of data. The covert focus feature allows us to
capture the availability of inverse scope in a particular set of clause types. We have

observed that inverse scope is available in what we have called description clauses and clauses with a discourse topic *wa*-phrase.   The inverse scope is made possible in these types of clause since the subject QP does not have the topic feature, thus allowing the focus feature of the object QP to be raised covertly over the subject QP.   We have also suggested that this process may also be at work in the main clause for some speakers, which provides these speakers with the possibility of inverse scope even in main clauses.

Appendix: Syntactic Status of the Negative *Nai*

Before closing this chapter, a remark is in order as to the status of the negative morpheme *nai* in relation to the constraint on the topic/focus movement:

(41)   A topic/focus feature cannot be raised over another topic/focus feature.

(= (4))

I have assumed in Chapter 4 and the present chapter that the focus feature can be raised across the negative *nai* to TP.   This means that the negative *nai* is different from the topic/focus feature in that the negative is exempt from the constraint in (41) and allows a focus feature to move over it.   The source of this difference between the topic/focus feature and the negative may be traced to different properties of the these two.   The negative *nai* in Japanese is quite akin to adjectives and thus can be taken to form a kind of complex predicate with the preceding verb, while the topic/focus feature originates in the CP domain (Miyagawa (2010)) and has to do with functional interpretation of DPs.

The adjectival status of the negative morpheme *nai* is suggested by some pieces of evidence discussed in Nakau (1973), McGloin (1976) and Homma (1998).[8]   First, the

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[8] The arguments that follow in the text on the adjectival status of the negative is from Homma (1998).

negative morpheme *nai* exhibits the pattern of inflection identical to that of adjectives.

Consider:

(42) a. taka-i /   taka-ku-naru

tall-Infl   tall-Infl-become

'be tall'/ 'become tall'

b. benkyoosi-yasu-i / benkyoosi-yasu-ku-naru

study-easy-Infl   study-easy-Infl-become

'be easy to study'/ 'become easy to study'

When the adjectives *taka* and *yasu* are not followed by any morphemes, they take the ending

form (*syuusikei*), which ends with the inflection *-i*.   When a verb follows, on the other hand,

they take the adpredicative form (*ren'yookei*) and end with *–ku*.   The negative *nai* exhibits

the same inflectional pattern as the adjectives in (42):

(43)   benkyoosi-na-i / benkyoosi-na-ku-naru

study-Neg-Pres study-Neg-Infl-become

'not study' /   'come to not-study'

As (43) shows, the negative morpheme ends with *-i* when not followed by any morpheme, but

takes the *-ku* form when followed by a verb.

Another argument for treating the negative as an adjective comes from the distributional

properties of the negative.   The nominalizer *-sa* can follow an adjective or a nominal

adjective but not a verb, as long as the adjective or the adjectival verb denotes a gradable

property:

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(44) a. taka-i /   taka-sa

     high-Infl   high-ness

     'be high'/ 'height'

  b. atataka-i /   atataka-sa

     warm-Infl   warm-ness

     'be warm'/ 'warmth'

  c. benkyoosi-yasu-i / benkyoosi-yasu-sa

     study-easy-Infl   study-easy-ness

     'be easy to study'/ 'easiness to study'

This property is shared by *nai*.   *Nai* can immediately precede the nominalizer *sa* ('-ness') as long as the negative plus the immediately preceding verb phrase denotes a gradable property of the subject.   Consider:

(45)   Taroo-no benkyoosi-na-sa-wa minna-ga   sinpaisi-te iru

       Taro-Gen study-Neg-*sa*-Top   everyone-Nom worry   is

       'Everyone is worried about the degree to which Taro does not study'

We can correctly predict this distributional property of the negative if we assume that the negative belongs to the grammatical category of Adjective.   This argument alone, of course, leaves open the possibility that the negative might be a nominal adjective, but this possibility is denied by the inflectional property of the negative that we saw earlier: The negative ends with -*i* when not followed by any morphemes, while a nominal adjective ends with -*da* in just the same environment (e.g. *sizuka-da* 'be quiet', *akiraka-da* 'be clear').

The above arguments tell us that *nai* in fact belongs to the class of Adjectives. If so, we can say that *nai* is a kind of predicate that forms a complex predicate with a preceding verb. Thus we have a reason to believe that *nai* belongs to a quite distinct class of elements from the topic/focus feature and thus is exempt from the minimality constraint in (4), which regulates the movement of the topic/focus feature.

Chapter 6

Accounting for Quantifier Scope in English

6.1   Introduction

In this chapter we attempt to extend our analysis of the QP scope in Japanese to English cases.   The first goal of this chapter is to account for the difference in the QP scope interaction in simple sentences between English and Japanese by appealing to the difference of the syntactic feature that drives the movement of the subject, coupled with the proposal that the covert movement of the focus feature occurs in English, as well as in Japanese (Section 6.2).   We also attempt to capture the parallelism between the locality of scrambling and that of QP scope (Section 6.3), the scope of Type 2 QPs (Section 6.4), QP scope interaction in the raising construction (Section 6.5) and the scope of a topicalized QP (Section 6.6).   We also suggest, following Hornstein (1995), that the pair-list reading of WH-question is not the result of a particular scope relation of a WH-phrase and a QP, and thus is not a true case of scope interaction (Section 6.7).   Finally we discuss QPs with *all* and suggest that they are best analyzed as Type 2 QPs, unlike QPs with a universal quantifier such as *every* and *each*, which belong to Type 1 (Section 6.8).

6.2   QP Scope Interaction in English

It has been widely observed in the past literature (May (1977), among others) that a simple clause containing two QPs in English has two different scope interpretations.   This is in contrast to Japanese, in which a corresponding sentence does not have this ambiguity or is not very readily interpreted in the two ways, as we pointed out in the preceding chapter. Thus, while the Japanese sentence with the canonical order Subject – Object in (1) does not readily yield the two interpretations, the English sentence in (2) does.

(1)   *Dareka-ga   daremo-o*   seme-ta

someone-Nom everyone-Acc blame-Past

[unambiguous: ∃ > ∀, *∀ > ∃]

(2)   *Some boy* kissed *every girl*.

[ambiguous: ∃ > ∀, ∀ > ∃]

Thus the first question that we must answer is why English and Japanese exhibit this difference.   In particular, we need to answer the question of why inverse scope is readily available in English while scope interpretation in Japanese is constrained in the way that we have discussed in the preceding chapters.

Firstly, we assume with Miyagawa (2010) that the movement of the subject DP to [Spec, TP] in English is dictated by the Φ-feature on T, which serves as the probe targeting a DP having the corresponding feature.   This difference in the choice of the probe on T, as Miyagawa proposes, is what differentiates agreement languages such as English and discourse configurational languages such as Japanese.

Secondly, we assume that the Φ-feature is not an SI feature (See Chapter 4).   This is so since while the topic and the focus feature have to do with semantic interpretation of DPs, the Φ-feature is a bundle of features such as number, person and gender, which contribute to the determination of the formal, morphosyntactic property of DPs and Vs.   Thus, the difference in the scope interpretation between the Japanese example in (1) and the English example in (2), we propose, is ascribed to the difference of the feature that drives movement to [Spec, TP].

Furthermore, we assume that the focus feature movement occurs covertly in English, as

well as in Japanese. The focus feature, we assume, is inherited from the CP-domain onto T and serves as a probe targeting a constituent bearing the corresponding focus feature. In addition, we also assume that the focus feature may be borne by Type 1 QPs, but not by Type 2 QPs, just as we did for Japanese QPs in the preceding chapters.

　　With the above set of assumptions in mind, let us consider how our analysis accounts for the widely-observed ambiguity of the English example in (2). The derivations of (2) are represented as (3):[1]

(3)　a.　Only *some boy* has the focus feature.

　　　[TP **some boy**$_i$　　[vP t_i　　[VP kissed **every girl**$_j$]]]
　　　　　[focus]　　　　　[θ]　　　　　　　　[θ]
　　　　　SI head for　　　　　　　　　　SI head for
　　　　　　some boy　　　　　　　　　　*every girl*

　　　→　*some boy > every girl*

　　b.　Only *every girl* has the focus feature.

　　　[TP **[focus]**$_j$　　[some boy$_i$ [vP t_i　　　　[VP kissed every girl$_j$]]]
　　　　　[focus]　　　　　　　　[θ]　　　　　　　[θ]
　　　　　SI head for　　　　SI head for
　　　　　　every girl　　　　*some boy*

　　　→　*every girl > some boy*

　　c.　Both *some boy* and *every girl* have the focus feature:

　　　[TP **some boy**$_i$　　[**[focus]**$_j$　　[vP t_i　　[VP kissed every girl$_j$]]]
　　　　　[focus]　　　　**[focus]**　　[θ]　　　　　　　[θ]
　　　　　SI head for　　　SI head for
　　　　　　some boy　　　*every girl*

　　　→　*some boy > every girl*

　　d.　Both *some boy* and *every girl* have the focus feature:

　　　*[TP **[focus]**$_j$　　[**some boy**$_i$　　[vP t_i　　[VP kissed every girl$_j$]]]
　　　　　[focus]　　　**[focus]**　　[θ]　　　　　　　　[θ]
　　　　　SI head for　　SI head for
　　　　　　every girl　　　*some boy*

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[1] QPs involving weak quantifiers *some* and *many* may be regarded as ambiguous between being Type 1 and Type 2 QPs. In what follows QPs with *some/many* are treated as Type 1 QPs wherever the possibility of their wide scope is discussed, unless their Type 2 readings are discussed (Section 6.4).

e. Neither has the focus feature:

$[_{TP}$ some boy$_i$ $[_{vP}$ $\textbf{\textit{t}}_{\textbf{i}}$ $[_{VP}$ kissed **every girl$_j$**$]]]$
            [θ]   **[θ]**
         SI head for   SI head for
          some boy   *every girl*

→ *some boy > every girl*

If the subject QP *some boy* has the focus feature while the object *every girl* does not, the sentence has the structure represented in (3a).   Here the subject QP has already moved into [Spec, TP] by the Φ-feature.   The focus feature of the subject does not have to move further since it has already established the required relation in [Spec, TP] with the focus feature on T. The SI head for the subject QP then is [Spec, TP] since it is the topmost position among *some boy*'s SI positions.   The SI head for *every girl* is the object position, where its thematic role is determined.   Since the SI head of *some boy* c-commands that of *every girl,* this structure gives rise to the reading where *some boy* takes wide scope over *every girl.*   In (3b) the object *every girl* has the focus feature while the subject *some boy* does not.   In this case, the focus feature of *every girl* moves over the subject QP to [Spec, TP].   Then the SI head of *every girl* in (3b) is the position that its focus feature is raised to.   The SI head of the subject, on the other hand, is [Spec, vP] since the subject lacks the focus feature and the only SI position is the position where its thematic role is determined.   Thus since the SI head of *every girl,* namely [Spec, TP], c-commands that of *some boy,* this representation gives rise to the wide scope of *every girl.*

If both the subject and the object QP have the focus feature, the derivation proceeds as in (3c), but not as in (3d).   (3d) is ruled out by the minimality constraint that we have proposed in Chapter 5.

(4)   A topic/focus feature cannot be raised over another topic/focus feature.

This constraint essentially dictates that two topic/focus features must maintain their original configurational relation. (3c) obeys (4) since the focus feature of the object does not move over that of the subject. On the other hand, (3d) violates (4) since the focus feature of the object is raised over that of the subject. The legitimate structure in (3c) yields the scope order Subject > Object since the SI head of the subject c-commands that of the object. Finally, if neither QP has the focus feature as in (3e), the subject is given wide scope since its SI head [Spec, vP] c-commands that of the object.

In sum, the ambiguity of the sentence in (2) is correctly accounted for since each of the readings is given by at least one of the derivations of the sentence. The wide scope of the subject is possible since the derivations in (2a), (2c) and (2e) are available. The inverse scope (Object > Subject) is also possible since the derivation in (2b) is available.[2] Note that the Φ-feature is not subject to the minimality constraint in (4). It seems reasonable to assume this since the Φ-feature is not an SI feature, as we have assumed, a feature of a quite distinct nature from the topic/focus feature.

The important point is that the movement of the focus feature of the object across the subject QP as in (3b) is possible for the English example in (2), as opposed to the Japanese example in (1), in which the movement of the focus feature of the object QP across the subject QP is blocked by the topic feature of the subject:

(5)   [$_{TP}$ **3-nin-no gakusei-ga$_i$** [$_{T'}$ [$_{vP}$ t_i [$_{vP}$ **subete-no siken-o$_j$** uketa]]]]
                [topic]   [θ]   **[focus]**   [θ]
              ←——✕——————————————————┘
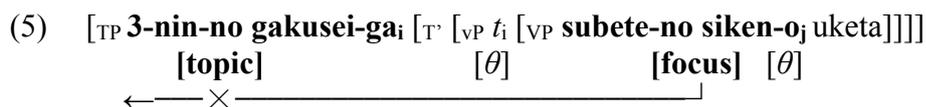
Thus the difference between English and Japanese with respect to the scope interaction of the

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[2] For example (1), it does not make a difference in predictions whether we assume the minimality constraint in (4). The relevance of (4) will be discussed in shortly.

subject and the object QP is ascribed to the difference in the trigger of the movement of the subject into [Spec, TP].   In Japanese, the subject QP has the topic feature which makes the subject raised into [Spec, TP], whereas in English it is the Φ-feature that raises the subject to [Spec, TP].   Recall that in some particular types of clause the inverse scope of the object QP over the subject is possible in Japanese, as we discussed in Chapter 5.   The QP scope in English is assimilated to that in these particular types of clause: Inverse scope of the subject and the object QP is possible where the subject does not have the topic feature.

The proposed minimality constraint in (4) leads us to the following prediction: If the subject QP needs to have its scope determined in [Spec, TP], then the object QP may not take wide scope over the subject.   This is because the subject QP in this case has the focus feature and the minimality constraint blocks the movement of another focus feature over the subject. This prediction is borne out:

(6)   a.   *Some student or other* answered *many of the questions on the exam*.

     [ambiguous: *some > many*, *many > some*]

   b.   *Some student or other* didn't answer *many of the questions on the exam*.

     [unambiguous: *some > many*, **many > some*]

                                    (Johnson (2000: 195))

(6a) is ambiguous between the relevant readings: Either the subject or the object QP may take wide scope over the other.   In contrast, its negative counterpart in (6b) is not ambiguous: It may only have the wide scope reading of the subject QP.   The unambiguity of (6b) is accounted for in the following way.   The derivations for (6b), both possible and impossible ones, are given in (7):[3]

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[3]   We assume that QPs in the form of the partitive construction Quantifier-*of-the*-N to be instances of

(7) a. [$_{TP}$ **some student$_i$** [$_{Neg}$ didn't [$_{vP}$ t_i [$_{VP}$ answer **many of the questions**]]]]
  [focus]   Neg   **[θ]**
  SI head for   SI head for
   some student   *many of the questions*

  → scope: *some > many*

  b. [$_{TP}$ **some student$_i$**   [**[focus]$_j$** [$_{Neg}$ didn't [$_{vP}$ t_i [$_{VP}$ answer many of the
    [focus]   **[focus]**   Neg   **[θ]**
   SI head for   SI head for
  some student or other   *many of the questions*

  questions$_j$]]]]

  → scope: *some > many*

  c. * [$_{TP}$ **[focus]$_j$**   [**some student$_i$** [$_{Neg}$ didn't [$_{vP}$ t_i [$_{VP}$ answer many of the
    [focus]   **[focus]**   Neg   **[θ]**
   SI head for   SI head for
  many of the questions   *some student or other*

  questions$_j$]]]]

  → a violation of the minimality constraint

  d.* [$_{TP}$ **[focus]$_j$** [some student$_i$ [$_{Neg}$ didn't [$_{vP}$ **t_i** [$_{VP}$ answer many of the questions$_j$]]]]
    [focus]   Neg   **[θ]**   **[θ]**
   SI head for   SI head for
  many of the questions   *some student or other*

  → a violation of the scope condition on *some*

The only possible derivations for (6b) are (7a) and (7b), both of which yield the *some > many*

reading.   In (7a) the subject QP *some student or other* has its focus feature licensed in [Spec,

TP] while the object QP, not undergoing the covert focus movement, has its scope determined

in its underlying position.   This yields the *some > many* reading.   (7b) is another structure

where the subject QP has the focus feature, which is licensed in [Spec, TP].   Even if the

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Type 1 QPs.   Indeed, the quantifier of the partitive construction cannot be preceded by the definite
article *the*, on a par with Type 1 QPs involving a strong quantifier (Jackendoff (1977), Giusti (1991)):

(i) a. * the many of the men
   b. *the three of the trees   (Jackendoff (1977))

covert focus feature movement occurs from the object, it may not be raised over the subject as in (7c), since the subject also has the focus feature.   In order for the focus feature of the object QP to move over the subject QP, the subject QP must lack the focus feature and have its SI head identified as [Spec, vP].   If the QP *some student or other* were to take scope in [Spec, vP], its scope would be narrower than negation.   But then it would violate the condition that positive polarity items must not take scope under negation.   Since *some* is a positive polarity item, it cannot take scope under negation, as we see in:

(8)   I have *not* met *some student*.

       [unambiguous: *Neg > ∃, ∃ > Neg]

Thus (7d) is ruled out for this condition on positive polarity items: Since the subject QP must have the focus feature to be assigned wide scope over negation, it necessarily blocks the movement of the focus feature of the object QP.   Thus (6b) is correctly predicted to be unambiguous.

      (6a), in contrast, may have a derivation that yields the *many > some* reading.   This is because the subject may lack the focus feature and have its scope determined in [Spec, vP], allowing the focus feature to be raised over the subject.   Thus (9c) is a possible derivation for (6a), along with the derivations in (9a) and (9b) where the subject QP has its SI head identified as [Spec, TP].

(9)   a.   [$_{TP}$ **some student$_i$**   [$_{vP}$ t_i [$_{VP}$ answered **many of the questions**]]]]
                  [focus]   **[θ]**
               SI head for   SI head for
               some student or other   *many of the questions*

            → scope: *some > many*

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b.   [$_{TP}$ **some student$_i$**   [**[focus]$_j$** [$_{vP}$ *t*$_i$ [$_{VP}$ answered many of the questions]]]]
           [focus]   **[focus]**   [θ]
           SI head for   SI head for
           some student or other   *many of the questions*

         → scope: *some > many*

c.   [$_{TP}$ **[focus]$_j$** [some student$_i$ [$_{vP}$ *t*$_i$ [$_{VP}$ answered many of the questions]]]]
          [focus]   [θ]   [θ]
          SI head for   SI head for
         many of the questions   *some student or other*

         → scope: *many > some*

Thus the examples in (6) provide a piece of supporting evidence for our analysis based on the covert focus movement and the minimality constraint in (4).

6.3   Locality of QP Scope and Scrambling

So far we have proposed that the covert focus movement plays a crucial role in determining QP scope in English.　The focus feature movement has essentially the same syntactic property as the movement by the topic feature in Japanese in that both of them are instances of movement to [Spec, TP] driven by the corresponding feature on T.　Thus we expect that the covert focus feature movement will obey the same locality constraint as the overt movement of the topic feature, namely A-scrambling.

As we have reviewed in Chapter 4, Japanese has two kinds of scrambling: A-scrambling and A'-scrambling.　Furthermore, A-scrambling is subject to a locality constraint:　It is possible clause-internally and out of a non-finite complement, but not out of a finite clause. This is shown by the (im)possibility of a scrambled DP's binding an anaphor:

(10)? Karera$_i$-o otagai$_i$-no   sensei-ga   *t*$_i$ hihansi-ta   (koto)

    they-Acc each.other-Gen teacher-Nom criticize-Past (fact)

'Them$_i$, each other$_i$'s teachers criticized.'   (Saito (1992: 74-75))

<div align="right">(= (80b) of Chapter 4)</div>

(11)   Karera$_i$-o otagai$_i$-no   sensei-ga [*PRO t*$_i$ hihansi-yoo   to]   omotte i-ru

they-Acc each.other-Gen teacher-Nom   criticize-Mod Comp think   be-Pres

Lit. 'Them, each other's teachers are thinking of criticizing.'

<div align="right">(= (91b) of Chapter 4)</div>

(12) *Karera$_i$-o otagai$_i$-no   sensei-ga   [$_{CP}$ Hanako-ga *t*$_i$ hihansita   to]   itta (koto)

they-Acc each.other-Gen teacher-Nom   Hanako-Nom criticized Comp said fact

'Each other$_i$'s teachers said that Hanako criticized them$_i$.'   (Saito (1992: 75-76))

<div align="right">(= (81b) of Chapter 4)</div>

(10) is an example of scrambling occurring clause-internally while in (11) scrambling takes place out of a non-finite clause.   Since both instances of scrambling allow anaphor-binding, the instances of scrambling in (10) and (11) are cases of A-movement.   On the other hand, scrambling out of a finite complement clause does not allow anaphor-binding, as shown in (12), which suggests that the scrambling in (12) is a case of A'-movement.

In addition, A-scrambling is an instance of movement to [Spec, TP], whereas A-scrambling is not.   This is shown by the following set of facts:

(13)   Sono-siken-o *zen'in-ga*   uke-*nakat-ta*

that-test-Acc everyone-Nom take-Neg-Past

Lit. 'The test, everyone did not take.'

[ambiguous: ∀ > Neg, Neg > ∀]

(14) Sono siken-o *zen'in-ga* [t_i uke-yoo to] omow-*anakat*-ta

that test-Acc everyone-Nom take-Mod Comp think-Neg-Past

Lit. 'Every test, three students are thinking of taking.'

[ambiguous: Neg > ∀, ∀ > Neg]

(15) Sono-syukudai-o zen'in-ga [sensei-ga t_i dasu to] omow-*anakat*-ta

that-homework-Acc everyone-Nom teacher-Nom assign Comp think-Neg-Past

Lit. 'That homework, everyone did not think that the teacher would assign.'

[unambiguous: *Neg > ∀, ∀ > Neg]

As we discussed in Chapter 4, the movement of the object to [Spec, TP] is signaled by the availability of the narrow scope reading of the subject QP under negation (Neg > ∀). The availability of this reading in (13) and (14) suggests that movement to [Spec, TP] is possible for clause-internal scrambling ((13)) and for scrambling across a non-finite clause ((14)), whereas the impossibility of this reading in (15) suggests that scrambling out of a finite clause is not an instance of movement to [Spec, TP].

Moreover, we have shown in Chapter 4 that the covert focus movement is also subject to the same locality constraint as A-scrambling. This is shown by the relative scope of an object QP with respect to negation in Japanese:

(16) Taroo-wa paatii-ni *san-nin-no hito-o* sasow-*anakat-ta*

Taro-Top party-Dat 3-Cl-Gen person-Acc invite-Neg-Past

'Taro did not invite three people to the party.'

[ambiguous: 3 > Neg, ?Neg > 3] (= (88) of Chapter 4))

(17) a.   Taroo-ga   *san-nin(-izyoo)-no gakusei-o*   home-yoo   to   omow-*anakat*-ta

Taro-Nom 3-Cl(-or.more)-Gen student-Acc praise-Mod Comp think-Neg-Past

'Taro did not think of praising three (or more) students.'

[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

b.   Keisatu-ga *san-nin(-izyoo)-no*   *tooboohan-o* taihosi-yoo to   omow-*anakat*-ta

police-Nom 3-Cl(-or.more)-Gen fugitive-Acc arrest-Mod Comp think-Neg-Past

'The police did not think of arresting three (or more) fugitive criminals.'

[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]   (= (96) of Chapter 4)

(18) Taroo-wa [Hanako-ga   paatii-ni   *san-nin-no hito-o*   sasou to]   omow-*anakat*-ta

Taro-Top Hanako-Nom party-Dat 3-Cl-Gen   person-Acc invite Comp think-Neg-Past

'Taro did not think that Hanako would invite three people to the party.'

[unambiguous: *3 > Neg, Neg > 3]   (= (89) of Chapter 4)

The object QPs in (16) and (17) may take wide scope over negation whereas the object QP in the finite complement clause in (18) cannot do so.

If QP scope in English is determined by the focus feature movement, and if the focus feature movement obeys the same locality constraint as the movement of the topic feature, namely A-scrambling, it is expected that inverse scope of QPs in English exhibits the same locality effect as A-scrambling in Japanese.   This expectation is borne out.   Firstly, as A-scrambling is possible clause-internally, so is inverse scope in English:

(19) *Some boy* kissed *every girl*.

[ambiguous: $\exists > \forall$, $\forall > \exists$]

Secondly, just as A-scrambling is possible out of a non-finite clause in Japanese, a QP in a non-finite complement clause in English may take wide scope over a matrix QP:[4]

(20) a. *A different student* wanted to read *every book*.

[ambiguous: ∃ > ∀, ∀ > ∃]   (Johnson (2000: 199))

   b. *At least one American tourist* expects/hopes to visit *every European country* this

   year.

[ambiguous: ∃ > ∀, ∀ > ∃]   (Kennedy (1997), Johnson (2000:199))

In contrast, inverse scope out of a finite clause is impossible in English, just as scrambling out of a finite clause can only be A'-movement.   In (21) the QP *every girl* in the finite complement clause may not take scope over the matrix subject QP *someone*:

(21) *Someone* believes that John kissed *every girl*.

[unambiguous: ∃ > ∀, *∀ > ∃]

The structures of these examples are represented in (22-24).   (We only refer to the structures where the subject QP does not bear the focus feature since in our account inverse scope is possible only when the subject does not bear the focus feature.)

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[4] It does not seem to be the case that *all* non-finite complement clauses allows a QP they contain to take wide scope across their clause boundary.   Hornstein (1995) observes that it is the English counterpart of "restructuring verbs" in the sense of Rizzi (1982) that allows an embedded QP to take matrix scope, while Johnson (2000) claims that a wider range of verb complement clauses allows the matrix scope of an embedded QP.

(22) For (19):

[TP **[focus]ⱼ** [some boyᵢ [vP **tᵢ** [vP kissed every girlⱼ]]]
    [focus]   **[θ]**   **[θ]**
    SI head for   SI head for
    every girl   *some boy*

(23) For (20):

[TP **[focus]ⱼ** [one American touristᵢ [vP **tᵢ** [vP hopes [*PRO* to visit every European
    [focus]   **[θ]**   **[θ]**
    SI head for   SI head for
    every European country   *one American tourist*

countryⱼ]]]

(24) For (21):

a. *[TP **[focus]ⱼ** [someoneᵢ [vP **tᵢ** [vP believes [CP that [TP John [vP kissed every girlⱼ]]]
     [focus]   **[θ]**   **[θ]**
      SI head for   SI head for
      every girl   *some boy*

b. [TP someoneᵢ [vP **tᵢ** [vP believes [CP that [TP **[focus]ⱼ** [John [vP kissed every girlⱼ]]]
        [θ]   **[focus]**   **[θ]**
      SI head for   SI head for
       someone   *every girl*

In (22) and (23) the movement of the focus feature over the subject QP is allowed since the focus movement occurs clause-internally in (22) and out of a non-finite clause in (23). In contrast, (24a) is ruled out since the focus movement occurs across a finite complement clause, an environment where A-scrambling is not allowed. The focus movement does occur in (21), but only clause-internally as shown in (24b). But then the object QP takes only narrow scope with respect to the matrix subject QP. Thus the absence of the wide scope for the object QP over the matrix subject in (21) is correctly captured.

The idea that QP scope in English is assimilated to scrambling has its predecessor in Johnson (2000), who points out the parallelism between the locality of QP scope in English

and that of scrambling in Dutch.   As Johnson points out, QP scope is constrained in the way that scrambling is constrained in Dutch.   Firstly, a QP in a finite complement clause is unable to take wide scope over a QP in a matrix clause in English, as in (25). Correspondingly, scrambling out of a finite complement clause is impossible in Dutch, as in (26):

(25)   *A different student* said that I had read *every book*.

   [unambiguous: $\exists > \forall$, *$\forall > \exists$]   (Johnson (2000: 198))

(26)   *... dat   Jan *boken*$_i$ heeft besloten [dat er t_i gelezen heeft]

          that Jan books   has decided   that he   read   has

   '... that Jan has decided that he as read books.'   (Johnson (2000: 200))

Secondly, a QP in a non-finite clause may take scope over a matrix QP, as in (27). Correspondingly, a DP may scramble out of a non-finite clause in Dutch ((13)):

(27)   *A different student* wanted to read *every book*.

   [ambiguous: $\exists > \forall$, $\forall > \exists$]   (Johnson (2000: 199))

(28)   ... dat Jan *Marie*$_i$ heeft geprobeerd [t_i te kussen].

          that Jan Marie has   tried   to kiss

   '... that Jan has tried to kiss Marie.'   (Johnson (2000: 200))

Thus these facts tell us that a QP may take inverse scope in English where scrambling is possible in Dutch.

Scrambling in Dutch has been regarded as an instance of A-movement (De Hoop (1996)).[5]   If Johnson's (2000) idea is tied to this view on Dutch scrambling, it amounts to the same generalization as ours: English QPs may take wide scope where A-scrambling is possible in languages that have scrambling.   Our analysis of English QP scope has taken one more step and asked why QP scope in English and A-scrambling exhibit the parallelism that we have observed.   Our answer to this question is that these two phenomena are governed by essentially the same kind of movement: The movement of the topic/focus feature attracted by the corresponding feature on T.   Thus we can capture the locality effect of these two phenomena in a principled way.

6.4   Scope of Nonpresuppositional QPs in English

This section shows that our account of QP scope in terms of the (non)availability of the focus feature movement can be extended to an account of the difference in scope-taking property between presuppositional and nonpresuppositional QPs in English.   Consider again

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[5] Dutch scrambling exhibits a property significantly similar to the one that A-scrambling in Japanese has: the sensitivity to QP types.   Recall from Chapter 4 that the QPs that may undergo A-scrambling, the movement to [Spec, TP] by the topic feature, are limited: Only Type 1 QPs, but not Type 2 QPs, can undergo A-scrambling.   Interestingly, Dutch scrambling is constrained in a similar way:

(i)   a.   dat de   politie gisteren *veel   taalkundigen* opgepakt heeft
            that the police yesterday many linguists   arrested   has
            'that the police arrested many linguists yesterday'
            [✓ nonpresuppositional ('mny linguists') / ✓ presuppositional ('many of the linguists')]
      b.   dat de   politie *veel   taalkundigen* gisteren   opgepakt heeft   (object scrambled)
            that the police many linguists   yesterday arrested   has
            [*nonpresuppositional ('mny linguists') / ✓ presuppositional ('many of the linguists')]
                                                                        (De Hoop (1996))

While the unscrambled object QP *veel taalkundigen* in (ia) may have either a presuppositional or a nonpresuppositional reading, the QP may only have a presuppositional reading when scrambled, as in (ib).   Recall that Type 1 QPs have a presuppositional reading, while the Type 2 QPs may have a nonpresuppositional reading.   Thus it may be possible to restate the relevant constraint on Dutch scrambling in terms of the Type 1 vs. Type 2 distinction, since the Type 1/2 distinction and the presuppositionality are partially related, as we discussed in Chapter 3.   Further investigation on this matter, however, is outside the scope of this paper.

the example pointed out by Diesing (1992), which we discussed in Chapter 2:

(29) *Every cellist* played *some variations*.

 [ambiguous: ∃ > ∀, ∀ > ∃]   (Diesing (1992: 65))

Diesing observes that (29) is ambiguous in three ways.   The first reading is represented by

∀ > ∃, where the object QP *some variations* is interpreted as a presuppositional QP.   Thus

the referents of *some variations* differ from individual to individual in the set of people

referred to by *everyone*, but these referents are chosen from the same set of variations from

the preceding discourse.   The second reading, also represented as ∀ > ∃, is the reading where

some variations is nonpresuppositional.   In this case the referents of *some variations* are

newly introduced into the discourse.   The third reading is represented by the inverse scope

order ∃ > ∀.   As Diesing suggests, this inverse scope reading is possible under the

presuppositional reading of *some variations*.

In Chapters 2 and 3, we suggested an alternative account to Diesing's (1992) whereby

only those QPs with a quantifier in [Spec, DP] (Type 1 QPs) can undergo QR to take wide

scope.   The QP *every cellist* undergoes QR since the quantifier *every* necessarily occupies

[Spec, DP].   On the other hand, the QP *some variations* has the weak quantifier *some*.   As

we discussed in Chapter 3, weak quantifiers may occupy either [Spec, DP] or [Spec, NP].

Thus QR may also apply to the QP *some variations* since it is possible for the quantifier *some*

to be in [Spec, DP].   Then how can we account for Diesing's observation that

nonpresuppositional QPs cannot take wide scope?

Recall from Chapter 3 that the presuppositional reading can be obtained by the presence

of a quantifier in [Spec, DP].   The presuppositional reading of a QP could be obtained also

when [Spec, DP] lacks a quantifier, if presuppositionality comes from another source.   In

other words, when a QP is presuppositional, the QP can be a Type 1 QP although it could also

be of Type 2.   On the other hand, a nonpresuppositional reading only arises from the lack of

a quantifier in [Spec, DP].   In other words, when a QP is nonpresuppositional, the QP can

only be a Type 2 QP.

Now in the analysis that we have developed so far, the fact in (29) may be explained in

the following way.   We have proposed that only Type 1 QPs, but not Type 2 QPs, are

compatible with the focus feature.   The QP *every cellist* is a Type 1 QP, as we have just seen

above.   For the QP *some variations*, there are two possibilities.   When it is presuppositional,

it can be of Type 1.   In other words, it is possible for *some variation* to undergo the covert

focus movement when it is presuppositional.   When *some variations* is nonpresuppositional,

on the other hand, it can only be a Type 2 QP and thus cannot undergo the covert focus

movement.   If so, (29) may have the following representations:

(30)   a.   [$_{TP}$ **every cellist$_i$** [[**focus**]$_j$ [$_{vP}$ *t*$_i$ [$_{VP}$ played some variations$_j$]]]]
                  [focus]   **[focus]**   [θ]   [θ]
                  SI head   SI head
            for *every cellist*   for *some variations*

            → *every > some*

       b. * [$_{TP}$ **[focus]$_j$**   [**every cellist$_i$**   [$_{vP}$ *t*$_i$ [$_{VP}$ played some variations$_j$]]]]
                  [focus]   **[focus]**   [θ]   [θ]
                  SI head   SI head
            for *some variations*   for *every cellist*

       c.   [$_{TP}$ **every cellist$_i$** [$_{vP}$ *t*$_i$ [$_{VP}$ played **some variations$_j$**]]]]
                  [focus]   [θ]   **[θ]**
                  SI head   SI head
            for *every cellist*   for *some variations*
            (For both *some variations*$_{Type\ 1}$ and *some variations*$_{Type\ 2}$)

            →   *every > some*

       d.   [$_{TP}$ **[focus]$_j$** [every cellist$_i$ [$_{vP}$ *t*$_i$ [$_{VP}$ played some variations$_j$]]]]
                  [focus]   [θ]
                  SI head   SI head
            for *some variations*   for *every cellist*

$\rightarrow$ *some > every*

e.   [TP every cellist$_i$ [vP t_i [vP played **some variations$_j$**]]]]
             [*θ*]   [*θ*]
            SI head   SI head
      for *every cellist*   for *some variations*

$\rightarrow$ *every > some*

If the object QP *some variations* is presuppositional, all the derivations except for (30b) are possible since it is possible for this QP to be a Type 1 QP in this case.   In (30a) and (30b) both the subject *every cellist* and the object *some variations* have the focus feature licensed in [Spec, TP], but only (30a) is a possible derivation since the movement of the object's focus feature over that of the subject in (30b) violates the minimality constraint.   (30c) is another possible derivation when the object is presuppositional.   This is a derivation where the Type 1 object chooses not to undergo the covert focus movement.   This representation yields the *every > some* reading.   In (30d), the subject QP does not have the focus feature and its scope is determined in [Spec, vP], in which case the focus feature of the object may be raised over the subject since the subject does not have the focus feature.   This structure yields the inverse scope *some > every*.   In (30e), neither QP launches the focus feature.   In this case their original positions are their scope positions.

When the object is nonpresuppositional, on the other hand, the object must be a Type 2 QP and thus does not undergo the covert focus movement so that the possible structures are only (30c) and (30e), where the scope of the object is obligatorily determined in its original position.

The narrow scope property of B-NPs in English, another kind of Type 2 QP, is accounted for along the same lines.   Consider again:

(31) a. *Everyone* read *some books about giraffes*.

     [ambiguous: ∃ > ∀, ∀ > ∃]

  b. *Everyone* read *books about giraffes*.

     [unambiguous: *∃ > ∀, ∀ > ∃]   (Carlson (1977))

The ambiguity of example (31a) is accounted for in the same way as (29).   Since *some books*

on giraffes can be a Type 1 QP, as well as being a Type 2 QP, (31a) can have the same set of

derivations as (29).   In contrast, example (31b) may only have the representations in (32):

(32) a. [TP **everyone$_i$**   [vP t_i [VP read **books on giraffes$_j$**]]]]]
          [focus]   [θ]   [θ]
          SI head   SI head
            for *every cellist*   for *books on giraffes*

       →   ∀ > ∃

  b. [TP everyone$_i$ [vP t_i [VP read **books on giraffes$_j$**]]]]]
                         [θ]   [θ]
                     SI head   SI head
                       for *every cellist*   for *books on giraffes*

       →   ∀ > ∃

Since the object DP *books on giraffes* is necessarily a Type 2 QP and thus is unable to

undergo the covert focus movement, its scope must be determined at its underlying position.

     Likewise, the inability of B-NPs to take wide scope over an intensional verb is ascribed

to the unavailability of the focus feature for B-NPs:

(33) a. Miles wants to meet *some policemen*.

     [ambiguous: ∃ > *want, want* > ∃]

  b. Miles wants to meet *policemen*.

     [unambiguous: *∃ > *want, want* > ∃]   (Carlson (1977))

For (33a), both (34a) and (34b) are possible derivations:

(34) a. [$_{TP}$ **[focus]**$_i$ [Miles [$_{vP}$ **wants** [*PRO* to meet some policemen$_i$]]]]
          [focus]   [θ]

       b. [$_{TP}$ Miles [$_{vP}$ **wants** [*PRO* to meet **some policemen$_i$**]]]
                                                              [θ]

Since the QP *some policemen* involves the quantifier *some*, it can be a Type 1 QP and hence

can bear the focus feature.   If it bears the focus feature, the sentence has the structure in

(34a).   This structure yields the wide scope of the QP over the matrix intensional verb *want*.

If the QP does not have the focus feature, its scope is determined in its original position as in

(34b), which gives rise to the narrow scope reading of the object QP.   In contrast, sentence

(33b) may only have the structure in (35), since the B-NP *policemen* may not bear the focus

feature:

(35)   [$_{TP}$ Miles [$_{vP}$ **wants** [*PRO* to meet **policemen$_i$**]]]
                                              [θ]

Since *policemen* must have its scope determined in its original position, it can only have

narrow scope under the intensional verb.

6.5   Quantifier Scope in the Raising Construction

6.5.1   The Ambiguity of the Subject QP

It has been observed in the literature that the subject QP of a raising predicate such as

seem and *likely* may take either wide or narrow scope with respect to the raising predicate

(May (1977, 1985) among others).

(36) a. *Everyone* seems to like Cecil's playing.

   b. *Some politician* is likely to address John's constituency.

   [ambiguous: QP > *seem/ likely, seem/ likely* > QP]

<div align="right">(May (1977: 188))</div>

Sentence (36b), for example, may be interpreted in either of the following ways. On the

reading where *some politician* takes matrix scope over *likely*, the sentence is taken to assert

the existence of a politician. On the other reading, which is represented by *likely > some* and

is paraphrased as *It is likely that some politician will address John constituency*, the speaker is

understood not to assert to the existence of a politician who will address John's constituency,

but merely to assert the probability of there being a politician who will do so.

   Our analysis of QP scope accounts for this ambiguity in the following manner. If

some politician in (36a) is a Type 1 QP, there are three possibilities, which are represented as

follows:

(37) a. $[_{TP}$ **some politician$_i$** [is **likely** [to [$_{vP}$ t_i [$_{VP}$ address John's constituency]]]]
   　　　　　 [focus]　　　　　　　 [θ]
   　　　　　 SI head
   　　　 for *some politician*

   b. $[_{TP}$ some politician$_i$ [is **likely** [$_{TP}$ **[focus]$_i$** to [$_{vP}$ t_i [$_{VP}$ address John's constituency]]]]
   　　　　　　　　　　　　　　　　 [focus]　　 [θ]
   　　　　　　　　　　　　 SI head
   　　　　　　　　　 for *some politician*

   c. $[_{TP}$ some politician$_i$ [is **likely** [to [$_{vP}$ **t_i** [$_{VP}$ address John's constituency]]]]
   　　　　　　　　　　　　　　　 [θ]
   　　　　　　　　　　　　 SI head
   　　　　　　　　　 for *some politician*

If the subject QP *some politician* has the focus feature, one derivation is one where its SI head

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is identified as [Spec, TP] in the matrix clause, as in (37a). This gives the QP a wide scope over *likely*. Another derivation for the same QP with the focus feature is given in (37b). In this structure the focus feature is licensed in the embedded [Spec, TP] instead of the matrix [Spec, TP] and the QP is raised further to the matrix [Spec, TP] by the Φ-feature on the matrix T. This derivation gives the QP narrow scope under *likely*. Still another derivation for (36b) with the Type 1 *some politician* is given in (30c), where *some politician* does not bear the focus feature. Here the SI head for *some politician* is identified as the embedded [Spec, vP] since it is the position where the thematic interpretation of *some politician* is determined. This derivation yields the narrow scope of *some politician*.

Furthermore, if *some politician* is a Type 2 QP, the sentence may only have the structure in (37c), since the SI head for a Type 2 QP can only be identified as its original position, the position where its thematic interpretation is determined.

The analysis along these lines is supported by the fact that a QP that is obligatorily of Type 2 such as an existential B-NP may only have narrow scope under the raising predicate. Indeed, as Carlson (1977) observes, the existential B-NP *drunks* in (38a) can only take narrow scope under *likely*:

(38) a. *Drunks* are likely to win the lottery.

          [unambiguous: *∃ > *likely, likely* > ∃]   (Carlson (1977))

      b. [TP drunks [are **likely** [TP to [vP *t*_i win the lottery]]]]
                                      [*θ*]
                                    SI head
                                   for *drunks*

          →   *likely* > ∃

The B-NP in (38a) is a Type 2 QP and thus can only have the embedded [Spec, vP] as its SI

head, as illustrated in (38b).   Thus it can only have narrow scope under *likely*.

6.5.2   QP Scope Interaction in the Raising Construction

It has been observed in the literature (May (1977, 1985) among others) that the raising construction containing two QPs allows three scope readings:

(39) *Someone politician* is likely to address *every rally* in John's district.

<div align="right">(May (1977: 201))</div>

The three readings are summed up in the following list:

(40)   a.   *some politician*_{matrix scope} *> every rally*

      b.   *some politician*_{embedded scope} *> every rally*

      c.   *every rally > some politician*_{embedded scope}

If the subject QP *some politician* takes scope over the matrix predicate *likely*, it takes wide scope over the embedded object QP *every rally*.   If the subject QP takes scope under *likely*, it can either take wide or narrow scope with respect to *every rally*.   The reading that is absent in (39) is the one where *some politician* takes matrix scope and at the same time takes narrow scope under the object QP *every rally*.

We may account for this three-way ambiguity and the lack of the fourth reading in the following manner.   The derivations for (39), both possible and impossible ones, are represented as follows:

(41) a. Only *some politician* has the focus feature.
[$_{TP}$ **some politician**$_i$ [is likely [to [$_{vP}$ t_i [$_{VP}$ address **every rally$_j$**]]]
       [focus]   **[θ]**   **[θ]**
       SI head for   SI head for
       some politician   *every rally*

→ *some politician > every rally*

b. Only *every rally* has the focus feature.
[$_{TP}$ **[focus]$_j$**   [some politician$_i$ [is likely [to [$_{vP}$ t_i [$_{VP}$ address every rally$_j$]]]
       [focus]   **[θ]**   [θ]
       SI head for   SI head for
         every rally   *some politician*

→ *every rally > some politician*

c. Only *every rally* has the focus feature.
[$_{TP}$ some politician$_i$ [is likely [$_{TP}$ **[focus]$_j$** [to [$_{vP}$ t_i [$_{VP}$ address every rally$_j$]]]
                                          [focus]   **[θ]**   [θ]
                                          SI head for   SI head for
                                          every rally   *some politician*

→ *every rally > some politician*

d. Both *some politician* and *every rally* have the focus feature:
[$_{TP}$ **some politician$_i$** [$_{vP}$ likely   [$_{TP}$ **[focus]$_j$** to [$_{vP}$ t_i [$_{VP}$ address every rally$_j$]]]
       [focus]   **[focus]**   [θ]   [θ]
       SI head for   SI head for
         some politician   *every rally*

→ *some politician > every rally*

e. Both *some politician* and *every rally* have the focus feature:
[$_{TP}$ **some politician$_i$** [[**focus**]$_j$ [$_{vP}$ likely [$_{TP}$ to   [$_{vP}$ t_i [$_{VP}$ address every rally$_j$]]]
       [focus]   **[focus]**   [θ]   [θ]
       SI head for   SI head for
       some politician   *every rally*

→ *some politician > every rally*

f. Both *some politician* and *every rally* have the focus feature:
   * [$_{TP}$ **[focus]$_j$**   [**some politician$_i$** [$_{vP}$ likely [$_{TP}$ to   [$_{vP}$ t_i [$_{VP}$ address every rally$_j$]]]
          [focus]   **[focus]**   [θ]   [θ]
          SI head for   SI head for
          every rally   *some politician*

g. Neither has the focus feature:
[$_{TP}$ some politician$_i$ [is likely [to [$_{vP}$ t_i [$_{VP}$ address **every rally$_j$**]]]
                                                [θ]   **[θ]**
                                                SI head for   SI head for
                                                some politician   *every rally*

→ *some politician > every rally*

If the focus feature is borne only by the matrix subject *some politician*, the sentence has the structure in (41a).   The subject QP takes scope in the matrix [Spec, TP] while the embedded object *every rally* takes scope where it is located.   This gives the subject QP wide scope over the embedded QP.   If the focus feature is borne only by the embedded object QP, the sentence has either the representation in (41b) or the one in (41c).   Since the subject QP does not bear the focus feature, the focus feature of the object may be raised over the SI head of the subject QP, namely the [Spec, vP] position in the embedded clause.   The difference between (41b) and (41c) has to do with the landing site of the moved focus feature.   In (41b) it is moved to the matrix [Spec, TP], while it is moved to the [Spec, TP] of the embedded clause. Either of these derivations gives wide scope to the embedded object QP.   If both QPs in (39) have the focus feature, the focus feature of the object QP may not move beyond that of the matrix subject QP because of the minimality constraint.   Thus (41d) and (41e) are allowed while (41f) is not, since the focus feature has moved over that of the subject in (41f).   Finally, if neither QP bears the focus feature, the structure is represented as (41g), which gives rise to the wide scope of the matrix subject.   To sum up, the impossibility of (41f) accounts for the fact that (39) lacks the reading where *some politician* takes matrix scope and at the same time takes narrow scope under *every rally*.

The above account of QP scope in the raising construction leads us to expect that if the matrix subject is forced to take scope in the matrix clause, the object QP in the embedded clause may not take wide scope over the matrix subject.   This is so because in our account the subject QP takes matrix scope by virtue of having the focus feature, which blocks the covert movement of the focus feature of the object QP over it.   This prediction is borne out:

(42)   a.   *Someone* seemed to be reviewing *every report*.

  [ambiguous: $\exists > \forall$, $\forall > \exists$]

b. *Someone*ᵢ seemed to hisᵢ boss to be reviewing *every report*.

[unambiguous: ∃ > ∀, *∀ > ∃]

c. *Someone*ᵢ seemed to himselfᵢ to be reviewing *every report*.

[unambiguous: ∃ > ∀, *∀ > ∃]   (Hornstein (1995: 160))

While the matrix subject *someone* may take narrow scope under the object QP *every report* in (42a), the same QP is not allowed to take narrow scope under *every report* in (42b) and (42c). The crucial point about (42b) and (42c) is the fact that the presence of a pronoun (*his* in (42b) and *himself* in (42c)) bound by the QP *someone* forces the QP to take matrix scope. This is so since the bound variable pronoun in these examples is in the matrix clause and the QP *someone* is forced to take matrix scope in order to serve as the antecedent. This means in our terms that the QP *someone* in (42b) and (42c) needs to bear the focus feature since in our account having the focus feature is necessary for the subject QP to take matrix scope in the raising construction. But then the subject QP, having the focus feature, blocks the movement of the focus feature of another QP over it. This is the reason why (42b) and (42c) allow only the wide scope of the subject QP over the embedded object

6.6   Scope of Topicalized QPs

In Chapter 4 we noted that topicalization makes the topicalized QP obligatorily take wide scope:

(43) a.   *All of us* have read *many of these books* with great enthusiasm.

[ambiguous: *all > many, many > all*]

b.   *Many of these books*, *all of us* have read with great enthusiasm.

[unambiguous: * *all > many, many > all*]   (Kuno (1991))

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(44) a. *Many people* come to New York *every summer*.

[ambiguous: *many > every*, *every > many*]

b. *Every summer*, *many people* come to New York.

[unambiguous: **many > every*, *every > many*]　　　　(Kuno and Takami (2002))

How can we extend our analysis to cover this case?

The topicalization in English affects the semantic interpretation of a DP undergoing this movement.　As observed in Gundel (1974), a topicalized DP is either interpreted as a "topic" ((45a)) or a "focus" ((45b)):

(45) a. **John** he CALLED.

(as a response to the question "What about John?")

b. **JOHN** he called.

(as a response to the question "Who did he call?")

Thus, it is reasonable to assume that the syntactic feature that drives the topicalization of a DP (henceforth, the TOPIC feature) is a "semantic" one, in the way that the topic and the focus feature are.[6]　If so, we may say that the TOPIC feature counts as a determinant of QP scope since it has to do with semantic interpretation of a DP bearing it.　If we assume that the

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[6] I use the notation "TOPIC" to refer to the grammatical feature for topicalization in English in order to distinguish it from the topic feature.　It is interesting to note, however, that topicalized DPs in English are subject to a constraint similar to that for the topic DP in Japanese.　Recall that Type 2 QPs cannot have the topic feature in Japanese.　As for topicalization, it is difficult to topicalize indefinite DPs:

(i)　a. ??*Two books*, John read last night.
　　 b. ??*Many books*, John has read.　　　　(Kuno and Takami (2002: 101))

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relevant feature attracting a topicalized DP appears on C, the structure of a sentence involving

topicalization in English is represented as follows:

(46)

```
                          CP
              DP_{j[TOPIC]}          C'
              John            TP              C_{[TOPIC]}
                        DP_i        T'
                        he      T        vP
                                      t_i      VP
                                            V        t_j
                                          called
```
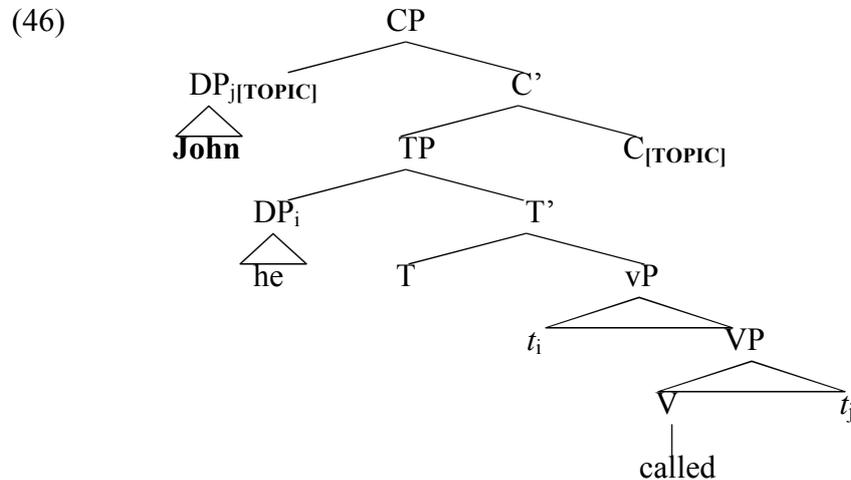
Then the structure for (43b), for example, is represented as follows:

(47) [_CP **many of these books** [_TP **all of us** [_vP t_j [have read t_i with great enthusiasm]]
       [TOPIC]
           SI head for
         many of the books

The scope of the topicalized QP *many of the books* is obligatorily determined in [Spec, CP]

since it is the position where its TOPIC feature is licensed.   Since this position is necessarily

higher than the subject, it obligatorily takes wide scope.   Thus our account can successfully

account for the difference in QP scope between (43a) and (44a) on one hand and their

topicalized counterparts in (43b) and (44b) on the other.

6.7   On WH-QP Scope Interaction

In the preceding section we have proposed that the topicalized QP must have its scope

determined in [Spec, CP], the position where it receives its interpretation as a topic, but not in

the original position, where its thematic interpretation is determined.   This is so since the SI

head for a topicalized QP is necessarily [Spec, CP], which c-commands any other SI head

within TP.   The account of the scope of a topicalized QP along these lines leads us to expect

that if a QP moves into the CP-domain and has its SI head determined in the CP-domain, the

QP necessarily takes wide scope over any QP under TP, since a position in the CP-domain

c-commands any position under TP.

    This expectation, however, is not necessarily borne out.   Consider the following

examples involving a WH-phrase and a QP:

(48) a.   *Who* bought *everything* for Max?

         [unambiguous: *who > every*, **every > who*]

    b.   *What* did *everyone* buy for Max?

         [ambiguous: *who > every*, *every > who*]   (May (1985: 38-39))

It has been observed in the literature (May (1985), Aoun and Li (1993), Hornstein (1995)

among others) that example (48b) is ambiguous.   On the interpretation represented by the

scope order *what > every*, the speaker asks the addressee to identify a single object such that

everyone bought it for Max.   On the other interpretation, represented by *every > what* and

known as a *pair-list* reading, (48b) is understood as a "distributed" question in which the

speaker asks of each individual for the identity of the object that (s)he bought for Max.   Thus

(49a) will be an appropriate answer to the former reading of (48b), while (49b) to the latter

reading of (48b) (May (1985: 38)):

(49) a.   Everyone bought Max a Bosendorfer piano.

    b.   May bought Max a tie, Sally a sweater, and Harry a piano.

In contrast, the question in (48a) has only the reading where the speaker asks for the identity of the single object that everyone bought for Max (the *who > every* reading).

If the readings of the interrogative sentences in (48) are to be captured in terms of scope relation between a WH-phrase and a QP, the nonambiguity of (48a) is expected in our analysis.   Suppose that a WH-phrase is moved to [Spec, CP] triggered by the grammatical feature responsible for the interrogative meaning of the WH-phrase and the sentence containing it.   Then the sentence (48a) is represented as (50), where the relevant grammatical feature is marked as [Q]:

(50)

Furthermore, if the covert movement of the focus feature of *everything* occurs, the sentence has the structure in (51a).   If not, it is represented as (51b):

(51) a. $[_{CP}$ **who$_i$** $[_{TP}$ **[focus]$_j$** $[\ t'_i\ [_{vP}\ t_j\ [_{VP}$ bought everything for Max$]]]]]$
       [Q]   **[focus]** $[\theta]$ $[\theta]$
       SI head for   SI head for
       who   *everything*

    b. $[_{CP}$ **who$_i$** $[_{TP}$ $[\ t'_i\ [_{vP}\ t_j\ [_{VP}$ bought **everything** for Max$]]]]]$
       [Q] $[\theta]$ $[\theta]$
       SI head for   SI head for
       who   *everything*

Whichever derivation in (51) is chosen, the SI head of *who* c-commands that of *everything*.

Even if the focus feature of *everything* moves, it may move only as far as to [Spec, TP],

which is c-commanded by the SI head of *who*.

However, the ambiguity of (48b) would not be predicted by an analysis in terms of

scope.   (48b) has the following derivations:

(52) a.   [$_{CP}$ **what$_i$** did   [$_{TP}$ **everyone$_j$** [$_{vP}$ t_j [$_{VP}$ buy t_i for Max]]]]
              [Q]   **[focus]**   [θ]   [θ]
            SI head for   SI head for
            what   *everyone*

        b.   [$_{CP}$ **what$_i$** did   [$_{TP}$ everyone$_j$ [$_{vP}$ ***t$_j$***   [$_{VP}$ buy t_i for Max]]]]
              [Q]   [θ]   [θ]
            SI head for   SI head for
            what   *everyone*

Irrespective of these derivational options for (48b), an account of (48b) in terms of scope

relation would wrongly predict that the sentence has only the wide scope of *what*, since the SI

head, namely [Spec, CP], c-commands whichever SI head *everyone* has.

To solve this problem, we follow the analysis of the WH-QP interaction in Chierchia

(1991) and Hornstein (1995), who propose that the source of pair-list readings is not the wide

scope of a universal QP over a WH-phrase, but is the binding of an implicit pronoun in the

WH-phrase by the distributive QP.   This idea is based on the observation that an

interrogative sentence such as (48b) may be answered in one of the two ways below:

(53) Q: Who does everyone love?

      A: a.   Mary.

           b.   His mother.

The answer in (53a), called an *individual answer,* corresponds to the one (49a), which provides the identity of the single thing that everyone bought.   On the other hand, the answer in (53b), known as a *functional answer,* is the source of the pair-list answer to (53) since, as Chierchia notes, the functional interpretation is a necessary condition for the pair-list reading. Based on this observation, Chierchia (1991) and Hornstein (1995) propose that the functional interpretation of a sentence containing a WH-phrase and a QP arises from the following structure where the QP binds an implicit pronoun contained in the copy of the moved WH-phrase:

(54)   [$_{CP}$ who$_i$ [$_{TP}$ everyone$_j$ [$_{VP}$ love [*pro*$_j$ *t*$_i$]]]]

Thus in order for a functional reading to be obtained, a QP and *pro* must meet the condition for coindexing them.   Since a QP may be an antecedent for a pronoun only if it c-commands the pronoun, a functional reading obtains only if a QP is in a position c-commanding *pro*.   In other words, the unavailability of a functional (pair-list) reading is reduced to the *weak crossover* (WCO) effect, as exemplified in (55):

(55)   a.   Who$_i$ loves his$_i$ mother?

       b. * Who$_i$ does his$_i$ mother love?

In sum, a WH-phrase consists of a constituent corresponding to a WH-phrase and an implicit pronoun.   If this implicit pronoun is bound by a QP such as *everyone,* the sentence yields a functional interpretation.[7]

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[7] For the individual reading, Hornstein (1995) proposes that it arises as a result of the deletion of the whole copy of the object at LF, while on the functional reading what is deleted at LF is the copy of the moved WH.   Thus the LF structure for the individual reading does not involve the implicit pronoun.

If we assume this analysis of the functional interpretation of WH-questions, the examples in (48) have the following representations:

(56) a.   For (48a):

* [$_{CP}$ who$_i$ [$_{TP}$ t'_i [$_{vP}$ [***pro***$_j$ t_i] [$_{VP}$ bought **everything**$_j$ for Max]]]]]

b.   For (48b):

[$_{CP}$ what$_i$ did [$_{TP}$ **everyone**$_j$ [$_{vP}$ ***t***$_j$ [$_{VP}$ buy [***pro***$_j$ t_i] for Max]]]]]

In (56b), the implicit pronoun *pro* is c-commanded by *everyone* (or more precisely, its trace t_j) so that *pro* may be bound by *everyone*.   This makes it possible for (48b) to have a functional, pair-list reading.   On the other hand, the implicit pronoun is not bound by *everything* in (56a) since the latter does not c-command the former.   Therefore, (48a) is not interpreted as having a functional interpretation.

As Hornstein (1995) shows, a piece of supporting evidence for this analysis of WH-QP interaction comes from the following examples:[8]

(57) a.   *Who* do you think *everyone* invited?

[✓ individual, ✓ pair-list]

b.   *Who* do you think invited *everyone*?

[✓ individual, *pair-list]   (Hornstein (1995: 115))

These examples exhibit the same contrast as (48) with respect to the availability of the

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We may also implement this idea by saying that the DP structure of a WH-phrase in the case of the individual reading does not contain an implicit pronoun at all as a result of the deletion of the whole copy of the WH-phrase, while the representation for the functional (pair-list) reading, the one that involves an implicit pronoun, results from the deletion of only part of the WH-phrase, leaving the implicit pronoun intact.   We assume the latter in what follows.

[8]   See also May (1985).

pair-list reading.   The WH-phrase *who* in (57a) has moved from the object position in the complement clause, while the WH-phrase originates in the subject position in (57b).   As we see, the pair-list answer is possible in (57a), but not in (57b).   The structures for (57a) and (57b) are represented as follows:

(58)   a.   For (57a):

[$_{CP}$ who$_i$ do [$_{TP}$ you [$_{vP}$ think [$_{CP}$ [$_{TP}$ **everyone$_j$** [$_{vP}$ ***t$_j$*** [$_{vP}$ invited [***pro$_j$*** *t$_i$*]]]]]]]]]

       b.   For (57b):

       *[$_{CP}$ who$_i$ do [$_{TP}$ you [$_{vP}$ think [$_{CP}$ [$_{TP}$ [***pro$_j$*** *t$_i$*] [$_{vP}$ *t$_i$* [$_{vP}$ invited **everyone$_j$**]]]]]]]]

The structure in (58a) meets the requirement for the binding of *pro* by *everyone* since the latter, or the trace of it, c-commands the former.   This yields the pair-list reading of (57a). On the other hand, (58b) is a configuration of WCO since the object *everyone* does not c-command *pro* in the subject position.   This accounts for the lack of the pair-list reading in (57b).

       In contrast, an account of the availability of a pair-list reading in (57a) in terms of scope relation would face a difficulty, as Hornstein (1995) points out.   Under a scope account of (57a), one would have to say that *everyone* in the finite complement clause takes scope over *who* in the matrix clause.   However, a QP in such an environment cannot take wide scope over the matrix clause, as we have see from the unambiguity of (59):

(59)   *Someone* thinks that *everyone* saw you at the rally.

       [unambiguous: ∃ > ∀, *∀ > ∃]   (Hornstein (1995: 62))

Thus this constitutes a piece of supporting evidence for the analysis of WH-QP interaction in

terms of WCO.

6.8   A Note on *All*

So far we have identified two types of QP, characterizing Type 1 QPs as those QPs with a quantifier in [Spec, DP] and Type 2 QPs as those that do not have a quantifier in [Spec, DP]. In addition, Type 1 QPs have also been characterized as having a presuppositional interpretation.   The quantifier *all* is one of the universal quantifiers in English, so that we might expect a QP with *all* in the prenominal position to behave on a par with Type 1 QPs. However, this expectation is not borne out.   Firstly, observe the following paradigm:

(60)   a.   *Every journalist* reported an event.

     b.   *Each journalist* reported an event.

     c.   *All the journalists* reported an event.   (Szabolsci (2010))

(61)   a.   A journalist reported *every event*.

     b.   A journalist reported *each event*.

     c.   A journalist reported *all the events*.   (ibid.)

(62)   a.   A (different) boy read *every book*.

     b.   A (different) boy read *each book*.

     c.   A (different) boy read *all the books*.   (Beghelli and Stowell (1997))

Whereas the subject QP *all the journalists* may take wide scope over the object in (60c), on a par with the QPs with *every journalist* and *each journalist* in (60a) and (60b), the QP with *all* in the object position in (61c) and (62c) may not take inverse scope over the subject, in

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contrast to the QPs with *every* and *each* in the object position in (61a, b) and (62a, b), which are able to take inverse scope, as observed by Beghelli and Stowell (1997) and Szabolsci (2010).

If the inverse wide scope reading of the object QPs with *every* and *each* in (61a, b) and (62a, b) is due to the applicability of the covert focus feature movement of these QPs, then a possible analysis of the narrow scope property of *all* is to assume that QPs with *all* do not belong to the group of Type 1 QPs, but to that of Type 2 QPs, which do not undergo the focus movement.   In fact, there are two characteristic properties of *all* which distinguish it from *every* and *each*.

Firstly, *all* is different from *every* and *each* in that it does not range over a set of entities denoted by the head noun but simply denotes the whole part of the denotation of the head noun.   This is confirmed by the fact that when *all* cooccurs with a grammatically singular head noun, the DP containing it denotes the whole part of the referent of the DP, not all the members of the set of referents of the head noun:

(63) a. I haven't read *all the book*.

      b. I spent *all the day* cooking.   (Huddleston and Pullum (2003))

The DP *all the book* in (63a), for example, refers to the whole part of one single book, but not to every member of a set of books.   The examples in (63) can be paraphrased as:

(64) a. I haven't read *the whole book*.

      b. I spent *the whole day* cooking.   (ibid.)

This property of *all* is not shared by *every* and *each*.   The combination of *every*/*each* +

a singular noun necessarily yields the reading where the universal quantifier ranges over a set of referents denoted by the head noun and picks out the maximum number of the referents of that noun.   Thus the italicized QPs in (65) pick out all the referents from the set consisting of books and days, but lacks the reading where the noun phrase refers to the whole part of a single book/day.

(65)   a.   I haven't read *every book*.

       b.   I spend *every day* cooking.

The relevant property of *all* is also shown by the fact that *all*, but not *every* or *each*, may be combined with an uncountable noun to refer to the whole part of the referent of the noun:

(66)   a.   I drank *all the whisky*.

       b.   You will need *all your patience*.   (Huddleston and Pullum (2003))

Again this property is not shared by *every* or *each*.   The combination of *every*/*each* + an uncountable noun results in ungrammaticality:

(67)   a.   *every/*each money

       b.   *every/*each sand

The second property of *all* that distinguishes it from the quantifiers *every* and *each* is the fact that *all* itself does not presuppose a set of referents of the accompanying noun, which *every* and *each* do presuppose.   It has been pointed out in the past literature that while the combination of *all* and a definite determiner such as *the*, *these*/*those* or a possessive personal

pronoun (*my*, *your*, etc.) refers to the whole set of referents, the combination of *all* + a bare noun does not.   Thus, while *all the children* in (68a) refers to the whole set of children who are presupposed in the previous discourse, *all children* in (68b) does not have this reading but has a generic reference.[9]

(68) a.   *All the children* wanted to go to the zoo.

     b.   *All children* like going to the zoo.   (Declerck (1991))

This difference between *all the* + N and *all* + N is also shown by the following examples, as pointed out by Matthewson (1998, 2001).   Suppose that the speaker is talking about, and hence presupposing the existence of, a particular set group of linguists.   In this situation, use of *all* without a definite determiner as in (69b) is not appropriate.

(69) a.   I admire *all linguists.*

     b. ! I talked to *all linguists*.

     c.   I talked to *all the linguists*.   (Matthewson (1998, 2001))

The use of *all* + a bare noun is possible in cases where the speaker intends to refer generically to linguists in general, as in (69a), not to a particular set of linguists that are presupposed to exist in the preceding discourse.   This fact tells us that *all* lacks the relevant property of presupposing a particular set.   The presuppositional interpretation in (68a) and (69c) can be ascribed to the use of the definite article *the*.   If so, the function of *all* is limited to that of expressing the whole part of the entities denoted by the noun.

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[9] This property is pointed out in Quirk et al. (1985), Declerck (1991), Matthewson (2001), Huddleston and Pullum (2003) and Borer (2005).

The third difference between *all* on one hand and *every* and *each* on the other is the fact

that *all* does not occur in [Spec, DP], the position that *every* and *each* are supposed to occupy.

This is suggested by the following facts:

(70) a. * every the boy

 b. * each the boy

 c.   all the boys

(71) a. * every the company's worker

 b. * each the company's worker

 c.   all the company's workers   ((71c) from *COCA*)

While *every* and *each* may not precede the definite article *the* or a possessive DP, as in (70a,

b) and (71a, b), *all* may precede either of them, as shown in (70c) and (71c).   If the

impossibility of cooccurrence of *every/each* and the definite article or a possessive DP signals

that *every/each* occupies [Spec, DP], the facts in (70c) and (71c) tell us that *all* is not in [Spec,

DP], but is in a still outer position in DP structure.

    Thus from these considerations of the semantic and the syntactic properties of *all*, we

can say that a QP containing *all* is not a Type 1 QP while QPs with *every* and *each* are, and

that QPs with *all* can be best regarded as belonging to Type 2.   If we suppose that a QP with

all is of Type 2, we can account for the obligatory narrow scope of the object QP in (61c) and

(62c).   The object involves *all* so that it cannot undergo the covert focus movement.   The

structure of (61c), for example, can be represented as the following:

(72) [$_{TP}$ a journalist [$_{vP}$ t_i [$_{VP}$ reported **all the events**]
        [focus]   [θ]   **[θ]**

$\rightarrow$ *a journalist > all the events*

Irrespective of whether the subject has the focus feature or not, the object must take scope in its original position so that it can only take narrow scope.

The sentence with *all* in the subject is represented as follows:

(73) a. [TP **[focus]ⱼ** [all the journalistsᵢ [vP *t*ᵢ [vP reported an eventⱼ]]]]
   [focus]   **[θ]**   **[θ]**

   b. [TP all the journalistsᵢ [vP *t*ᵢ [vP reported **an event**ⱼ]]]]
                    [θ]   **[θ]**

(73a) is the structure where the focus feature of the object QP has moved over the subject. This derivation yields the inverse scope order Object > Subject. In (73b) the object does not launch the focus feature. This structure gives rise to the wide scope of *all the journalists*.

6.9   A Brief Note on Free-Choice *Any*

Here a comment is in order on still another kind of universal quantifier, which is called the free-choice *any*. The free-choice *any* is known to lack the existential presupposition associated with the universal quantifiers *each* and *every*. Thus while *every unicorn* in (74a) presupposes the existence of a set of unicorns, *any unicorn* in (74b) does not require the existence of such a set (McCawley (1981), Vendler (1967)):

(74) a. *Every unicorn* will eat this food.

   b. *Any unicorn* will eat this food.

Another aspect in which the free-choice *any* differs from the strong quantifiers *every* and

each is that the free-choice *any* tends to take wide scope:

(75) a.   *Every cat* does*n't* like catnip.

    b.   *Each dog* does*n't* have a collar.

    c.   *Any dog* does*n't* have one tail.

While the examples in (75a) and (75b) may have a Neg > $\forall$ reading, the sentence in (75c) may not have this reading.

These properties of the free-choice *any* tell us that the free-choice *any* should be treated separately from Type 1 and Type 2 QPs.   See Homma (1990) for an analysis of the semantic and the scopal property of the free-choice *any*.

6.10   Summary of Chapter 6

In this chapter we have extended the idea developed in the preceding chapters to QP scope in English and proposed that the feature that drives movement to [Spec, TP] plays a crucial role in determining QP scope in English.   The relevant feature is the focus feature, which triggers covert movement of a QP bearing the focus feature.   This approach makes it possible to account for the locality of QP scope (Section 6.3), the difference in the scope property between Type 1 and Type 2 QPs (Section 6.4), the scope interaction of QPs in the raising construction (Section 6.5) and the obligatory wide scope of the topicalized QP in English (Section 6.6).   Moreover, we have claimed, following the approach in Hornstein (1995), that the availability of pair-list readings in WH-questions is not a scope phenomenon, but must be reduced to the availability of establishing a binding relation between a QP and an implicit pronoun in a WH-phrase (Section 6.7).   Lastly we have discussed those QPs with the quantifier *all* and those with a free-choice *any* in English.   Although *all* and the

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free-choice *any* may be regarded as universal quantifiers, they are best characterized as constituting separate classes of QPs from the universal quantifiers *every* and *each*, which are Type 1 QPs (Sections 6.8 and 6.9).

Chapter 7

On Caseless *Zen*-QPs

7.1   Introduction

In this chapter we discuss the QPs *zen'in* and *zenbu* (henceforth, *zen*-QPs).   We are particularly interested in the scope and the syntactic property that *zen*-QPs exhibit when they appear without a Case-particle, as in (1), as opposed to when appearing with a Case-particle as in (2):

(1)   a.   Taroo-wa *zen'in*   seme-ta

         Taro-Top everyone blame-Past

         'Taro blamed everyone.'

     b.   Taroo-wa Hanako-ni   *zenbu*   okut-ta

         Taro-Top Hanako-Dat everything send-Past

         'Taro sent everything to Hanako.'

(2)   a.   Taroo-wa *zen'in-o*   seme-ta

         Taro-Top everyone-Acc blame-Past

         'Taro blamed everyone.'

     b.   Taroo-wa Hanako-ni   *zenbu-o*   okut-ta

         Taro-Top Hanako-Dat everything-Acc send-Past

         'Taro sent everything to Hanako.'

We show that the occurrences of *zen*-QPs without a Case-particle (henceforth, Caseless *zen*-QPs) constitute the third type of QP: QPs that may only undergo the topic-triggered

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scrambling, but not the semantically vacuous scrambling. As we observe below, Caseless *zen*-QPs may only take wide scope when scrambled to the pre-subject position. These two properties of Caseless *zen*-QPs strengthen our proposal in Chapter 4 that the topic feature on T determines the scope of the scrambled QP.

7.2 Possible Analyses of Caseless *Zen*-QPs

Before presenting our analysis, let us examine two possible analyses of Caseless *zen*-QPs and point out their problems.

7.2.1 Caseless *Zen*-QPs are Not Floating Quantifiers

The first possible analysis of Caseless *zen*-QPs is to regard them as instances of floating quantifiers whose host DP is missing. In this analysis the examples in (3) would be derived by the omission of the host DP that would be associated with *zen'in* and *zenbu*, as in:

(3) a. Taroo-wa ~~gakusei-o~~ *zen'in* seme-ta

  Taro-Top student-Acc everyone blame-Past

  'Taro blamed every student.'

  b. Taroo-wa Hanako-ni ~~nimotu-o~~ *zenbu* okut-ta

  Taro-Top Hanako-Dat package-Acc everything send-Past

  'Taro sent every package to Hanako.'

However, there is a piece of evidence suggesting that the instances of *zen*-QPs in (3) cannot be regarded as instances of FQs. Compare (4) and (5):

(4) a. *Gakusei-o zen'in* hutari-no sensei-ga sidoosi-ta

   student-Acc everyone 2.Cl-Gen teacher-Nom supervise-Past

   Lit. 'Every student, two teachers supervised.'

   [unambiguous: $*\forall > 2, 2 > \forall$]

  b. *Hon-o zenbu* san-nin-no gakusei-ga yon-da

   book-Acc everything 3-Cl-Gen student-Nom read-Past

   Lit. 'Every book, three students read.'

   [unambiguous: $*\forall > 3, 3 > \forall$]

(5) a. *Zen'in* hutari-no sensei-ga sidoosi-ta

   everyone 2.Cl-Gen teacher-Nom supervise-Past

   Lit. 'Every student, two teachers supervised.'

   [unambiguous: $\forall > 2, *2 > \forall$]

  b. *Zenbu* san-nin-no gakusei-ga yon-da

   everything 3-Cl-Gen student-Nom read-Past

   Lit. 'Every book, three students read.'

   [unambiguous: $\forall > 3, *3 > \forall$]

As we see in (4) and (5), the Caseless *zen*-QPs in (5) take wide scope over the subject QP,

while the occurrences of *zen'in* and *zenbu* as FQs in (4) can only be interpreted as taking

narrow scope under the subject.[1]   This tells us that the occurrences of *zen'in* and *zenbu* in (5)

cannot be regarded as instances of FQs, but also as full DPs whose Case-particle is apparently

missing.[2]

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[1] See Chapter 2.

[2] The above discussion raises a question of why it is that the host noun phrase of floating *zen'in* and *zenbu* in (4) cannot be deleted.   If the host noun phrase in the object NP-FQ were able to be deleted

7.2.2 It is Not the Case-Particle Omission that Makes Caseless *Zen*-QPs

Caseless *zen*-QPs have their apparent counterpart that has a Case-particle, as in:

(6)   a.   Taroo-wa *zen'in-o*   seme-ta

           Taro-Top everyone-Acc blame-Past

           'Taro blamed everyone.'

     b.   Taroo-wa Hanako-ni   *zenbu-o*   okut-ta

           Taro-Top Hanako-Dat everything-Acc send-Past

           'Taro sent everything to Hanako.'   (= (2))

Thus one might argue that Caseless *zen*-QPs in (1) were simply variants of the *zen*-QPs in (6) whose Case-particle is omitted.   However, while Caseless *zen*-QPs may appear in the pre-subject position, a DP may not have its Case-particle omitted in the pre-subject position (Saito (1983, 1985)).

(7)   a.   Taroo-ga   *dare(-o)* seme-ta-no

           Taro-Nom who-Acc blame-Past-Q

           'Who did Taro blame?'

     b.   *Dare*(-o)* Taroo-ga seme-ta-no

           who-Acc Taro-Nom blame-Past-Q

           'Who did Taro blame?'

If the absence of a Case-particle on the *zen*-QPs in (5) were due to the omission of the

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in (4), the FQ would have to be able to take narrow scope.   I leave this question for future research.

Accusative Case-particle, it would not be clear why the Case omission in (5) is possible while it is not in (7).   Thus one cannot say that Caseless *zen*-QPs are not simply a Caseless variant of *zen*-QPs with a Case-particle.   This point is also supported by the following contrast in scope interpretation:

(8)　a.　*Zen'in*　hutari-no sensei-ga　　sidoosi-ta

　　　　　　everyone 2.Cl-Gen teacher-Nom supervise-Past

　　　　　　Lit. 'Every student, two teachers supervised.'

　　　　　　[unambiguous: ∀ > 2, *2 > ∀]

　　　b.　*Zenbu*　　san-nin-no gakusei-ga　　yon-da

　　　　　　everything 3-Cl-Gen　　student-Nom read-Past

　　　　　　Lit. 'Every book, three students read.'

　　　　　　[unambiguous: ∀ > 3, *3 > ∀]　　　　　　　　　　　　　　　(= (5))

(9)　a.　*Zen'in-o* hutari-no sensei-ga　　sidoosi-ta

　　　　　　everyone 2.Cl-Gen teacher-Nom supervise-Past

　　　　　　Lit. 'Every student, two teachers supervised.'

　　　　　　[ambiguous: ∀ > 2, 2 > ∀]

　　　b.　*Zenbu-o*　san-nin-no gakusei-ga　　yon-da

　　　　　　everything 3-Cl-Gen　　student-Nom read-Past

　　　　　　Lit. 'Every book, three students read.'

　　　　　　[ambiguous: ∀ > 3, 3 > ∀]

We have observed that preposed the Caseless *zen*-QPs in (5) (repeated here as (8)) may only take wide scope over the subject QP.   In contrast, *zen*-QPs with a Case-particle may either

take wide or narrow scope with respect to the subject QP, as we see in (9).   This also constitutes a piece of evidence suggesting that Caseless *zen*-QPs are not derived by the omission of a Case-particle.

7.2.3   Caseless *Zen*-QPs are Not Type 1 or Type 2 QPs

In the preceding sections we have observed that Caseless *zen*-QPs take obligatory wide scope over the subject when scrambled.   This property with respect to scope is different from that of Type 1 and Type 2 QPs.   Recall that Type 1 QPs, when scrambled, may take either wide or narrow scope with respect to the subject QP ((10)), while Type 2 QPs may only take narrow scope ((11)):

(10) a.   *Subete-no gakusei-o   hutari-no sensei-ga*   sidoosi-ta

every-Gen student-Acc 2.Cl-Gen teacher-Nom supervise-Past

Lit. 'Every student, two professors supervised.'

[ambiguous: ∀ > 2, 2 > ∀]

   b.   *Subete-no hon-o   san-nin-no gakusei-ga*   yon-da

every-Gen book-Acc 3-Cl-Gen   student-Nom read-Past

Lit. 'Every book, three students read.'

[ambiguous: ∀ > 3, 3 > ∀]

(11) a.   *Gakusei-o   san-nin subete-no hito-ga*   seme-ta

student-Acc 3-Cl   every-Gen person-Nom blame-Past

Lit. 'Three students, every person blamed.'

[unambiguous: ∀ > 3, *3 > ∀]

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b. *Hon-o   ni-satu daremo-ga   yon-da*

book-Acc 2-Cl   everyone-Nom read-Past

Lit. 'Two books, everyone read.'

[unambiguous: ∀ > 2, *2 > ∀]

Thus as regards the QP types, Caseless *zen*-QPs constitute a class distinct from Type 1 and Type 2 QPs.

7.3   Accounting for the Scope Property of Caseless *Zen*-QPs

The above discussion of Caseless *zen*-QPs has revealed that they constitute a class separate from the two types of QP that we have discussed.   The next task is to answer the question of why they must take wide scope in (8), as we have observed in Section 7.2: Preposed Caseless *zen*-QPs must take wide scope over the subject.   In order to account for this fact, we propose that the scrambling of Caseless *zen*-QPs to the pre-subject position is obligatorily driven by the topic feature on T, and that they cannot undergo the semantically vacuous A'-type scrambling, the scrambling that is not driven by the topic feature.   Then the structure of (8a), for example, is represented as (12a), but not as (12b) or (12c):

(12) a.   [$_{TP}$ **zen'in**$_j$ [$_{vP}$ **hutari-no sensei-ga**$_i$ [$_{VP}$ t_j sidoosi-ta]]]]]
              [topic]   **[**θ**]**   **[**θ**]**

   b.   *[$_{TP}$ zen'in$_j$ [$_{TP}$ **hutari-no sensei-ga**$_i$ [$_{vP}$ t_i [$_{VP}$ ***t*$_j$** sidoosi-ta]]]]]
                        [topic]   **[**θ**]**   **[**θ**]**

   c.   *[$_{TP}$ **[focus]**$_i$ [**zen'in**$_j$ [$_{vP}$ hutari-no sensei-ga$_i$ [$_{vP}$ t_j sidoosi-ta]]]]]
                  [focus]   **[topic]**   **[**θ**]**   **[**θ**]**

In (12a) *zen'in* has the topic feature in the scrambled position so that its scope is determined in that position.   (12b), on the other hand, is not a possible structure for (8a) since the

scrambling of *zen'in* must be triggered by the topic feature: It cannot undergo the

scrambling that is not triggered by the topic feature.   The derivation in (12c) is not permitted,

either.   We propose that this is because the scrambling of *zen'in* and the focus movement of

the subject QP violates the order constraint on the topic and the focus feature which we

proposed in Chapter 5:

(13)   A topic and a focus feature may not be in the following configuration in a single TP:

   * [$_{TP}$ [focus] [[topic] [...]]]

   (where [focus] and [topic] represent a feature on either an overtly-moved or covertly-

   moved constituent)

                                                                    (= (7) of Chapter 5)

In (12c) the focus feature has landed in a structurally higher position than the topic feature on

the scrambled *zen'in*, although the movement of these elements obeys the minimality

constraint (See Chapter 5).   In sum, we can capture the obligatory wide scope of Case-less

zen'in since (12a) is the only structure available for (8a):   Case-less *zen'in/zenbu* has the

topic feature when scrambled and the focus feature of another QP may not be landed in a

position higher than the topic feature of the scrambled *zen'in*, for it would violate the order

constraint on these features.   At this point, however, we have left unclear how we can justify

the order constraint in (13).   We discuss this matter in Section 7.4.

   The obligatory topichood of the preposed Caseless *zen*-QPs, as opposed to the

post-subject occurrence of them can be observed in the following instances.   While the

interrogative sentences in (14) can be taken to be questions about the number of people that

Taro blamed and the number of books that Hanako read, the sentences in (15), where Caseless

zen-QPs occur in the pre-subject position, cannot be understood to be such questions:[3]

(14) a.　Taroo-ga　　*zen'in*　seme-ta-no-desu-ka?

　　　　Taro-Nom everyone blame-Past-Gen-be-Q

　　　　'Did Taro blame everyone?'

　　　b.　Hanako-ga *zenbu*　　yon-da-no-desu-ka?

　　　　Hanako-Nom everything read-Past-Gen-be-Q

　　　　'Did Hanako read every book?'

(15) a.　*Zen'in*　Taroo-ga　seme-ta-no-desu-ka?

　　　　everyone Taro-Nom blame-Past-Gen-be-Q

　　　　'For everyone, did Taro blame him/her?'

　　　b.　*Zenbu*　　Hanako-ga　yon-da-no-desu-ka?

　　　　everything Hanako-Nom read-Past-Gen-be-Q

　　　　'For every book, did Hanako read it?'

The questions in (15) can be taken to ask for the identity of the person who blamed everyone

or the person who read every book, but it is difficult to understand them as questions about

the number of the people blamed/the number of books read by Hanako.　In other words,

zen-QPs can be the focus of question in (14), but not in (15).

　　　Secondly, if a Caseless *zen*-QP in the pre-subject position is interpreted as a topic by

way of being licensed by the topic feature, it is predicted that they cannot occur in the

pre-subject position of a clause that lacks the topic feature.　Recall from Chapter 5 that the

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[3]　The sentences in (14) can also be understood to be questions about the person who blamed
everyone/read every book.　I do not discuss this reading any further here.

topic feature does not occur in description clauses in the sense of Ueyama (1998, 2007), as exemplified below:

(16) description clauses

    a.   Huzisan-no   tyoozyoo-ni denpatoo-o   *tateru-no-wa* *hukanoo-da*

       Mt..Fuji-Gen top-Dat   broadcasting.tower-Acc build-Gen-Top impossible-be

       'It is impossible to build a broadcasting tower on the top of Mt. Fuji.'

    b.   Mit-tu-izyoo-no   kaisya-ga   soko-no-torihikisaki-ni syazaisiteiru-*no-ga*

       3-Cl-or.more-Gen company-Nom that-Gen-client-Dat   apologize-Gen-Nom

       kikoe-ta

       can.hear-Past

       'I could hear more than three companies apologizing to their client companies.'

    c.   Taroo-ga   tuukoonin-ni bira-o   kubatteiru-*tokoro-ga* *mie-ta*

       Taro-Nom passer.by-Dat flyer-Acc distribute-Comp-Nom can.see-Past

       'I could see Taro distributing flyers to passers-by.'

                                        (Ueyama (1998, 2007))

If preposed Caseless *zen*-QPs are analyzed as having the topic feature, we predict that they cannot be preposed in description clauses.   This prediction seems to be borne out:

(17) *Zen*-QPs in the post subject position

    a.   Taroo-ga *zen'in* semeteiru-*no-ga*   *kikoeta*

       Taro-Nom everyone blaming-Gen-Nom can.hear-Past

       'I could hear Taro blaming everyone.'

b. Hanako-ga *zenbu* yomu-no-wa hukanoo-da

Hanako-Nom everything read-Gen-Top impossible-be

'It is impossible for Hanako to read everything.'

c. Taroo-ga *zen'in* sidoositeiru-tokoro-ga mie-ta

Taro-Nom everyone supervise-Comp-Nom can.see-Past

'I could see Taro supervising everyone.'

(18) a. * *Zen'in* Taroo-ga semeteiru-no-ga kikoe-ta

everyone Taro-Nom blaming-Gen-Nom can.hear-Past

'I could hear Taro blaming everyone.'

b. * *Zenbu* Hanako-ga yomu-no-wa hukanoo-da

everything Hanako-Nom read-Gen-Top impossible-be

'It is impossible for Hanako to read everything.'

c. * *Zen'in* Taroo-ga sidoositeiru-tokoro-ga mie-ta

everyone Taro-Nom supervise-Comp-Nom can.see-Past

'I could see Taro supervising everyone.'

As shown in (17) and (18), Caseless *zen*-QPs cannot be scrambled to the pre-subject position of a description clause, whereas they can occur in the post-subject position. In contrast to Caseless *zen*-QPs, they can be scrambled to the pre-subject position of description clauses if they are attached by a Case-particle:

(19) a. *Zen'in-o* Taroo-ga semeteiru-no-ga kikoe-ta

everyone-Acc Taro-Nom blaming-Gen-Nom can.hear-Past

'I could hear Taro blaming everyone.'

b. *Zenbu-o*   Hanako-ga   yomu-no-wa   hukanoo-da

    everything-Acc Hanako-Nom read-Gen-Top impossible-be

    'It is impossible for Hanako to read everything.'

c. *Zen'in-o*   Taroo-ga   sidoositeiru-tokoro-ga mie-ta

    everyone-Acc Taro-Nom supervise-Comp-Nom can.see-Past

    'I could see Taro supervising everyone.'

Zen-QPs with a Case-particle may or may not be driven by the topic feature to [Spec, TP]. This allows them to be scrambled to the pre-subject position of a description clause. Caseless *zen*-QPs, on the other hand, need to be licensed by the topic feature when scrambled to the pre-subject position and hence cannot be scrambled to the pre-subject position in description clauses.   This is the source of the difference between (18) and (19).

In sum, we have shown that those QPs that only undergo the topic-triggered scrambling, but not the semantically vacuous scrambling, must take wide scope.   This correlation between the obligatory application of topic-triggered scrambling and the obligatory wide scope in the scrambled position strongly suggests that it is the topic feature that determines the scope of a scrambled QP.

7.4   Justifying the Order Constraint on the Topic and the Focus Feature

We have accounted for the obligatory wide scope of preposed Caseless *zen*-QPs by means of the order constraint on the topic and the focus feature, which we proposed in Chapter 5, but have not provided a piece of independent evidence for it:

(20) A topic and a focus feature may not be in the following configuration in a single TP:

    * [$_{TP}$ [focus] [[topic] [...]]]

(where [focus] and [topic] represent a feature on either an overtly-moved or covertly-moved constituent) (= (13))

Where does this constraint come from? Indeed there are independent pieces of evidence for the inherent hierarchical relation of the topic and the focus feature. It has been observed that a topic and a focus constituent in the CP-domain are subject to a restriction on their order. Firstly, Gungbe has the overt topic marker *yà* and the overt focus marker *wɛ*. The constituents that these markers are attached to must be arranged in a fixed order:

(21) Gungbe

    a. Ùn nywɛn dò Sɛtù yà   MÀRÍ wɛ é   dà.

        1sg know that Setu Top Mary Foc 3sg marry

        'I know that, as for Setu, he married MARY.'

    b. * Ùn nywɛn dò Màrí wɛ Sɛtù yà é dà

                       (Aboh (2004) (cited in Haegeman (2009) and Rizzi (2014)))

As shown in (21), the constituent with the topic marker *Sɛtù yà* must precede the one with the focus marker *MÀRÍ wɛ*. If the order of these constituents are reversed, the sentence is ungrammatical, as in (21b).

    The order restriction is also found in English, as shown in (22):

(22) a. This book to ROBIN I gave.

    b. * To ROBIN this book I gave.

                     (Culicover (1991) (cited in Haegeman (2009)))

In both examples in (22) the two constituents *this book* and *to Robin* are topicalized, where

this book serves as the topic while *to Robin* is intended to have a focus interpretation.   The

order of these constituents obey the same constraint as the topic and the focus phrases in the

Gungbe examples in (21):   The topic (*this book*) must precede the focus (*to ROBIN*).

These facts suggest that the functional projections and the relevant features in these

projections in the CP-domain that are responsible for topic and focus interpretation have an

inherent hierarchical order, as illustrated in (23):

(23) [$_{TopP}$ this book$_i$ Top   [$_{FocP}$ to ROBIN$_j$ Foc   [$_{TP}$ I gave t_i t_j]]]
         [TOPIC]   **[FOCUS]**

Recall that the topic and the focus feature are assumed to originate in the CP-domain and to

be inherited to T (Miyagawa (2010)).   If the hierarchical order of the topic and the focus

features in the CP-domain reflects the inherent relation between these features, it is reasonable

to assume that the topic and the focus feature inherited to the TP-domain must obey the same

hierarchical order that they do in the CP-domain.[4]

7.5   Summary of Chapter 7

This chapter has discussed the syntactic and semantic properties of Caseless *zen*-QPs

and characterized them as constituting a different class of QPs from Type 1 and Type 2 QPs .

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[4] It may be argued that the same restriction governs the interpretations of the discourse topic *wa*.
Kuno (1973) shows that two occurrences of constituents with *wa* are subject to a constraint on their
interpretation:

(i)   Watasi-wa tabako-wa   sui-mas-u
        I-Top   tabacco-Top smoke-Pol-Pres
        'Speaking of myself, I dó smoke.'   (Kuno (1973))

Kuno points out that only the first occurrence of *wa* (*watasi-wa*) may have a thematic interpretation
whereas the second *wa*-phrase only has a contrastive reading.   If the thematic and the contrastive
interpretation of *wa* may be regarded as a subcase of topic and focus, the restriction on the order of
wa-phrases in (i) lends support to the hierarchical order of topic and focus.

We have pointed out that Caseless *zen*-QPs take obligatory wide scope when scrambled and

that they undergo only the topic-driven scrambling. This correlation strengthens our

proposal in Chapter 4 that the topic feature determines the scope of a scrambled QP.

Chapter 8

Two Notes on the Scope of NP-FQs

8.1 Introduction

In this chapter we discuss two facts about the scope of NP-FQs that pose a problem to our analysis. Our proposal in the preceding chapters has predicted that NP-FQs take narrow scope in the following two cases. The first case is one where an NP-FQ with a strong quantifier is scrambled to the left of the subject QP. We have predicted that this scrambled NP-FQ cannot take wide scope over the subject QP since an NP-FQ may only take scope at its original thematic position. However, there is a variation in the judgment on the scope of this scrambled NP-FQ.

The second case involves an object NP-FQ and negation. We have predicted that an object NP-FQ can only take narrow scope under negation since the object NP-FQ's SI head, its original position, does not c-command negation. Contrary to this prediction, however, it is possible to understand an NP-FQ in the object position to have wide scope over negation.

In this chapter, we tackle these two problems and suggest a solution for each of them.

8.2 On the Scope of Floated Strong Quantifiers

In Chapter 2 we noted that NP-FQs with a floated strong quantifier such as *subete* 'every' and *hotondo* 'most' exhibit the same scope behavior as NP-FQs with a floated weak quantifier such as numerals: They do not take wide scope over a subject QP even if they are scrambled to the left of the subject:

(1) a. *Subete-no ronbun-o   san-nin-no hito-ga*   yon-da

every-Gen paper-Acc 3-Cl-Gen   person-Nom read-Past

[ambiguous: $\forall > 3, 3, > \forall$]

b. *Ronbun-o subete san-nin-no hito-ga*   yon-da

paper-Acc every 3-Cl-Gen   person-Nom read-Past

[unambiguous: $*\forall > 3, 3, > \forall$]

We have accounted for this fact by saying that NP-FQs with a floated strong quantifier are

Type 2 QPs so that they do not have the topic feature so that [Spec, TP] is not available as its

SI head.   Indeed, the following fact suggests that an NP-FQs with a floated strong quantifier

does not undergo scrambling by the topic feature:

(2) a. *Subete-no ronbun-o   zen'in-ga*   yom-*anakat*-ta

every-Gen paper-Acc everyone-Nom read-Neg-Past

[ambiguous: $\forall > \text{Neg}, \text{Neg}, > \forall$]

b. *Ronbun-o subete zen'in-ga*   yom-*anakat*-ta

paper-Acc every everyone-Nom read-Neg-Past

[unambiguous: $\forall > \text{Neg}, ??\text{Neg}, > \forall$]

While the scrambled Type 1 QP *subete-no ronbun-o* allows the subject *zen'in* to take narrow

scope under negation, the scrambled NP-FQ in (2b) does not allow this reading (Neg $> \forall$).

Thus the unavailability of the Neg $> \forall$ reading in (2b) is accounted for by appealing to the

unavailability of the topic feature for the scrambled NP-FQ in (2b).

However, the judgment on the readings of sentences involving a scrambled floated

strong quantifier does not seem to be uniform across speakers.   One speaker has judged a

scrambled floated strong quantifier to be able to take wide scope over the subject QP, in

contrast to a scrambled floated weak quantifier such as *san-nin* (3-Cl), although the

possibility of the wide scope reading of a floated strong quantifier is somewhat degraded

when compared to that of a prenominal one.   If so, how can we account for this variability of

judgment for floated strong quantifiers?

One difference between strong and weak floated quantifiers is that a floated strong

quantifier may be associated with an overtly definite NP:

(3)   Sorera-no gakusei-ga   subete ki-ta

        those-Gen student-Nom every come-Past

        'Those students all came.'

If so, we may say that there is a possibility for some speakers that a scrambled NP-FQ with a

floated strong quantifier is allowed to be licensed by the topic feature on T to be moved into

[Spec, TP].   In other words, the scrambled object NP-FQ in (2b) may utilize [Spec, TP] as its

SI head in the grammar of these speakers.   This accounts for the availability of the wide

scope of the scrambled object in (2b) for some speakers.

8.3   On Wide Scope of NP-FQ Over Negation

In Chapter 4 we observed that an object NP-FQ, a Type 2 QP, may take wide scope over

negation:

(4)   a.   Sensei-wa   *gakusei-o   san-nin* seme-*nakat*-ta

              teacher-Top student-Acc 3-Cl   blame-Neg-Past

              'The teacher did not blame three students.'

              [ambiguous: 3 > Neg, Neg > 3]

b. Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-*nakat*-ta

police-Top fugitive-Acc 3-Cl(-or.more) arrest-Neg-Past

'The police did not arrest three (or more) fugitive criminals.'

[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

While sentence (4a) is interpreted to mean that the number of the students that I blamed is less than three (Neg > 3), it is also possible to interpret it to mean that there are three students that I did not blame (3 > Neg).   The wide scope of the object NP-FQ seems to be more easily obtained in (4b).   While (4b) may be interpreted to mean under its Neg > 3 (or more) reading that the police arrested less than three fugitive criminals (or three or less fugitive criminals in the case of *san-nin-izyoo*), it may also mean that three (or more) fugitive criminals are such that they were not arrested by the police.

If the wide scope reading of the object NP-FQ over negation is possible, this fact constitutes a counterexample if we maintain that NP-FQs, which are Type 2 QPs, may not bear the focus feature so that they must take scope only in their underlying (thematic) position and thus may not c-command negation.   How can we solve this problem?

One possible solution would be to say that the covert movement of the focus feature applies to NP-FQs, as well as to Type 1 QPs.   Then it would be possible to account for the wide scope of the object NP-FQ in (4) since the object may launch the focus feature, which is raised over negation to give the object a wide scope.

However, there are difficulties with this solution.   The first difficulty is a theoretical one.   The topic and the focus feature are both characterized as discourse-related features. Furthermore, these two features have an identical syntactic property: They are both inherited to T from the CP-domain and trigger movement of a relevant constituent to [Spec, TP].   Therefore, saying that these features may be borne by two syntactically different

groups of QPs, one by Type 1 QPs only and the other by Type 1 QPs and NP-FQs, would not enable us to maintain one important generalization about movement by CP-related features: Movement of a DP by a CP-related syntactic feature, whether it is the WH, the topic or the focus feature, may only apply to those DPs whose [Spec, DP] is filled (Chapters 2 and 4).

The second problem is an empirical one. The application of the covert focus movement to Type 2 QPs would lead us to a wrong prediction with respect to the inverse scope of QPs in the order Subject-Object. As we have seen in Chapter 5, an object QP in the canonical order Subject-Object may take inverse scope over the subject in the environment where the subject lacks the topic feature.

(5) a. *At the venue of the summit conference,*

    Hutari-no keikan-ga   subete-no yoozin-o goeisure-ba mondai-wa

    2.Cl-Gen police.officer-Nom every-Gen VIP-Acc guard-if   problem-Top

    oki-nai-hazuda

    arise-Neg-should

    'If two police officers guard every VIP, no problem should arise.'

    [ambiguous: $2 > \forall$, $\forall > 2$]

   b. *The group of burglars were chased by the police, and finally*

    Hutari-no keikan-ga   hanbun-izyoo-no otoko-o kumihuseteiru-no-ga

    2.Cl-Gen police.officer-Nom half-more-Gen   man-Acc hold.down-Gen-Nom

    mieta

    could.see

    'I could see two police officers holding down half or more of the men.'

    [ambiguous: 2 > half or more, half or more > 2]

c. *San-nin-no sensei-ga   subete-no gakusei-o*   sidoosuru-no-wa

3-Cl-Gen   teacher-Nom every-Gen student-Acc supervise-Gen-Top

hukanoo-da/muzukasii

impossible-be/difficult

'It is impossible/difficult for three professors to supervise every student.'

[ambiguous: 3 > ∀, ∀ > 3]

The object QPs involved in these examples are all Type 1 QPs. If we replace the object QPs with NP-FQs in these examples, it is impossible to have the inverse scope reading:

(6)   *Hutari-no keikan-ga   yoozin-o san-nin/subete* goeisure-ba mondai-wa

2.Cl-Gen police.officer-Nom VIP-Acc 3-Cl/every   guard-if   problem-Top

oki-nai-hazuda

arise-Neg-should

'If two police officers guard every VIP, no problem should arise.'

[unambiguous: 2 > 3/∀, *3/∀ > 2]

b. *Hutari-no keikan-ga   otoko-o hanbun-izyoo*   kumihuseteiru-no-ga

2.Cl-Gen police.officer-Nom man-Acc half-or.more hold.down-Gen-Nom

mieta

could.see

'I could see two police officers holding down half or more of the men.'

[ambiguous: 2 > half or more, *half or more > 2]

c. *San-nin-no sensei-ga   gakusei-o   go-nin/subete* sidoosuru-no-wa

3-Cl-Gen   teacher-Nom student-Acc 5-Cl/every   supervise-Gen-Top

hukanoo-da/muzukasii

impossible-be/difficult

'It is impossible/difficult for three professors to supervise every student.'

[ambiguous: 3 > 5/∀, *5/∀ > 3]

If the covert focus movement is responsible for the inverse wide scope of the object QP in (5), as we have proposed, the examples in (6) would all be predicted to have an inverse scope reading as well, if we assumed that the covert focus movement applied to the object NP-FQs when they have a presuppositional reading.   This prediction is not borne out, however, since the examples in (6) are all felt to be unambiguous with the Subject > Object the only reading. Thus we cannot say that NP-FQs may undergo the covert focus movement.

Still another empirical problem for the assumption that the covert focus movement applies to NP-FQs is posed by the following facts.   Consider:

(7) a.   Keisatu-wa [*PRO san-nin(-izyoo)-no   tooboohan-o* taihosi-yoo to(-wa)]

police-Nom   3-Cl(-or.more)-Gen fugitive-Acc arrest-Mod   Comp(-Top)

omow-*anakat*-ta

think-Neg-Past

'The police did not think of arresting three (or more) fugitive criminals.'

[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

b.   Keisatu-wa [*PRO tooboohan-o san-nin(-izyoo)* taihosi-yoo to(-wa)]

police-Nom   fugitive-Acc 3-Cl(-or.more) arrest-Mod   Comp(-Top)

omow-*anakat*-ta

think-Neg-Past

[unambiguous: *3 (or more) > Neg, Neg > 3 (or more)]

(7a) is ambiguous between the wide scope and the narrow scope of the object QP with respect to negation.   It may be taken to mean that there are three (or more) fugitive criminals that the police were not going to arrest (3 (or more) > Neg), or that the police thought of only arresting less than three (or three or less) fugitive criminals (Neg > 3 (or more)).   In contrast, (7b) is felt to lack the wide scope reading of the object NP-FQ.   It does not seem to convey that three (or more) fugitives are such that the police did not think of arresting them.

In Chapter 4, we proposed to account for the "long-distance" wide scope of the object QP out of a non-finite complement clause over the matrix negation by saying that the covert focus movement, as well as the overt movement by the topic feature, may apply across the clause boundary of a non-finite complement clause.   Since (7a) involves a QP with a prenominal quantifier, it can be a Type 1 QP.   If the focus feature of this QP is moved to the matrix TP over negation, it gives rise to the wide scope of the object QP (3 (or more) > Neg).   If not, the QP has narrow scope under negation.   If the focus movement were to apply to the NP-FQ, we would predict that (7b) was ambiguous between these two readings.   That fact that (7b) is not ambiguous tells us that the NP-FQ does not undergo the covert focus movement.

Now if it is not the covert focus movement that gives wide scope to the object NP-FQ in (4), what is it that makes it possible for the object NP-FQ to take scope over negation?   For answering this question, there are two significant points to take into consideration with respect to the scope of an object NP-FQ.

The first point that has to be taken into consideration has to do with the correlation between the possibility of wide scope and the particular semantic property of object NP-FQs. Consider (4) again:

(8)   a.   Sensei-wa *gakusei-o   san-nin* seme-*nakat*-ta

            teacher-Top student-Acc 3-Cl   blame-Neg-Past

            'The teacher did not blame three students.'

            [ambiguous: 3 > Neg, Neg > 3]

       b.   Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-nakat-ta

            police-Top fugitive-Acc 3-Cl(-or.more)   arrest-Neg-Past

            'The police did not arrest three fugitive criminals.'

            [ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]   (= (4))

While the NP-FQ in (8) may indeed take wide scope over negation, there is one condition for the wide scope reading of the object NP-FQ: The wide scope of the object NP-FQ in (8) is possible only if the NP-FQ has a presuppositional reading.   That is, *gakusei-o san-nin* is allowed to take wide scope in (8) only if it is forced to refer to three students in the particular set of students that the speaker has in mind.   The presuppositional reading is more easily obtained in the case of *tooboohan-o* in (8b), where the referents of the nominal *tooboohan-o* can be easily associated with a particular event and hence can be easily identified as a particular set of fugitive criminals in the speaker's mind.[1]

    The correlation of the presuppositionality of an NP-FQ with its possibility of wide scope over negation is strongly suggested by the following pieces of evidence.   To begin with, compare the following examples, which we discussed in Chapter 3:

(9)   a.   Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-ta

            police-Top fugitive-Acc 3-Cl(-or.more)   arrest-Past

---

[1] The point to this effect is made in Ishii (1997, 1998).   Ishii ascribes the presuppositionality of such an NP-FQ as in (4b) to the event argument involved in the head nominal.   See Ishii (1997, 1998) for a brief discussion on this point.

'The police arrested three fugitive criminals.'

[✓ presuppositional, ✓ nonpresuppositional]

b. Keisatu-wa *san-nin(-izyoo) tooboohan-o* taihosi-ta

police-Top 3-Cl(-or.more)   fugitive-Acc arrest-Past

[*presuppositional, ✓ nonpresuppositional]   (= (45) of Chapter 3)

As we have observed in Chapter 3, (9b) lacks the presuppositional reading present in (9a). The object NP-FQ in (9b) cannot be interpreted to refer to a subset of a particular set of fugitive criminals established in the discourse: It only refers to three fugitive criminals newly introduced in the discourse.   That is, the reversed NP-FQ in (9b) may only have a nonpresuppositional interpretation.   Interestingly, this interpretive possibility seems to be correlated with scope interpretation.   Consider the following examples:

(10) a. Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-*nakat*-ta

police-Top fugitive-Acc 3-Cl(-or.more)   arrest-Neg-Past

'The police did not arrest three or more fugitive criminals.'

b. Keisatu-wa *san-nin(-izyoo) tooboohan-o* taihosi-*nakat*-ta

police-Top 3-Cl(-or.more) fugitive-Acc arrest-Neg-Past

'The police did not arrest three (or more) fugitive criminals.'

As we have observed in Chapter 4, while (10a) sounds ambiguous, it seems difficult, if not impossible, for (10b) to have the wide scope reading of the object NP-FQ: (10b) seems to mean only that the police arrested less than three (or three or less) fugitive criminals, which is the narrow scope reading of the NP-FQ.   Thus, the relevant generalization is that an NP-FQ may take scope over negation only under its presuppositional reading.

The second important point about the scope property of the object NP-FQ is that an object NP-FQ may take wide scope over another QP when it undergoes "short scrambling" to a post-subject position.   Consider:

(11) a. *Ms. Yamada works at a lawyer's association.   Her job is to introduce lawyers of*

        the association to clients.

        Yamada-san-ga   *hutari-no syozoku-bengosi-o   subete-no   iraisya-ni* t_i

        Yamada-Ms.-Nom 2.Cl-Gen belonging-lawyer-Acc every-Gen client-Dat

        syookaisi-ta

        introduce-Past

        'Ms Yamada introduced two lawyers belonging to the association to every client.'

        [ambiguous: $2 > \forall$, $\forall > 2$]

    b. *The police checked the surveillance cameras equipped throughout the city to find*

        where the fugitives had gone.

        Keisatu-ga   *san-nin-no tooboohan-o subete-no kansi-kamera-de* t_i

        police-Nom 3-Cl-Gen   fugitive-Acc every-Gen surveillance-camera-with

        kakuninsi-ta

        confirm-Past

        'The police found three fugitive criminals with every surveillance camera.'

        [ambiguous: $3 > \forall$, $\forall > 3$]

(12) a. *In the same context as (11a).*

        Yamada-san-ga   *syozoku-bengosi-o   hutari subete-no   iraisya-ni* t_i

        Yamada-Ms.-Nom belonging-lawyer-Acc 2.Cl   every-Gen client-Dat

syookaisi-ta

introduce-Past

'Ms Yamada introduced two lawyers belonging to the association to every client.'

[ambiguous: $2 > \forall$, $\forall > 2$]

b. *In the same context as (11b).*

Keisatu-ga *tooboohan-o san-nin subete-no kansi-kamera-de t_i*

police-Nom fugitive-Acc 3-Cl   every-Gen surveillance-camera-with
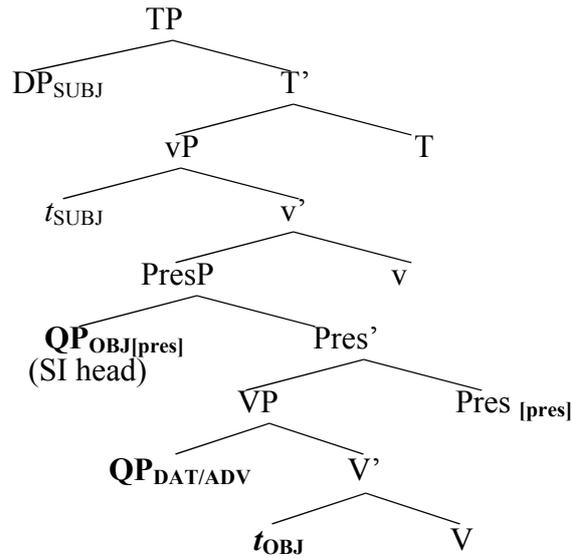
kakuninsi-ta

confirm-Past

'The police found three fugitive criminals with every surveillance camera.'

[ambiguous: $3 > \forall$, $\forall > 3$]

As we see in (11), a short-scrambled object QP may take either wide or narrow scope with

respect to another VP-internal QP (Hoji (1985) among others).   Interestingly, a short

scrambling may also allow the wide scope of an NP-FQ, as we see in (12).   This is in

contrast to the scrambling of an NP-FQ to the pre-subject position, in which case the

scrambled NP-FQ may not take scope over the subject, as we have already observed:[2]

---

[2] It is interesting to note that Shibata (2015) points out a parallel difference between the pre-subject
and the post-subject object with respect to the binding of a pronominal by an NP-FQ:

(i)   a. *?[Kaisya-o   mit-tu-izyoo]$_i$ [soko$_i$-no syain-ga] t_i hihansi-ta
         company-Acc 3-Cl-or.more   it-Gen   employee-Nom criticize-Past
         Lit. 'Three or more companies, its employee(s) criticized.'
      b. Taroo-ga [kaisya-o   mit-tu-izyoo]$_i$ soko$_i$-no syanai-de   hihansi-ta
         Taro-Nom company-Acc 3-Cl-or.more it-Gen   in.building-in criticize-Past
         'Taro criticized three or more companies in its building.'

As we discussed briefly in Chapter 4, Shibata shows that the pre-subject scrambling of an NP-FQ can
only be a semantically vacuous movement, which is an instance of A'-movement.   This is suggested
by the impossibility of pronominal binding in (ia).   On the other hand, he also shows that an NP-FQ
may bind a pronominal in the post-subject domain ((ib)), which suggests that there is an A-position
available for an object NP-FQ and that this post-subject A-position is a Case-position for the object.
See Shibata (2015) and our discussion on this point in Chapter 4.   This asymmetry in the availability

(13) a. *Huta-tu-no booru-o* daremo-ga ket-ta.

2-Cl-Gen ball-Acc everyone-Nom kick-Past

'Everyone kicked two balls.'

[ambiguous: ∀ > 2, 2 > ∀]

b. *Booru-o huta-tu* daremo-ga ket-ta.

ball-Acc 2-Cl everyone-Nom kick-Past

'Everyone kicked two balls.'

[unambiguous: ∀ > 2, *2 > ∀] (= (4) of Chapter 2)

However, it is not the case that *just any* NP-FQ may take wide scope. As the following examples tell us, a reversed NP-FQ may not take wide scope where a non-reversed NP-FQ may.

(14) a. *In the same context as (11a)*.

Yamada-san-ga *hutari syozoku-bengosi-o subete-no iraisya-ni t*$_i$

Yamada-Ms.-Nom 2.Cl belonging-lawyer-Acc every-Gen client-Dat

syookaisi-ta

introduce-Past

'Ms Yamada introduced two lawyers belonging to the association to every client.'

[unambiguous: ??2 > ∀, ∀ > 2]

b. *In the same context as (11b)*.

---

of an A-position for an NP-FQ in the pre-subject on one hand and one in the post-subject position accords with our analysis that will be presented shortly in this section.

Keisatu-ga *san-nin tooboohan-o subete-no kansi-kamera-de t*ᵢ

police-Nom 3-Cl fugitive-Acc every-Gen surveillance-camera-with

kakuninsi-ta

confirm-Past

'The police found three fugitive criminals with every surveillance camera.'

[unambiguous: ??3 > ∀, ∀ > 3]

Recall that reversed NP-FQs may only have a nonpresuppositional reading, as we observed above. Then the relevant generalization is that in the post-subject domain, only presuppositional QPs, including NP-FQs, may take wide scope. Then the question is why does the NP-FQ behave differently with respect to scope in these two types of scrambling.

In the previous chapters we have ascribed the impossibility of the wide scope of the scrambled NP-FQ to its incompatibility with the topic feature: An NP-FQ cannot bear the topic feature and thus cannot move to [Spec, TP], which makes it impossible for the NP-FQ to utilize [Spec, TP] as its SI head. If this analysis of the scope property of scrambled Type 1 and Type 2 QP is on the right track, the facts in (12) suggest the existence of an SI head in the post-subject domain for the short-scrambled object. Moreover, the fact that a reversed NP-FQ may not take wide scope over another QP suggests that this post-subject SI head is only for presuppositional QPs, irrespective of the Type 1/2 distinction of QPs. Then, what is this SI head like? One conceivable analysis, which we would like to pursue, is to posit a functional projection, call it Pres(uppositional)P, in the post-subject domain, between the vP and the VP projection, as below:

(15)

```
                        TP
                  ┌──────┴──────┐
              DP_SUBJ           T'
                           ┌─────┴─────┐
                          vP            T
                     ┌─────┴─────┐
                  t_SUBJ         v'
                            ┌─────┴─────┐
                          PresP          v
                      ┌─────┴─────┐
              QP_OBJ[pres]       Pres'
                (SI head)   ┌─────┴─────┐
                           VP          Pres [pres]
                      ┌─────┴─────┐
                  QP_DAT/ADV      V'
                             ┌─────┴─────┐
                           t_OBJ          V
```

If the object moves to [Spec, PresP], it takes scope there since this position is the SI head for the moved presuppositional QP, whether it is of Type 1 or of Type 2. A nonpresuppositional QP, such as a reversed NP-FQ, cannot utilize this position since the feature [pres] attracts presuppositional QPs, but not nonpresuppositional QPs. Thus even when a nonpresuppositional QP is scrambled over another QP to the post-subject domain, it cannot be a movement to [Spec, PresP], but an instance of a semantically vacuous movement on a par with A'-movement to the pre-subject position. Then the SI head for a nonpresuppositional QP is only identified as its original thematic position. This accounts for the obligatory narrow scope of the reversed NP-FQ in (14).

In addition to the existence of the functional projection PresP in the post-subject domain, the other assumption that we adopt is that there are two distinct syntactic positions for negation in Japanese, one between the TP and the vP projection, as we have assumed throughout the previous chapters, and the other between the vP and the VP projection. The idea that there is more than one position for negation has been entertained by some linguists (Takubo (1985), Kataoka (2006), Kishimoto (2007, 2008)), although the precise syntactic locations for negation vary among them. Here we assume that there is a lower negative
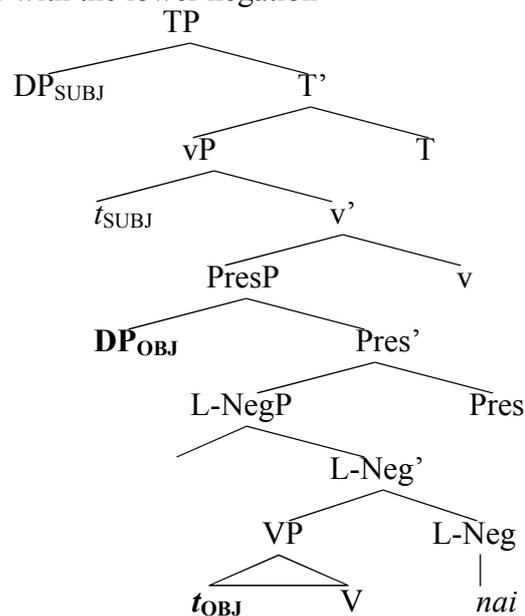
projection lying immediately above VP (Homma (1998), Han, Storoshenko and Sakurai (2004) (cited in Shibata (2015)), which we represent as L(ower)-NegP, in addition to the negative projection immediately above vP that we have assumed throughout the previous chapters.

If we combine the above two assumptions, the structure of a negative sentence in Japanese is represented either as (16a) or (16b):

(16) a. a sentence with the higher negation

```
                    TP
              ┌──────┴──────┐
           DP_SUBJ          T'
                     ┌───────┴───────┐
                   NegP              T
              ┌─────┴──────┐
                         Neg'
                    ┌──────┴──────┐
                   vP            Neg
              ┌─────┴─────┐       │
           t_SUBJ        v'      nai
                    ┌─────┴─────┐
                  PresP         v
              ┌─────┴─────┐
         DP_OBJ[pres]    Pres'
                    ┌──────┴──────┐
                   VP           Pres [pres]
               ┌───┴───┐
             t_OBJ     V
```
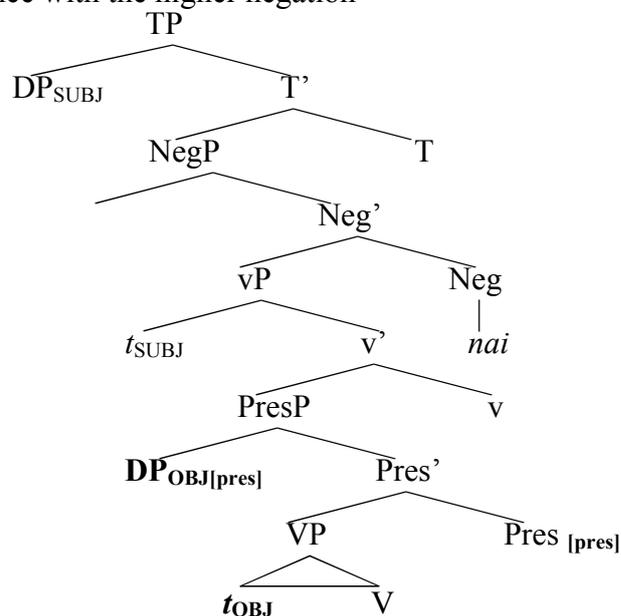
   b. a sentence with the lower negation

```
                    TP
              ┌──────┴──────┐
           DP_SUBJ          T'
                     ┌───────┴───────┐
                    vP              T
              ┌─────┴─────┐
           t_SUBJ        v'
                    ┌─────┴─────┐
                  PresP         v
              ┌─────┴─────┐
           DP_OBJ       Pres'
                    ┌──────┴──────┐
                 L-NegP          Pres
              ┌─────┴─────┐
                        L-Neg'
                    ┌──────┴──────┐
                   VP           L-Neg
               ┌───┴───┐          │
             t_OBJ     V         nai
```

Now we are able to account for why the object NP-FQ may take wide scope over

negation in (4):

(17)   a. Sensei-wa   *gakusei-o   san-nin* seme-*nakat*-ta

teacher-Top student-Acc 3-Cl   blame-Neg-Past

'The teacher did not blame three students.'

[ambiguous: 3 > Neg, Neg > 3]

b. Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-nakat-ta

police-Top fugitive-Acc 3-Cl(-or.more) arrest-Neg-Past

'The police did not arrest three fugitive criminals.'

[ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]   (= (4))

If the object NP-FQ has a presuppositional interpretation, the [pres] feature on Pres drives the

movement of the NP-FQ into [Spec, Pres].   This movement occurs string-vacuously in the

examples in (17).   If the sentence has its negation in the higher negative projection NegP as

in (16a), the sentence has the Neg > QP reading, since the object QP is asymmetrically

c-commanded by negation.   When negation lies in the lower negative projection L-NegP as

in (16b), the object NP-FQ takes wide scope since the object in [Spec, PresP] c-commands

negation.

On the other hand, a necessarily nonpresuppositional QP such as *san-nin gakusei-o* may

not undergo the movement driven by [pres].   It may either stay in its original position or

undergo a semantically vacuous movement.   Since a nonpresuppositional QP cannot utilize

[Spec, PresP], its SI head may only be its original thematic position, the sister of V.   Thus,

whether the sentence has the higher or the lower negation, a nonpresuppositional object QP

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may only take narrow scope under negation.[3]

Now we have suggested a solution to the question of why an object NP-FQ may take wide scope over negation. In some examples, however, the object NP-FQ has difficulty in taking scope over negation. Consider:

(18) a.   Hanako-wa *hon-o   ni-satu* kaw-*anakat*-ta

Hanako-Top book-Acc 2-Cl   read-Neg-Past

'Hanako did not read three books/'

[unambiguous: ??2 > Neg, Neg > 2]

  b.   John-ga *enpitu-o   san-bon*   kaw-*anakat*-ta

John-Nom pencil-Acc 3-Cl buy-Neg-Past

'John did not buy three pencils.'

[unambiguous: *3 > Neg, Neg > 3]   ((18b) from Hasegawa (1993))

Why are these examples unambiguous? We would like to suggest that the wide scope of the object (2/3 > Neg) in (18) is grammatically possible but absent due to the oddness of the situation that this reading would depict. For the object NP-FQ to take wide scope, it is necessary for it to have a presuppositional reading, but it is somewhat difficult to imagine a situation in which a person is buying two books out of a particular set of books. However, imagine a situation where Hanako was asked by someone to buy all the books in the list of books, but she could not buy all of them because she did not have enough money. She

---

[3] There is one complicating factor that seems to be involved in the scope of reversed NP-FQ. The wide scope of the object in (10b), for example, seems possible if the numeral *san-nin(-izyoo)* is read with a falling tone and followed by a pause immediately after it (Yoshio Endo (personal communication)). Since phonological prominence is usually associated with a focused constituent in general, one conceivable explanation of this wide scope reading is to say that the numeral *san-nin* undergoes the focus movement when it has phonological prominence. However, I will leave the precise mechanism of this extra application of the focus feature outside the scope of this work.

managed to buy eight books in the list of ten books, but the other two books were left unpurchased.   If we imagine this situation for (18a), it is possible to interpret the object NP-FQ presuppositionally and sentence (18a) sounds acceptable with the 2 > Neg reading. Similarly, sentence (18b) is also odd with the 3 > Neg reading for a pragmatic reason.   It is difficult to imagine one buying three particular pencils out of a set of pencils whose existence is presupposed in the speaker's mind.

8.4   Summary of Chapter 8

In this chapter we have suggested solutions to the two problems posed at the outset concerning the scope properties of two types of NP-FQ.   Firstly, we have attempted to capture the variation in the judgment on the scope of strong NP-FQs by suggesting the possibility that for some speakers the host NP of a strong NP-FQ has the topic feature to be licensed in [Spec, TP].   This option for strong NP-FQs allows some speakers to interpret a scrambled strong NP-FQ to take wide scope over another QP.   Secondly, we have attempted to account for the possibility of an object NP-FQ taking wide scope over negation.   We have proposed that an object QP, whether it is a Q-NP or a NP-FQ, may be moved to the Spec of the functional projection Pres(uppositional)P when the QP has a presuppositional interpretation.   We have also assumed the two different positions for negation: one between TP and vP and the other between vP and VP.   Thus a presuppositional object NP-FQ, as well as a presuppositional Q-NP, is moved over the lower negation, the negation between vP and VP, to [Spec, PresP].   This allows the moved object NP-FQ to take scope over negation and other VP-internal QPs.

Chapter 9

Conclusion

In this thesis we have discussed the syntactic factors that determine quantifier scope in Japanese and English. We have identified two kinds of syntactic determinant of quantifier scope, one internal to the QP itself and the other external to the QP.

In Chapter 2 we have examined two approaches to the QP-internal factor that determines QP scope. One approach, as in Dieting (1992) and Homma et al. (1992), claims that the application of the rule that gives wide scope to a QP is constrained by the semantics of the QP: The relevant rule applies to presuppositional QPs, but not to nonpresuppositional QPs. We have argued against this approach and proposed that it is the syntactic structure of a QP, not the semantic property of it, that determines the scope of the QP. Specifically, the relevant QP-internal factor that determines QP scope is the structural position of a quantifier in a QP. QPs with a quantifier in [Spec, DP] may take wide scope, but those without one in [Spec, DP] may not. We have argued for this constraint based on the observation that only narrow scope is possible with QPs with a floated quantifier, as in (1a), and those QPs with a quantifier preceded by a modifier as in (1b):

(1) a. *Booru-o huta-tu* daremo-ga   ket-ta.

     ball-Acc 2-Cl   everyone-Nom kick-Past

     'Everyone kicked two balls.'

     [unambiguous: $\forall > 2$, $*2 > \forall$]

  b. *Akai san-dai-no kuruma-o daremo-ga*   mokugekisi-ta

     red 3-Cl-Gen   car-Acc   everyone-Nom witness-Past

Lit. 'Three red cars, everyone witnessed'

[unambiguous: ∀ > 3, *3 > ∀]

In Chapter 3 we have discussed the relation between the syntactic position of a quantifier inside a QP and the presuppositionality of the QP.   We have reached the conclusion that the semantic property of (non)presuppositionality of a QP and the syntactic structure of the QP are not necessarily in a one-to-one relation.   A QP is interpreted presuppositionally if the QP has a quantifier in [Spec, DP], but a presuppositional interpretation may also be yielded if the QP has a quantifier in another position.   This conclusion gives support to the analysis in Chapter 2.

In Chapter 4 we have shifted our focus to external syntactic determinants of QP scope. We have proposed that the scope of a QP is determined in the particular syntactic position that the QP occupies.   We have called this particular position the *SI head*, the topmost position of a chain of *SI positions*, which are defined as these positions where a "semantic" grammatical feature called an *SI feature* is licensed.   One SI feature has been identified as the topic feature in the sense of Miyagawa (2010).   Thus if a QP is scrambled by the topic feature, the scope of the QP is determined in the position where it is licensed by this feature. Another type of SI head is the position where a thematic role is assigned to a QP.   Thus unless a QP is not licensed by an SI feature, the position where it is assigned a thematic role is its SI head.

(2) a.   [$_{TP}$ QP$_{OBJi}$ [$_{vP}$ QP$_{SUBJ}$ [$_{vP}$ t_i V]]]
           [topic]   **[θ]**   **[θ]**

     b.   [$_{TP}$ QP$_{OBJi}$ [$_{TP}$ QP$_{SUBJ}$ [$_{vP}$ t_j [$_{vP}$ t_i V]]]
                            [topic]   **[θ]**   **[θ]**

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In (2a), the scrambled object QP is licensed by the topic feature in [Spec, TP].   In this case [Spec, TP] is the scope position for the scrambled QP.   Since it c-commands the subject QP, this configuration dictates that the object take scope over the subject.   In the alternative derivation in (2b) it is the subject but not the object that is driven by the topic feature.   In this case the object must take scope in its original position, the position where it is assigned a θ-role.   This captures the scope ambiguity of a sentence with QPs in the order Object – Subject.

Another feature that serves as a determinant of QP scope is the focus feature, which we have proposed to move covertly to [Spec, TP], in a way parallel to the topic feature.   This accounts for the availability of wide scope of the object QP over negation:

(3)   Taroo-wa *san-nin-no gakusei-o*   seme-*nakat*-ta

        Taro-Top 3-Cl-Gen   student-Acc blame-Neg-Past

        'Taro did not blame three students.'

        [ambiguous: 3 > Neg, Neg > 3]

The object QP may launch the covert movement of the focus feature.   If the focus feature movement occurs, the feature moves to [Spec, TP].   This configuration yields the wide scope reading of the object QP.   If it does not, the object takes narrow scope under negation.

Chapter 5 has discussed a consequence of the proposal in Chapter 4.   We have shown that the "rigidity" of QP scope in Japanese is due to the topic feature of the subject QP and the minimality condition which bans the movement of another feature across the topic feature of the subject QP.

(4) *Dareka-ga   daremo-o*   mi-ta

    someone-Nom everyone-Acc see-Past

    'Someone saw everyone.'

    [unambiguous: $\exists > \forall$, $*\forall > \exists$]

Moreover, we have also shown as a consequence that inverse scope is possible in Japanese in those clauses where the topic feature on the subject is missing. This is the case with the scope of the subject and the object QP in description clauses in the sense of Ueyama (1998, 2007).

(5) *San-nin-no sensei-ga   subete-no gakusei-o*   sidoosuru-no-wa

    3-Cl-Gen teacher-Nom every-Gen student-Acc supervise-Gen-Top

    hukanoo-da/muzukasii

    impossible-be/difficult

    'It is impossible/difficult for three professors to supervise every student.'

    [ambiguous: $3 > \forall$, $\forall > 3$]

In Chapter 6 we have extended our approach to cases of QP scope interaction in English. We have proposed that the liberal scope of the subject and the object QP, as exemplified in (6), as opposed to the rigid scope in Japanese, is due to the feature borne by the subject.

(6)   *Someone* loves *everyone*.

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We have accounted for the liberal scope in English by assuming, following Miyagawa (2010), that the English subject is licensed by the Φ-feature, as opposed to the topic feature in the case of the Japanese subject, and by assuming that the focus feature movement occurs covertly in English.   Since the Φ-feature is not an SI feature, the subject allows the covert movement of the focus feature of the object QP over the subject.   We have also accounted for the QP scope interaction in the raising construction.   The widely-observed scope ambiguity of the matrix subject QP, as exemplified in (7), has been shown to be due to the (non)application of the covert focus feature movement.

(7)   *Someone* seems to have left.

    We have also shown that our approach can capture the "partial rigidity" of scope observed in the raising construction: If the matrix subject takes matrix scope, another QP cannot take wide scope over it in a sentence such as (8):

(8)   *Some politician* is likely to address *every rally* in John's district.

                                                                                        (May (1977: 201))

This "partial rigidity" of scope in the raising construction has been assimilated to the scope rigidity in Japanese: When the matrix subject has matrix scope, it is due to the focus feature borne by the subject.   Lastly we have also proposed in this chapter that the feature responsible for the topicalization in English is another SI feature serving as a determinant of QP scope.

    Chapter 7 has discussed the scope property of what we have called Caseless *zen*-QPs, as

in (9).   A notable property of Caseless *zen*-QPs is that they can only take wide scope over a subject QP when scrambled to the pre-subject position, as opposed to scrambled Type 1 QPs, which may take either wide or narrow scope:

(9)   *Zen'in*   hutari-no kyooin-ga   sidoosi-ta

    everyone 2.Cl-Gen teacher-Nom supervise-Past

    Lit. 'Every student, two teachers supervised.'

    [unambiguous: $\forall > 2$, $*2 > \forall$]

This wide scope property of *zen'in/zenbu* has been captured by characterizing them as being able to undergo both the topic-driven scrambling, but not the semantically vacuous A'-type scrambling, the scrambling that is not triggered by the topic feature.   This behavior of Caseless *zen*-QPs supports our proposal in Chapter 4, since it tells us of a strong correlation between the availability of the topic feature and the possibility of wide scope.

    Chapter 8 has discussed two cases apparently problematic to our proposals in the previous chapters.   We have attempted to capture the variation in the judgment on the scope of scrambled strong NP-FQs as in (10):

(10) *Ronbun-o subete san-nin-no hito-ga*   yon-da

    paper-Acc every 3-Cl-Gen   person-Nom read-Past

    [unambiguous: $*\forall > 3$, $3, > \forall$]

Contrary to our proposal in Chapter 4, a scrambled strong NP-FQ such as *ronbun-o subete* in (10) may be judged by some speakers to take wide scope over another QP.   We have

accounted for this variation in judgment by suggesting the possibility that for some speakers the host NP of a strong NP-FQ has the topic feature to be licensed in [Spec, TP].

Secondly, we have attempted to account for the wide scope of the object NP-FQ as in (11):

(11)   Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-*nakat*-ta

   police-Top fugitive-Acc 3-Cl(-or.more)   arrest-Neg-Past

   'The police did not arrest three or more fugitive criminals.'

   [ambiguous: 3 (or more) > Neg, Neg > 3 (or more)]

We have accounted for this fact by assuming that an object NP-FQ, as well as an object Q-NP may be moved to the Spec of the functional projection Pres(uppositional)P when the QP has a presuppositional interpretation, and that there are two different positions for negation in Japanese.   When an object NP-FQ is moved to [Spec, Pres], the object is moved over the lower negation , and this gives the NP-FQ wide scope over negation.

In summary, the issues that we have discussed in this thesis are listed as below:

(12)   a. the relation between the semantics of QPs and QP scope

  b. the relation between the structure of QPs and their semantics

  c. the relation between scrambling and QP scope

  d. rigid vs. liberal scope

  e. two kinds of feature that drives movement to [Spec, TP]: the topic feature and the

    Φ-feature

Although these topics have been studied rather separately in the past literature, this thesis has brought them altogether onto one single worktable and attempted to discover how they are related to one another to determine QP scope.   We have discovered, among other things, that the QP-internal structure plays a crucial role in the availability of the topic feature for the QP, which drives the operation of scrambling and determines the scope of the scrambled QP in [Spec, TP].   Furthermore, the difference between the rigid scope in Japanese and the liberal scope in English has been found to be accounted for by appealing to the difference in the kinds of the feature that drives movement of the subject to [Spec, TP].

One remaining question, however, is whether our account of QP scope interaction between the subject and the object can be extended to other cases, say QP scope interaction between a dative and an accusative object, as in:

(13) a.   Taroo-ga   *san-nin-no hito-ni*   *subete-no gakusei-o*   syookaisi-ta

     Taro-Nom 3-Cl-Gen   person-Dat every-Gen student-Acc introduce-Past

     'Taro introduced everyone to three people.'

     [unambiguous: 3 > ∀, *∀ > 3]

   b.   Taroo-ga   *subete-no gakusei-o*   *san-nin-no hito-ni*   syookaisi-ta

     Taro-Nom ever-Gen   student-Acc 3-Cl-Gen   person-Dat introduce-Past

     'Taro introduced everyone to three people.'

     [ambiguous: 3 > ∀, ∀ > 3]

Our analysis predicts that both sentences are ambiguous with respect to the scope of the dative QP *san-nin-no hito-ni* and the accusative QP *subete-no gakusei-o* since either QP may undergo the covert focus feature movement over the other, as in:

(14) a.   For (13a):

   i) [$_{TP}$ Taro-ga$_i$ [**[focus]$_j$** [$_{vP}$ t_i [$_{VP}$ san-nin-no hito-ni$_j$ [**subete-no gakusei-o$_k$**

   syookaisi-]]]]]

   $\rightarrow 3 > \forall$

   ii) [$_{TP}$ Taro-ga$_i$ [**[focus]$_k$** [$_{vP}$ t_i [$_{VP}$ **san-nin-no hito-ni$_j$** [subete-no gakusei-o$_k$

   syookaisi-]]]]]

   $\rightarrow \forall > 3$

   b.   For (13b):

   i) [$_{TP}$ Taro-ga$_i$ [**[focus]$_j$** [$_{vP}$ t_i [$_{VP}$ **subete-no gakusei-o$_k$** [san-nin-no hito-ni$_j$

   syookaisi-]]]]]

   $\rightarrow 3 > \forall$

   ii) [$_{TP}$ Taro-ga$_i$ [**[focus]$_k$** [$_{vP}$ t_i [$_{VP}$ subete-no gakusei-o$_k$ [**san-nin-no hito-ni$_j$**

   syookaisi-]]]]]

   $\rightarrow \forall > 3$

This prediction, however, does not seem to be borne out very straightforwardly since it has been observed that there is an asymmetry in scope between the dative and the accusative object.   For example, Hoji (1985) observes that the dative QP-*ni* obligatorily takes wide scope over the accusative QP-*o* when QP-*ni* precedes QP-*o,* while either may take scope over the other in the reversed order.   Thus in (13a) only the dative QP can take wide scope while the scrambled order in (13b) yields both readings.   If this is a fact, how can we account for it?

   For the scope relation between the subject and the object QPs, we have argued that the

rigidity of QP scope in the order Subject-Object is due to the topic feature borne by the

subject, while the two-way scope order of QPs in the order QP-*o*-QP-*ga* is made possible via

the structural ambiguity of the two QPs:

(15) For QP-*ga*–QP-*o*:
[$_{TP}$ QP-ga [$_{vP}$ t_i [$_{vP}$ QP-o V]]]
      [topic]   **[θ]**   **[θ]**

(16) For QP-*o*–QP-*ga*:
a.   [$_{TP}$ QP$_{OBJi}$ [$_{vP}$ QP$_{SUBJ}$ [$_{vP}$ t_i V]]]
      [topic]   **[θ]**   **[θ]**

b.   [$_{TP}$ QP$_{OBJi}$ [$_{TP}$ QP$_{SUBJ}$ [$_{vP}$ t_j [$_{vP}$ t_i V]]]
      [topic]   **[θ]**   **[θ]**

If we assume that the order DP-*ni* - DP-*o* reflects the basic configurational alignment of these

two arguments, the scope relation observed with these two arguments is quite similar to that

of the subject and the object.   Thus if the scope relation between the subject and the object is

accounted for by appealing to the SI feature (the topic feature) and the position responsible

for licensing it, we may ask if there is any position somewhere in the post-subject domain for

one of the internal argument QPs to move into to have its feature licensed for a particular

semantic interpretation.

   In Chapter 8 we have suggested the presence of such a position below vP and above VP,

the position which we have called [Spec, Pres(uppositional)P], where a QP has its

presuppositionality feature licensed to be interpreted as presuppositional:

(17) [$_{TP}$ Subj$_i$ T [$_{NegP}$ Neg   [$_{vP}$ t_i [$_{PresP}$ Obj$_j$ Pres ([$_{L-NegP}$ L-Neg] [$_{vP}$ t_j ...

If our analysis in Chapter 8 is on the right track, one conceivable analysis of (13) will be to say that the examples in (13) have the following structures:

(18)   For (13a) (the QP-*ni*- QP-*o* order):

[$_{\text{TP}}$ John-ga [$_{\text{PresP}}$ **san-nin-no hito-ni$_i$** Pres [$_{\text{VP}}$ t_i [**subete-no gakusei-o** syookaisita]]]

(19)   For (13b) (the QP-*o* QP-*ni*- order):

a.   [$_{\text{TP}}$ John-ga [$_{\text{PresP}}$ **subete-no gakusei-o$_j$** Pres [$_{\text{VP}}$ **san-nin-no hito-ni**

[t_j syookaisita]]]]

b.   [$_{\text{TP}}$ John-ga [**subete-no gakusei-o$_j$** [$_{\text{PresP}}$ **san-nin-no hito-ni$_i$** Pres

[$_{\text{VP}}$ t_i t_j syookaisita]]]]

In (18), the dative QP has moved to [Spec, PresP].   Since the presuppositionality feature is an SI feature, the position [Spec, PresP] is the SI head for the QP moved to this position. Moreover, the focus feature of the Accusative QP may not be raised over the dative QP, in the way that the focus feature may not be raised over the topic feature of the subject QP.   This explains the nonambiguity of (13a).   The two structures in (19), on the other hand, are reminiscent of those for the scrambled order of the subject and the object.   In (19a) the scrambled accusative object is moved to [Spec, PresP] instead of the dative QP.   This structure gives rise to the wide scope of the accusative QP.   The same sentence may also have (19b) as its structure, where the dative QP that has moved to [Spec, PresP] while the accusative QP has undergone a semantically vacuous movement.   This second structure yields the reverse scope order QP-*ni* > QP-*o*.   If this analysis is on the right track, then we will have achieved a principled account of both the scope order of the subject and the object

and that of two internal argument QPs.   However, since I do not have independent evidence

for (18) as the only structure for (13a), I leave this possibility open for a future research.

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Corpus

COCA = Corpus of Contemporary American English [http://corpus.byu.edu/coca/]