

CLAUSE STACKING AND ANTISYMMETRY IN JAPANESE RELATIVE
CLAUSES

by

MIKI SUZUKI

A dissertation submitted to the Graduate Faculty in Linguistics in partial
fulfillment of the requirements for the degree of Doctor of Philosophy,
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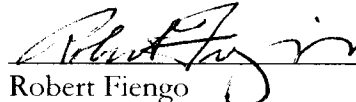
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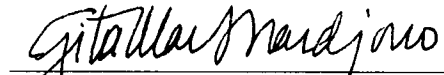
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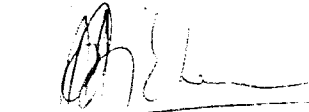
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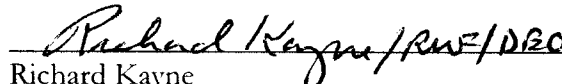
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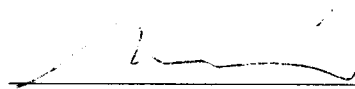

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Abstract

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The question that centers the discussions of this thesis is why in Japanese it is possible to relativize a subject out of a subject and more problematic to relativize an object out of an object. In English and many other languages, both relative clauses are not readily allowed. The latter phenomenon is predicted by the Subjacency Condition.

One component of the answer to the question lies in the structure of Japanese, which has been characterized as an SOV language. It is argued that the clause-internal structure of Japanese is considerably different from that of English and other SVO languages. Central claims of the Antisymmetry Theory (Kayne 1994) are applied to derive the clause-internal structure and the structure of pre-nominal relatives of Japanese. The analysis also incorporates multiple complementizer projections (Rizzi 1997) to accommodate order flexibility of this language. For the derivation of pre-nominal relatives, it is argued that there is no operator movement; instead, movement of the ‘head’ nominal phrase is pursued, the possibility of which is re-introduced in Kayne (1994). The discussion also includes a proposal of a KP system to account for the absence of KP/PP relativization in Japanese.

Another ingredient of the answer concerns the formulations of locality conditions. Two of them are discussed extensively from a Minimalist point of view (Chomsky 1995, 2000, 2001): a condition on agreement and a condition on movement. For the former, a version of the Intervention Condition is adopted. For the latter, it is considered that neither old Subjacency nor the Phase Impenetrability Condition is optimal, and a new condition is proposed, the Opacity Condition. It is demonstrated here that the raising of the ‘head’ in relativization of a subject out of a subject relative in Japanese is ruled out by neither the Intervention Condition nor the Opacity Condition, while that in relativization of an object out of an object violates the Opacity Condition.

Finally, this thesis discusses issues on overt resumptive pronouns, counterexamples, and *wh*-questions.

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1. Introduction

1.1. *It Starts with a Question*

I have been plagued by a question. This one question has driven both my interests and studies of the past several years. In English and many other languages, relativization out of a relative clause is consistently ungrammatical, but the same can not be said of Japanese. For instance, it is difficult to process a sentence like (a) *That is [the cat that a stray dog followed around [the boy who owned (it)]]* or (b) *That is [[the boy who the dog that (he) owned] followed around a straycat]*. The bracketed portions mean something similar to *the cat whose owner a straydog followed around* and *the boy whose dog followed around a stray cat*, respectively. (a) and (b) differ in that the former is an example of relativization of an object out of an object relative, while the latter is an example of relativization of a subject out of a subject relative. There is a syntactic constraint that predicts the ungrammaticality of such sentences. Japanese counterparts of (a) and (b) are: (a') *are-ga [norainu-ga [katte-i-ta syoonen]-wo oikake-mawasi-ta neko] desu* and (b') *are-ga [[katte-i-ta inu]-ga noraneko-wo oikake-mawasi-ta syoonen] desu*, respectively. There is a marked contrast between (a') and (b'). (a') is awkward and hard to understand while (b') is perfectly interpretable. The question, my question, is why (a') and (b') contrast (while (a) and (b) do not). This dissertation endeavors to answer the question.

1.2. *Theoretical Background*

In the generative framework, the derivation of restrictive relative clauses in English and many other languages has been claimed to involve the movement of an operator phrase (null or *Wh*-), in a way parallel to the derivation of a *Wh*-question (Chomsky 1973, and works thereafter). The movement has been claimed to be subject to the Subjacency Condition, a constraint on the distance of movement. The Subjacency Condition represents a unification of several constraints on variables in syntax proposed by Ross (1967), namely, the Complex NP Constraint, the *Wh*-island Constraint, and the Sentential Subject Constraint. The formulation of the Subjacency Condition cited in van Riemsdijk and Williams (1986, 62) is the following:

SUBJACENCY CONDITION:

- 1) No rule can relate X, Y in the structure

... X ... [α ... [β ... Y ... (or: ... Y ...) β ...] α ... X ...], where α , β are bounding nodes.

Bounding nodes in English and some other languages have been claimed to be IPs and NPs. Given that, the Subjacency Condition (1) predicts the grammaticality of examples like (2) and (3) and the ungrammaticality of examples like (4) and (5):

SUBJECT OUT OF CLAUSE:

- 2) [The man₁ who₁ [_{IP} e₁ was dating the woman]] is over there.

OBJECT OUT OF CLAUSE:

- 3) [The woman₂ who₂ [_{IP} the officer cross-examined e₂]] is over there.

SUBJECT OUT OF SUBJECT:

- 4) *¹ [The man₁ who₁ [IP [NP the woman₂ who₂ [IP e₁ was dating e₂]] criticized the FBI]] is over there.

OBJECT OUT OF OBJECT:

- 5) * [The woman₂ who₂ [IP the FBI caught [NP the officer₁ who₁ [IP e₁ cross-examined e₂]]]] is over there.

In (2) and (3), the movement of who crosses only one bounding node (IP), and thus it does not violate the Subjacency Condition. In (4), first, the inner *Wh*-operator who₂ moves from the inner object position to the outside of the inner IP leaving its trace in that position indicated by e₂. The movement crosses only one bounding node (IP) and thus it does not violate Subjacency. The second movement takes place from the subject position of the inner IP (indicated by e₁) to the outside of the outer IP, the position of who₁. This movement crosses three bounding nodes (IP, NP, and IP), and thus it violates Subjacency. The structure in (5) is similar; what is different is that the first movement takes place from the subject position and the second movement, from the object position. The number of bounding nodes that the second movement crosses is three (IP, NP, and IP), and thus it violates Subjacency. This result is desirable since the sentences are judged unacceptable.

In the Government-Binding Theory, Subjacency is one of the conditions that apply to instances of Move- α in the derivation of S-structure, and the presence of its effects is considered as a diagnostic for movement at S-structure, especially for *Wh*-movements. When a relationship between two associated phrases holds regardless of the

¹ The structure also represents a violation of the Empty Category Principle (ECP) (Chomsky (1981)). The trace (indicated as e₁) is not antecedent-governed by the complementizer C between who₂ and IP, which is not represented here.

number of bounding nodes that intervene between them, the relationship is not counted as a relationship established by movement at S-structure. English has a construction that uses a syntax different from that of ordinary relatives but exhibits essentially the same semantics; it is the “such that” construction (Heim and Kratzer (1998)). Using that construction, sentences (4) and (5) can be paraphrased as (6) and (7), respectively:

SUBJECT OUT OF SUBJECT:

- 6) The man₁ such₁ that [_{IP} [_{NP} the woman₂ who [_{IP} he₁ was dating e₂]] criticized the FBI yesterday], is over there.

OBJECT OUT OF OBJECT:

- 7) The woman₂ such₂ that [_{IP} the FBI caught [_{NP} the officer₁ yesterday who₁ [_{IP} cross-examined her₂]]], is over there.

Sentences (6) and (7) are grammatical and the relationship between *such* (or the associated noun) and the pronoun holds. But the number of bounding nodes that intervene between them is the same as that in their relative clause counterparts. In the current framework, this construction is not considered as involving movement.

1.3. *Restrictive Relative Clauses in Japanese*

English sentences (2) and (3) can be translated into Japanese sentences (8) and (7), respectively. As illustrated in these examples, Japanese relatives have the ‘head’ noun phrase on the right of the clause, and there is no overt relative pronoun. In Japanese, relativization out of a simple clause is acceptable, whether it is of a subject or an object, as in the cases of English.

SUBJECT OUT OF CLAUSE:

- 8) [[e_1 sono zyosei-to tukiatte-i-ta] otoko₁]-ga asoko-ni iru.
 that woman-WITH date-I-PST man-NOM there-DAT exist
 ‘The man₁ who e_1 was dating the woman is over there.’

OBJECT OUT OF CLAUSE:

- 9) [[sono keikan-ga e_2 tukiatte-i-ta] zyosei₂]-ga asoko-ni iru.
 that officer-NOM date-I-PST woman-NOM there-DAT exist
 ‘The woman₂ who the officer₁ was dating e_2 is over there.’

The relativization of an argument out of a clause contained in a noun phrase, however, exhibits different degrees of acceptability depending upon whether the argument is a subject or not and whether it is contained in a subject or not:

SUBJECT OUT OF SUBJECT:

- 10) [[kinoo [[e_1 e_2 tukiattei- ta] zyosei₂]-ga FBI-wo hihan si-ta] otoko₁]-ga asoko-ni iru.
 yesterday date-I-PST woman-NOM FBI-ACC criticize do-PST man-NOM there-DAT exist
 ‘The man₁ such that the woman₂ who he₁ was dating e_2 criticized the FBI yesterday, is over there.’

OBJECT OUT OF OBJECT:

- 11) ?* [[kinoo FBI-ga [e_1 e_2 zinmon si-ta] keikan₁]-wo tukamae-ta] zyosei₂]-ga asoko-ni iru.
 yesterday FBI-NOM examine do-PST officer-ACC capture-PST woman-NOM there-DAT exist
 ‘The woman₂ such that the FBI caught the officer₁ yesterday who₁ cross-examined her₂, is over there.’

Simple Japanese relatives (8) and (9) are acceptable, as their English counterparts (2) and (3). One complex Japanese relative (11) parallels English counterpart (5); both are

unacceptable, as predicted by Subjacency. The acceptability of Japanese sentence (10) is, however, unexpected, contrasting with English sentence (4).

It has been observed by Kuno (1973), Hasegawa (1984/5), and others, that in Japanese, the restrictive relativization of a subject out of a subject is grammatical (as illustrated in (10)), while relativization of an object out of an object (which is not a complement clause) may not be grammatical (as illustrated in (11)). Hasegawa (1984/5) presents the following generalization:

HASEGAWA'S GENERALIZATION (1984/5, 292):

- 12) The relativization or topicalization of a phrase in a relative clause is allowed, if
- a. the phrase is the subject of the relative clause, and
 - b. the head of that relative clause serves as the subject of the higher clause.

This fact does not indicate straightforwardly whether or not movement is involved. In certain contexts as specified in Hasegawa's generalization, Subjacency effects are not found while in other contexts, they are found.

Several analyses have been proposed to account for the acceptability of the relativization of a subject out of a subject. Such analyses centered on the question of whether operator-movement takes place in the derivation of Japanese relatives analogous to *wh*-movement in English or the like, and if so at which level it takes place. Answering the question has been one of the challenges in the Government-Binding framework. The Government-Binding framework has held the assumption that all grammars are alike at

LF (Hornstein 1995)²; that is, LF representations of all languages are uniform with respect to properties relevant to interpretation, regardless of surface differences that languages manifest. It has also been a common belief that interpretation of relatives involves interpretation of open sentences and operator-movement contributes to form such objects as illustrated in (13) (Hornstein 1995, 186):

13) ... [*Op*_i [... *vbl*_i ...]]

Coupled with the hypothesis that LF representations are derived from S-structure via applications of Move- α , the question of the presence or absence of movement of an operator in the formation of Japanese relatives has become an interest of many while the presence of an operator is not obvious in surface strings alone.

Having the possibility of operator-movement in mind, the past analyses provided explanations as to how relativization of a subject out of a subject comes to be grammatical. These analyses also held two more assumptions standard in the Government-Binding framework:

TRADITIONAL ASSUMPTIONS:

- 14) The hierarchical structure of pre-nominal relatives in Japanese is a mirror image of that of post-nominal relatives with respect to the projections of NPs and IPs, and
- 15) Movements in Japanese are subject to the Subjacency Condition or a version of locality condition.

² As pointed out in Hornstein (1995), an argument for this has been advanced in Higginbotham (1985).

If one pursues the movement of a null operator at S-structure for Japanese similar to the one that is claimed for English, one would encounter representations (16) and (17) for sentences (10) and (11), respectively:

SUBJECT OUT OF SUBJECT ((10) WITH NULL OPERATOR *Op*):

- 16) [[kinoo [[$\bar{e}_1$ e_2 tukiatt~~e~~i- ta]_{IP} *Op*₂ zyosei₂]_{NP}-ga FBI-wo hihan si-ta]_{IP} *Op*₁ otoko₁]-ga asoko-ni iru.

OBJECT OUT OF OBJECT ((11) WITH NULL OPERATOR *Op*):

- 17) ?* [[kinoo FBI-ga [$\bar{e}_1$ $\bar{e}_2$ zinmon si-ta]_{IP} *Op*₁ keikan₁]_{NP}-wo tukamae-ta]_{IP} *Op*₂ zyosei₂]-ga asoko-ni iru.

The Subjacency Condition rules out both structures (16) and (17) equally as in the English counterparts (4) and (5) for the same reason; in both (16) and (17), the second movement of the *Op* crosses three bounding nodes (IP, NP, and IP). While the unacceptability of the sentence (11) is expected from the structure (17), the perfect acceptability of the sentence (10) is not expected from the structure (16).³

The observation of relative clause data under the above assumptions has led researchers basically to one of the following three approaches to relativization in Japanese:

NON-MOVEMENT:

- 18) It claims that relativization in Japanese does not involve an operator movement, and it is licensed by some other way.

OPERATOR MOVEMENT, COMPLEMENTED BY OPERATOR-PRONOUN RELATIONS:

³ It also indicates insensitivity to the ECP.

- 19) It claims that relativization in Japanese primarily involves an operator movement, and it can also be licensed through an operator-pronoun relationship in relativization of a subject.

OPERATOR MOVEMENT, PRECEDED BY NON-OPERATOR MOVEMENTS:

- 20) It claims that relativization in Japanese involves an operator movement, and the movement is preceded by Japanese particular movement operations in the case of relativization of a subject out of a subject.

One proponent of the non-movement approach is Murasugi (1991, 1996)⁴. For the relativization of noun phrases,⁵ Murasugi (1991) advances the possibility of the empty category in a relative clause being base-generated as a null pronominal *pro* (following Perlmutter (1972) and Saito (1985)), and refers to the possibility of the so-called “aboutness relation” being responsible for licensing the ‘head’ nominal (following Kuno (1972)). It denies the presence of the relative clause construction in Japanese, the

⁴ Following Murasugi, Hoshi (1995) also argues against the movement of a null relative operator for the derivation of relative clauses in Japanese. He postulates all variables as instances of *pro* and proposes the Locality Condition on the Determiner-Operator Binding. The latter condition defines the local relationship in LF between the head and the variable within the clause. The locality condition, however, does not distinguish the relativization of a subject out of a subject and the relativization of an object out of an object.

⁵ For Murasugi (1991, 1996), the distinction between a noun phrase (NP) from a postpositional phrase (PP) is important to her argument; roughly speaking, a PP consists of a noun phrase and a case marker other than the nominative or accusative case marker. Murasugi (1991, 1996) considers the “aboutness relation” to be a licenser for NP topics but not for PPs.

construction that is licensed by the movement of an operator.⁶ The “aboutness relation” is a relation primarily to characterize the relationship between a “topic” (or “theme”) and the clause following it. Kuno (1976, 420) states, “a relative clause must be a statement about its head”. In her later work (1996), Murasugi applies the derivation of pre-nominal relative clauses proposed by Kayne (1994) to Japanese cases, and adds further support for her original claim by deriving the illegitimacy of an unbound trace in a relative clause which has moved past the antecedent. In this approach, Subjacency effects are not expected at all, and the unacceptability of sentence (17) is to be explained by the logic of the “aboutness relation”.

In contrast with the non-movement approach, the two movement approaches argue for movement of a null operator and attribute unacceptable or awkward cases of relativization out of a relative clause to Subjacency effects. These approaches relate the unexpected possibility of relativization of a subject out of an subject to the availability of

⁶ Murasugi (1991, 115) cites the presence of the so-called “gap-less relatives” to support the absence of operator movement in Japanese relatives. A relevant example of restrictive relative is something like the following:

- (i) syuushyoku-ga muzukasii gakka
employment.finding-NOM difficult subject.of.study
‘the subject of study that job finding is difficult’

This does not seem to be particular to Japanese, however. Safir (1986, 678) cites a similar example in English, which appears in the form of *such-that* relatives:

- (i) I want to hire a guy such that I know the store will open early.

Given that Japanese has no overt marker to distinguish between *wh*-relatives and (*such*)-*that* relatives, the presence of “gap-less relatives” alone does not support the absence of operator movement in some other cases.

an additional strategy in the grammar of Japanese, which is not shared by the grammar of languages like English.

Hasegawa (1984/5) and Kameshima (1989) pursue the possibility of a null pronominal (PRO in Hasegawa (1984/5) and *pro* in Kameshima (1989)) in Japanese for the empty category in a subject position. Applying a version of the Control Theory, they attribute the acceptability of the relativization of a subject out of a subject to the grammaticality of the licensing of a base-generated null pronominal in that position. The licensing involves both the co-indexation between the null pronominal and the head of the relative clause and the co-indexation between the null pronominal and the “topic”⁷ noun phrase in a parallel way.⁸

Sakai (1990) and Ishii (1991), on the other hand, relate the acceptability of relativization of a subject out of a subject to the availability of the so-called “major subject” construction in Japanese (proposed by Sakai (1990)), whose derivation precedes operator movement. The “major subject” is a nominative marked noun phrase that occurs

⁷ The “topic” here refers to a noun phrase marked by the particle *wa* without accompanying any other case particles.

⁸ In Hasegawa (1984/5), the empty category in the subject position is an instance of PRO, and its relationship with an antecedent is licensed by a version of the Control Theory. In Kameshima (1989), the empty category in a subject position is an instance of *pro*, and its relationship with an antecedent is licensed by Huang’s Generalized Control Rule. In both approaches, the licensing is not available for empty categories in other argument positions.

on the left of the subject of a clause (if the latter is overt).⁹ They claim that a “major subject” can be derived by a series of movements of a subject of a subject of a complex NP. It first moves up to the genitive position of the complex NP and subsequently to an additional subject position of the clause which the complex NP is the subject of. They argue that the operator movement that configures relativization of a subject out of a subject would not violate the Subjacency Condition since it takes place from the “major subject” position, which is outside the complex NP.

The insights of these approaches to relativization in Japanese lie under the two above-mentioned assumptions (14) and (15), backgrounding the Government-Binding framework.

1.4. *Development in Theory*

1.4.1. Antisymmetry Theory

Recent developments in theory have shed some light upon the possibility of different views. In his proposal of the Antisymmetry Theory, Kayne (1994, 3) introduces the requirement that “hierarchical structure map uniquely to linear order”. The theory prohibits mirror-image permutations of elements of a given hierarchical structure. It makes it impossible to maintain the assumption like (14). In this theory, the hierarchical

⁹ In Japanese, the “major subject” (i.e., an additional subject) can be present in a clause when that subject refers to what could otherwise be the (left-most) genitive of the subject noun phrase of the clause. The genitive of a noun phrase can correspond to the (left-most) subject of a clause that the noun phrase embeds. Note that there are also “major subjects” that are non-genitive origin.

structure of noun phrases containing a pre-nominal relative clause cannot be a mirror image of the structure of noun phrases containing a post-nominal relative clause.

The Antisymmetry Theory demands that we analyze the structure of noun phrases containing a pre-nominal relative clause differently from the traditional analyses. More specifically, the relative clause in pre-nominal relatives would have to be realized in a specifier position higher than the 'head' nominal at the surface structure. Differences and similarities between pre-nominal and post-nominal relatives would have to be re-analyzed in conjunction with differences in hierarchical structures. It is implied in this theory that there is a possibility that some differences between pre-nominal and post-nominal relatives can be attributed to a difference in hierarchical structures. The relativization of a phrase out of a pre-nominal relative clause, then, would be the relativization of a phrase out of a clause in a specifier position, rather than the relativization of a phrase out of a clause in a complement position.

1.4.2. The Minimalist Program and Subsequent Works

The Minimalist Program proposed by Chomsky (1995) is another important contribution to theoretical development. This program shares the goals of descriptive and explanatory adequacy with the past generative approaches, but it makes a more serious commitment to explanation through a method of minimization of construction-particular and language-particular hypotheses and axioms (Epstein et al. 1996). The proposals of the program that have influenced the direction of the development of syntactic theories include reduction of the number of levels of representations, syntactic licensing via feature checking, economy conditions, and reduction of parametric variation

to morphological strength. In his subsequent works, refinements have been made; the works include “Minimalist Inquiry” (Chomsky 2000) and “Derivation by Phase” (Chomsky 2001).

Economy conditions coupled with the notion of Attract/Agree convey demands that are contrastive to the Move- α thesis. The hypothesis “move anything to anywhere else” is no longer held. A movement is legitimate only if it is necessary for convergence (the Last Resort principle). To reach convergence, an interface representation should include only interpretable features (e.g., the principle of Full Interpretation).

The Minimalist Program continues to assume that certain elements are licensed in certain ways during the course of derivation, and assume that their licensing is uniform across languages. What is different from the Government-Binding approach is that such licensing is driven by uninterpretable morphological features of the elements in question. In “Minimalist Inquiry” and “Derivation by Phase”, in particular, (abstract) Case assignment, for instance, is replaced by Agree between a DP and a functional head.¹⁰ In previous approaches, Case assignment (or Case checking in the Minimalist Program) took place in a Spec-head configuration, which demanded movement of a DP to the specifier of a functional head. In the later approach, Agree licenses the Case feature of the DP and the corresponding movement is not obligatory. It follows that as long as

¹⁰ In the Minimalist Program, Case assignment is replaced by Case checking. Case checking takes place in a Spec-head relationship between an overt DP and a functional head, and in that configuration the Case feature of the DP is checked. In this approach, the locus of parametric variation is the strength of morphological features. If they are “strong”, they must be checked in overt syntax (i.e., prior to Spell-Out), and if they are “weak”, in covert syntax. This approach claims that languages differ with respect to where Spell-Out applies in the course of the derivation to LF (Chomsky 1995, 191).

Agree is established, a subject can be Case-licensed without moving to the specifier of TP (Tense Projection) at any point in derivation. With respect to Case licensing, a sentence like (21) converges, as does a sentence like (22), which is derived by the movement:

21) There is likely to arrive a man. (Chomsky 2001, 16)

22) A man_i is likely to arrive t_i.

The locus of word order variation, in this approach, lies in the presence or absence of an uninterpretable feature of a probe (along with other features for Agree and selection of an object to move) that can only be deleted by the presence of some element in the position made available by the probe. Word order variation in *wh*-questions and relatives, however, requires more considerations with regard to licensing of an operator. The Minimalist approach maintains that the LF interface should be as uniform as possible across-languages (Chomsky 2001, 21). Given that, LF representations of *wh*-questions and relatives are expected to somehow express elements and relationships depicted in a structure like (13), regardless of differences in surface word order.

1.4.3. Promotion of a 'Head' Noun Phrase

It has commonly been assumed that the 'head' nominal of a headed relative is base-generated in an extra-clausal position. Kayne (1994), however, re-introduces the 'promotion' analysis which was developed by Vergnaud (1974). The basic idea is that the 'head' nominal of a relative originates within the relative clause and ends up in a pre-clausal position. Kayne addresses the demand of this analysis in adopting the reconstruction approach put forth by Chomsky (1993).

Kayne's (1994, Chapter 8) proposal includes the idea that a relative clause is the complement of a determiner, as illustrated in (23):

- 23) $[_{DP} D^0 [_{CP} C^0 [...]]]$

The 'head' noun phrase *picture of himself* of a relative like *the picture of himself that Bill saw* moves from within CP to Spec,CP:

- 24) $[_{DP} \text{the} [_{CP} [_{NP} \text{picture of himself}]_1 \text{that} [\text{Bill saw } [e]_1]]]$

Kayne extends the promotion analysis to pre-nominal relatives in the Antisymmetry framework. Based on the word order data of Amharic in Gragg (1972), he derives the structure of pre-nominal relatives by raising the 'head' noun phrase to Spec,CP and subsequently moving the complement of CP to Spec,DP:

- 25) $[_{DP} D^0 [_{CP} [_{NP}]_1 C^0 [... [e]_1 ...]]]$

- 26) $[_{DP} [... [e]_1 ...]_2 D^0 [_{CP} [_{NP}]_1 C^0 [e]_2]]]$

What about relative pronouns/operators? Kayne's idea is that relative pronouns originate as determiners and are split off from their associated 'head' noun phrases by movement:

- 27) $[_{DP} \text{the} [_{CP} [_{DP} [\text{book}]_2 \text{the author of which } [e]_2]_1 C^0 [\text{I know personally } [e]_1]]]$

This approach predicts locality of the relationship between a 'head' nominal and a relative pronoun. This relationship has been thought of as being established by LF *wh*-movement within the specifier of a complementizer (Safir 1986). Kayne's approach, however, opens up the possibility that a 'head' noun phrase raises apart from an operator.

If a 'head' noun phrase moves in Japanese, locality effects will be expected even in the absence of movement of a null operator.

1.4.4. Multiple Complementizer Projections

Traditionally, we have thought of the complementizer area to be a single projection projected above IP/TP:

28) $[_{CP} C^0 [_{IP} \dots]]$

Rizzi (1997) challenges this view and proposes a complementizer system which is much richer than a single projection. His complementizer system consists of two subsystems: the Force-Finite system and the Topic-Focus system. The Force-Finite system has a complementizer that expresses the specification of Force (or clausal type) and a complementizer that expresses the finiteness specification. The Topic-Focus system has one or more complementizer(s) that expresses the topic-comment articulation and a complementizer that expresses the focus-presupposition articulation. Complementizers of the Topic-Focus system are projected as needed.

Rizzi's complementizer system provides multiple landing sites above IP/TP. Multiple complementizer projections are theoretically motivated. In the Antisymmetry Theory, multiple adjunctions are prohibited. Thus, when two or more phrases move to positions above TP, each of them requires a unique specifier position. In the Minimalist framework, movements are triggered by features of some head. When two or more elements move to positions above TP which are different in nature (e.g., topic and *wh*-

phrase), we may need different triggering heads (although multiple adjunctions are not prohibited in this framework).

Given the availability of multiple complementizer projections, we are further encouraged to re-examine the structure of languages like Japanese which exhibit multiple phrases on the left and on the right of the subject with various orders; some are marked as topic and some are not. Rizzi (1997) observes that there is a relatively free ordering of phrases above TP in Italian. It is interesting to see how arguments and adjuncts in Japanese can be mapped to complementizer projections. In particular, it is worth asking whether the subject in Japanese is really in Spec,TP or in one of the complementizer projections. If the latter, we may be able to set aside the question of why Japanese does not exhibit effects of the subject island constraint. It has been pointed out that movements from within a phrase in Spec,CP are more readily allowed than movements from within a phrase in Spec,IP/TP (Chomsky (1986), Lasnik and Saito (1992), and others) in some languages.

1.5. *Preview of the Proposals*

The proposal of the Antisymmetry Theory and the recent development in the Minimalist framework demand re-examination of data and previous analyses. Among many phenomena to be re-examined, I discuss a subset of the syntactic phenomena of restrictive relative clauses in Japanese. In this thesis, in particular, I organize my thoughts centering around the question I raised at the beginning: why do relativization of a subject out of a subject and that of an object out of an object contrast in Japanese?

Part of the answer to the question, I relate it to the structure of Japanese. Chapter 2 discusses this. Following the essential claims of the Antisymmetry Theory of Kayne (1994), I construct a basic clause internal structure of this language. I also incorporate Kayne's idea on the formation of agglutinative verbal morphology and hypothesize that Spec,TP in Japanese is filled by the verb phrase that is the complement of it. I adopt the core of Rizzi's (1997) complementizer system and explore the possibility of mapping arguments and adjuncts that appear pre-verbally to specifiers of complementizer projections. For the position of subjects, I argue that it is Spec,FinP. This idea is based on Whitman's (1997) argument that the nominative marker *-ga* itself is a finite marker; his argument is an exploration of Kayne's thought that *-ga* as well as the topic marker *-wa* are clausal heads. The proposal that a *ga*-marked subject lands in Spec,FinP leads to another proposal: a clause in Japanese is formed by stacking two clauses--the lower one contains overt verbs and inflections and the higher one contains the (null) copula or the attributive ending. I support this proposal by addressing two apparently Japanese particular phenomena and examining the interaction between a quantificational element and a negation observed by Miyagawa (2001).

Chapter 2 also includes a discussion of Case-markers and post-positions. For overt nominals, I adopt the basic concept of Bittner and Hale's (1996) KP approach to Japanese Case system. The major claim is that successful Case-assignment involves three roles: a target DP, a "Case-binder" (light verb, P, Fin, and others), and a Case-assigner (K, C, and P). Argument phrases are classified into several categories, and language-particular Case-assignment conventions are proposed to account for the distribution of K/P-less nominals in simple clauses. The conventions incorporate the

clause-stacking analysis to predict the distributions of K/P-less nominals of some classes that are different between pre-subject positions and post-subject positions. A close examination reveals that the distribution of K/P-less nominals in pseudo-cleft constructions and relatives are different from that of simple clauses. My hypothesis is that these K/P-less nominals in the two types of constructions are Case-assigned by the nominalizing complementizer when they are “Case-bound”. The absence of “Case-binders” leads to the impossibility of K/P-less nominals in pseudo-cleft and (gapped) relatives. The absence of an overt K/P in relative clauses is derived (in part) from the fact that their presence competes with the nominalizing complementizer serving as a Case-assigner. Finally, the structure of genitive phrases is proposed, incorporating the clause-stacking analysis. I pursue the point of view discussed in Den Dikken and Singhapreecha (2002) that the Genitive marker *-no* is not a Case-assigner in particular but is located between an inverted predicate and a modified noun.

Chapter 3 focuses on the constructions of headed restrictive relatives. The first half is a review of the structural analyses introduced by Kayne (1994), Bianchi (1994/5), and Den Dikken and Singhapreecha (2002), which are compatible with claims made in the Antisymmetry Theory. The second half discusses my proposal on the antisymmetric structure of pre-nominal restrictive relatives in Japanese. They are derived by QP-raising followed by movement of the clause to Spec,CP. CP is the highest complementizer projection in the complementizer system, corresponding to ForceP in Rizzi (1997). The raised QP constitutes the ‘head’ of the relative. The resultant structure is the following:

$$(29) \quad [_{DP2} D [_{QP2} Q [_{CP} [_{\alpha P} \dots [_{DP1} D \iota_{QP1}] \dots] [C [_{\beta P} [_{QP1}] [Op \iota_{\alpha P}]]]]]]$$

In (708), αP refers to the complementizer projection that is the complement of β . αP is any one of the complementizer projections that can be projected below CP. βP is a complementizer projection that hosts the ‘head’ of the relative; it is the phrase in which the QP is licensed as the subject of the predicate αP . This is a realization of the idea that Den Dikken and Singhapreecha (2002) put forth which takes the relative clause to be the predicate of the ‘head’.

The above proposal includes the idea that the head of βP is a relative operator in pre-nominal relatives. Behind this idea is the fact that pre-nominal relatives do not exhibit relative pronouns corresponding to *wh*-elements in English. I take this phenomenon to be an indication that pre-nominal relatives can not involve an operator movement. The impossibility of operator movement derives if the operator is already in a complementizer position. Nonetheless, it attracts a ‘head’ nominal (in headed relatives).

Chapter 4 lays out locality conditions which are formulated in terms of the Minimalist framework. The beginning sections review Chomsky’s (2000, 2001) proposals on movements and locality conditions and points out some problems. Following Contreras’ (2003) suggestion, I abandon the Phase Impenetrability Condition (or the like which forces intermediate steps).

I identify three types of conditions that are going to be needed to capture the whole set of locality effects. One type of condition is on agreement, one type is on movement, and one type is on traces/copy-deletions. This thesis discusses the first two,

leaving the third one for future research. As a condition on agreement, I slightly modify the Intervention Condition proposed by Frampton et al. (2000). I propose a condition on movement, calling it the Opacity Condition. The Opacity Condition applies derivationally in a bottom-up fashion and determines the categories in a specified context as opaque to the selection of categories to be moved. Thus, being opaque does not prevent the category from establishing an agreement relationship with a probe. The two conditions make use of the notion of strong phases introduced by Chomsky. The remaining sections of this chapter demonstrate how these conditions work with major cases of *wh*-movements in English. In particular, the section on *wh*-movements out of embedded declaratives shows that the Opacity Condition allows direct movement of a phrase from within an embedded clause to the matrix clause.

Chapter 5 demonstrates effects of the two locality conditions on movements involved in Japanese relativization. First, I lay out assumptions about the allocations of features and strong phases in relevant constructions in Japanese. I demonstrate how these properties affect derivations of simple clauses. Then, I discuss derivations of various relative clause constructions. As in the case of English, the Opacity Condition allows direct movement out of embedded declaratives. On the other hand, it rules out QP-movement of an object out of a relative clause island as well as QP-movement of a phrase out of an object relative. The condition however does not rule out QP-movement of a subject out of a subject. The contrast between these constructions is derived from the application of the Opacity Condition. Finally I discuss relativization of genitives. It exhibits phenomena parallel to relativization of a subject in terms of relativizability. This

is partly predicted from the structure of genitive phrases proposed above, taking the pre-nominal phrases as a predicate clause.

Chapter 6 discusses remaining issues. First, I examine the distribution of overt resumptive pronouns and point out issues from the point of view of resumption as a ‘last-resort’ strategy. Second, I review potential counterexamples of relative clauses and present re-analyses of the data of Japanese. Finally, I discuss phenomena of *wh*-questions observed by Nishigauchi (1990). I argue that *wh*-questions in Japanese do not involve an operator movement corresponding to *wh*-movements in English, and that *wh*-elements in this language are licensed by *wh*-agreements with the interrogative complementizer *-ka*. I take *-ka* in C to be the interrogative operator which requires an agreement with a *wh*-element. Since it does not involve movement, relative clause island effects, which are typical diagnostics of movement, are not observed.

2. The Structure of Japanese under Antisymmetry

In this chapter, I construct a basic clause internal structure of this language, following the essential claims of the Antisymmetry Theory of Kayne (1994). The structure is different from what has been discussed in the past. It will be important later for deriving effects of the locality conditions not observed in English.

2.1. *Review of the Antisymmetry Theory*

2.1.1. Linear Correspondence Axiom (LCA)

In his proposal, Kayne (1994, 3) denies the standard assumption that “Universal Grammar (UG) allows a given hierarchical representation to be associated with more than one linear order”, and argues that “phrase structure in fact always completely determines linear order and consequently that if two phrases differ in linear order, they must also differ in hierarchical structure”. Specifically, he claims that asymmetric c-command invariably maps into linear precedence, and that the requirement of unique mapping from hierarchical structure to linear order is a set of antisymmetric properties of phrase structure that X-bar theory expresses.

Kayne proposes the derivation of linear order of terminal symbols of a phrase marker from the hierarchical relations that hold in the phrase marker--the dominance relation and the asymmetric c-command relation. The dominance relation holds (a)

between non-terminals and (b) between non-terminals and terminals. The relation of asymmetric c-command (between non-terminals) is defined as follows:

- 30) X asymmetrically c-commands Y iff X c-command Y and Y does not c-command X.¹¹ (Kayne 1994, 4)

In order to map the terminals in a hierarchical structure into a linear order, these hierarchical relations are somehow translated to the terms of linear ordering. Kayne first identifies three defining properties of a linear ordering of a phrase marker:

- 31) three properties of a linear ordering (Kayne 1994, 4):
- 32) It is transitive; that is, $xLy \ \& \ yLz \rightarrow xLz$
- a. It is total; that is, it must cover all the members of the set: for all distinct x, y, either xLy or yLx .
 - b. It is antisymmetric; that is, $\text{not}(xLy \ \& \ yLx)$.

The dominance relation and the relation of asymmetric c-command are transitive and antisymmetric. However they are not total. The dominance relation is not total because in a phrase marker, there can be two nodes such that neither dominates the other.¹²

Asymmetric c-command is not total because in a phrase marker, there can be two nodes neither of which (asymmetrically) c-commands the other.¹³

¹¹ In this definition, Kayne (1994, 8) takes c-command to be defined in terms of “first node up”, as opposed to “first branching node up”.

¹² Totality can be achieved locally, in that it can be achieved if we restrict our consideration to the set of nodes which dominate a given node.

¹³ Totality can be achieved locally, in that it can be achieved if we restrict our consideration to binary-branching phrase markers and to the set of nodes which asymmetrically c-commands a given node.

Kayne distinguishes the dominance relation that holds between non-terminals and terminals from the relation that holds between non-terminals, and calls the former as the relation d . The relation d is a many-to-many mapping from non-terminals to terminals. Given a non-terminal X , $d(X)$ is the set of terminals that X dominates. When two non-terminals are ordered as in $\langle X, Y \rangle$, we have two sets of terminals and they are ordered accordingly. The relation is expressed as $d\langle X, Y \rangle$, the image under d of $\langle X, Y \rangle$. $d\langle X, Y \rangle$ is taken as the Cartesian product of $d(X)$ and $d(Y)$; it is the set of ordered pairs $\{\langle a, b \rangle\}$ such that a is a member of $d(X)$ and b is a member of $d(Y)$. In order to achieve totality, Kayne extends the scope from the image of a single ordered pair of non-terminals to the image of a set of ordered pairs of non-terminals. The latter image is the set constituted of the union of the images of each ordered pair. If S is a set of ordered pairs $\{\langle X_i, Y_i \rangle\}$ for $0 < i < n$, then $d(S)$ is the union for all i , $0 < i < n$ of $d\langle X_i, Y_i \rangle$.

Kayne takes asymmetric c-command to be the key to determine the linear order of terminals in a given phrase marker. He introduces the set A of ordered pairs for a given phrase marker. The set A is the maximal set of ordered pairs $\langle X_j, Y_j \rangle$ such that for each j , X_j asymmetrically c-commands Y_j . He proposes the following axiom, where T is the set of terminals:

33) Linear Correspondence Axiom (Kayne 1994, 6):

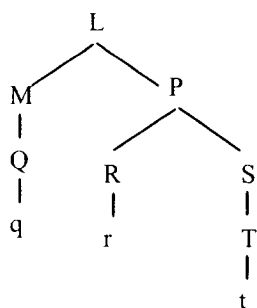
$d(A)$ is a linear ordering of T .

2.1.2. Refinement

Kayne refines phrase structure theory by adopting the distinction between segment and category that was introduced by May (1985). The motivation is to

incorporate the projection of specifiers and adjoined phrases in the phrase structure. If a specifier were projected under a node L ‘distinct’ from the node that dominates a head and a non-head as illustrated in (34) below, the structure would be excluded; the LCA excludes the projection of a node that immediately dominates two (or more) non-heads but a head.

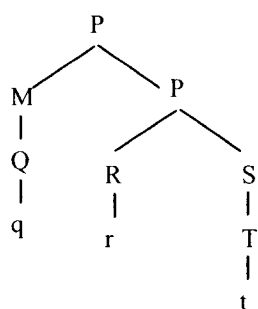
34)



The problem in (34) is that antisymmetry is not respected with respect to the ordering of r and q. Since M asymmetrically c-commands R, the set A contains $\langle M, R \rangle$, and consequently the set of terminals $d(A)$ contains $\langle q, r \rangle$. At the same time, P asymmetrically c-commands Q. Thus, $d(A)$ also includes $\langle r, q \rangle$.

In order to allow the projection of a specifier under the LCA, Kayne first treats specifiers as phrases that are adjoined to phrasal categories. When something adjoins, it adjoins to a segment of a category that is projected above the original node. In such a case, the category has two segments--one that was projected prior to the adjunction and one that immediately dominates the adjoined element. When a specifier adjoins to a phrasal category, the category is composed of two phrasal segments as illustrated below:

35)



The structure (35) differs from (34) in that M is dominated by a segment of P rather than dominated by a node distinct from P.

Kayne restricts c-command to apply only to categories (head and phrasal categories), excluding a segment to enter into that relation:

KAYNE'S (1994, 16) C-COMMAND:

- 36) X c-commands Y iff X and Y are categories and X excludes¹⁴ Y and every category that dominates X dominates Y.

The source of the problem in (34) was that P asymmetrically c-commands Q, outputting <P,Q> for the set A. Under the adjunction structure of (35), coupled with the definition of c-command (36), P no longer (asymmetrically) c-commands Q. The lower P is a segment, which does not enter into the c-command relation. P as a two-segment category does not c-command Q since the upper segment of P dominates Q. Since <P,Q>

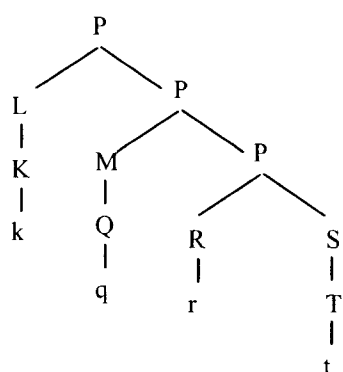
¹⁴ Kayne adopts the definition of exclusion in Chomsky (1986, 9): X excludes Y if no segment of X dominates Y. (cited in Kayne 1994, 133)

is not produced, the set of terminals $d(A)$ does not contain $\langle r, q \rangle$ or $\langle t, q \rangle$. Consequently, it obtains no violation of antisymmetry.¹⁵

2.1.3. *Multiple Adjunctions

While the LCA allows adjunction to a one-segment category, it prohibits adjunction to a two-segment category created by the previous instance of adjunction. An example of multiple adjunctions is shown in (37) below:

(37)



In (37), the non-head M has been adjoined to the non-head P, and the non-head L has been adjoined to the output of the first adjunction, the two-segment category P. The problem is that L asymmetrically c-commands Q and at the same time M asymmetrically c-commands L. Then, the set of terminals $d(A)$ contains both $\langle k, q \rangle$ and $\langle q, k \rangle$, which derive from $\langle L, Q \rangle$ and $\langle M, K \rangle$ in the set A , respectively. As a result, $d(A)$ violates antisymmetry.

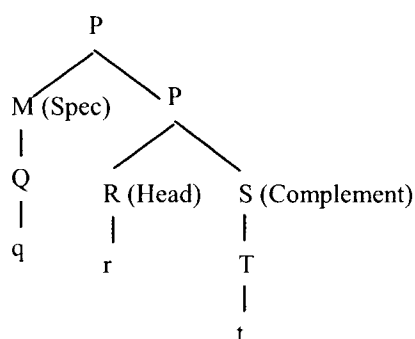
¹⁵ A parallel analysis holds for adjunction to a head.

From the exclusion of the phrase marker in (37), Kayne concludes that the adjunction of more than one phrase to a given phrase is impossible. It means that a given phrase can have only one specifier and allows no other adjunctions since specifiers are instances of adjunction in his theory.¹⁶

2.1.4. Universal Order: Specifier-Head-Complement

What is implicit in the mechanism is the assumption that the linear ordering of terminals constituted by $d(A)$ must be interpreted as the precedence or subsequence relation for the set of terminals. To illustrate, let us consider the phrase marker (35), which represents a head, a specifier, and a complement:

38)



In (38), the set of asymmetric c-command A is $\{ \langle M, R \rangle, \langle R, T \rangle \}$. The corresponding set $d(A)$ is $\{ \langle q, r \rangle, \langle r, t \rangle \}$. What follows from $d(A)$ with respect to the ordering of terminals, is that q and t are necessarily on opposite sides of r . If we represent Specifier, Head, and Complement in the phrase marker, it is required that Specifier and Complement be on opposite sides of Head. In other words, of the six permutations of Specifier, Head, and

¹⁶ The LCA also prohibits multiple adjunctions to a head category.

Complement, only two are permitted by the theory, namely Specifier-Head Complement and Complement-Head Specifier.

The order Specifier-Head-Complement is derived if the asymmetric c-command relation is mapped to the precedence relation. The opposite order is derived if the asymmetric c-command relation is mapped to the subsequence relation. Of the two permutations that are permitted by the theory, Kayne chooses to pursue Specifier-Head Complement as the universal order of a phrase (presupposing that UG does not give languages a choice between them), arguing that asymmetric c-command should be mapped to precedence, rather than subsequence. Kayne supports the choice partly by presenting facts of a wide variety of languages observed by Greenberg (1996).

The proposal of Specifier-Head-Complement order to be the universal order is incompatible with any analysis based on the standard sense of a directionality parameter. In the standard framework, a directionality parameter can be set for a given language and the parameter gives an instruction, for instance, as to whether complements should precede their associated heads. Under Kayne's proposal, the choice between precedence and subsequence is not a choice that individual languages can make. Then, word order variation should be derived by some other way. Abandoning directionality parameters, Kayne introduces different combinations of movements to derive such variation.

Mapping asymmetric c-command to precedence implies that any movement of a phrase to a c-commanding position must be leftward, and lowering of a phrase (if allowed) would have to be rightward. In his proposal, Kayne leaves the latter possibility aside, taking into account effects of the requirement that every trace be c-commanded by

Before the discussion of pre-nominal relatives, it is necessary to discuss the basic structure of clauses and phrases in Japanese. Japanese is characterized as a ‘head-final’ language; in this language, overtly realized heads typically follow their complements. It has widely been assumed that the complement-head order is a realization of the reverse order of mapping of the head and the complement of a ‘head-initial’ phrase, as illustrated below:

```

graph TD
    P1[P] --- Spec[Spec]
    P1 --- P2[P]
    P2 --- Complement[Complement]
    P2 --- Head[Head]

```

40) [IP [Yoko-ga]_I [_{I'} [_{VP} *t_I* [_{V'} [_{VP} [_{V'} [ringo-wo] [_V tabe-ta]]] *v*⁰]] I⁰]]
 Y.-NOM apple-ACC eat-PST
 ‘Yoko ate an apple/apples.’

A complementizer, which occurs in the clause-final position, is represented as C^0 on the right of IP:

- 41) John-wa [_{CP} [_{C'} [_{IP} Yoko-ga ringo-wo tabe-ta] [_C to]]] it-ta
 J.-TOP Y.-NOM apple-ACC eat-PST DECL say-PST
 ‘John said that Yoko ate an apple/apples.’

Similarly, postpositional phrases have been assumed to involve a mirror image structure of prepositional phrases:

- 42) [_{PP} [_{P'} [_{DP} Tokyo] [_P ni]]]
 Tokyo DAT
 ‘to Tokyo’

For quantificational DPs like *dare-mo* ‘everyone/anyone’, *dono hito-mo* ‘every person’, and *dare* ‘who’, Watanabe (1992, 51) presents the following structure:

- 43) [_{DP} *Op* [_{D'} [_{QP} dare] [_D mo]]]
 who UNIV.
 ‘everyone, anyone’
- 44) [_{DP} *Op* [_{D'} [_{QP} dare] [_D $\emptyset$]]]
 who
 ‘who’

Watanabe (1992) adopts Nishigauchi’s (1990) idea that a *wh*-expression in itself does not have any quantificational force, and its quantificational meaning is determined by some quantificational element (such as interrogative *ka* and universal quantifier *mo*) in a certain structural relation with it (Nishigauchi 1990, 110). Watanabe (1992) then identifies *mo*

as a quantificational particle in D^0 while *dare* ‘who’ as an indefinite projected in QP, as shown in (43) and (44).¹⁷

Under Kayne’s Antisymmetric theory, the structures (40)~(44) are disallowed, since they do not totally respect the precedence relation in mapping of asymmetric c-command. Kayne (1994, Chapter 4) argues that asymmetric c-command of non-terminals is mapped to precedence, which leads to the specifier-head-complement order (rather than the complement-head-specifier order), and that the surface specifier-complement-head order must be derived by movement of the complement past the head. The structures (40)~(44), however, represent the (specifier)-complement-head order as their base order.

2.2.2. The Structure of Japanese in Antisymmetry

2.2.2.1. *DP*

Under the Antisymmetry theory, the complement-head order must be derived by moving the complement to a specifier position past the head. The question is the specifier of what projection the complement should move to.

For quantificational DPs like *dare-mo* ‘everyone’ and *dare-ka* ‘someone’, I adopt Watanabe’s (1992) idea that D^0 is occupied by quantifiers like *-mo* and *-ka* and that indefinites like *dare* ‘who’ are in QP. Given this idea, the most straightforward way to derive *dare-mo* and *dare-ka* is to move QP to Spec,DP:

¹⁷ Watanabe (1992) hypothesizes the existence of the null operator *Op* in Spec,DP and argues that it is the element that undergoes *wh*-movement at S-structure in *wh*-questions.

STRUCTURE OF DP: $D^0 \in \{\text{MO 'UNIVERSAL', KA 'EXISTENTIAL', ...}\}$

- 45) $[_{\text{DP}} [_{\text{QP}}] [_{D^0} \quad t_{\text{QP}}]]$
 dare mo/ka

For interrogative DPs, relative DPs, and definite DPs, I leave open the possibility of Spec,DP not being occupied by the complement of DP:

STRUCTURE OF DP: $D^0 \in \{\emptyset\}$

- 46) $[_{\text{DP}} D^0 [_{\text{QP}}]]$

QP can be complex. Similar to *dare* 'who' is *dono hito* 'which person', where *dono* is an indefinite demonstrative which has definite counterparts. Like *dare*, *dono hito* can be followed by quantifiers like *-mo* and *-ka*. The expressions *dono hito-mo* and *dono hito-ka* mean 'every/any person' and 'some person', respectively. I assume that the demonstratives occupy the head of QP and the nominal occupies NP:

STRUCTURE OF QP: $Q^0 \in \{\text{DONO 'WHICH', SONO 'THAT, THE', ANO 'THAT (DISTAL), KONO 'THIS'}\}^{18}$

- 47) $[_{\text{QP}} Q^0 \quad \text{NP}]$
 dono hito

2.2.2.2. CP

Turning to the structure of CP, Kayne (1994) argues that clause-final complementizers are reflections of movement of IP to Spec,CP. One of the consequences of the movement is the unavailability of a landing site of obligatory interrogative *wh*-

¹⁸ The definite demonstratives *sono* 'that, the', *ano* 'that', *kono* 'this' can also occur with *-mo* and *-ka*. In this case, *-mo* means something like 'also, too', and *-ka* means something like 'or'. But these instances of *-mo* and *-ka* may or may not be in D.

movement, given that the movement targets Spec,CP. If clause-final complementizer constructions are derived by the movement of IP to Spec,CP, they will not be compatible with *wh*-movement that targets Spec,CP. The prediction finds support in Bach's (1971) observation that interrogative *wh*-movement is generally absent from consistently head-final languages.

Kayne's (1994) analysis provides a way to account for the absence of obligatory *wh*-movement in Japanese interrogatives. As is known widely, Japanese exhibits a question marker *-ka* at the right edge of interrogative clauses as well as a complementizer *to* at the right edge of declarative complement clauses. In this language, interrogative *wh*-movement is not obligatory; a *wh*-phrase can be fronted to the clause-initial position (by scrambling) or stay in a lower position:¹⁹

- 48) Yoko-wa kinoo Tiffany-de *nani*-wo kai-masi-ta-*ka*
 Y.-TOP yesterday T.-in what-ACC buy-Plt-PST-QUES
 'What did Yoko buy at Tiffany's yesterday?'

¹⁹ A *wh*-phrase can also stay within a conditional or other adjunct clause, which contains a clause-final marker. Note that the marker *to* can also be used to indicate subordination in the clause-final position, which is similar to the function of the conditional form of a verb or (past) auxiliary:

- i) [asita Tiffany-de *nani*-wo kau-*to*] keihin-ga morae-masu-*ka*
 tomorrow Tiffany-in what-ACC buy-CND gift-NOM receive.can-Polite-QUES
 'What should one buy at Tiffany's tomorrow to get a free gift?'
 (Lit.) 'What one can get a gift when/if s/he buys tomorrow?'
- ii) [asita Tiffany-de *nani*-wo kae-*ba*] keihin-ga morae-masu-*ka*
 tomorrow Tiffany-in what-ACC buy-CND gift-NOM receive.can-Polite-QUES
- iii) [asita Tiffany-de *nani*-wo kat-*tara*] keihin-ga morae-masu-*ka*
 tomorrow Tiffany-in what-ACC buy-PST.CND gift-NOM receive.can-Polite-QUES

For semantic differences between the conditionals, see McClure (2000, 172-178).

- 49) John-wa [Yoko-ga asita Tiffany-de *nani-wo* kau-*to*] itte-i-masi-ta-*ka*
 J.-TOP Y.-NOM tomorrow T.-in what-ACC buy-DECL say-I-Plt-PST-QUES
 ‘What was John saying that Yoko bought at Tiffany’s tomorrow?’
- 50) John-wa Tom-ni [Yoko-ga asita Tiffany-de *nani-wo* kau-*ka*] kii-ta
 J.-TOP T.-DAT Y.-NOM tomorrow T.-in what-ACC buy-QUES ask-PST
 ‘John asked Tom what Yoko is going to buy at Tiffany’s tomorrow.’

I assume, as has commonly been assumed (e.g., Saito 1985, Nishigauchi 1990, among others), that clause-final markers *-to*, *-ka*, and the like are complementizers. Following Kayne, I hypothesize that for interrogative clauses and complement clauses in sentences like (48)~(50), the complement of the complementizer projection moves to its specifier position:

STRUCTURE OF CP: $C^0 \in \{\text{TO ‘that’, KA ‘QUES’, ...}\}$

- 51) $[_{CP} \text{FP } [_{CP} C^0 t_{FP}]]$

In (51), what projection (represented as FP) constitutes the complement of the complementizer projection? If we consider the complementizer system proposed by Rizzi (1997), the complement of a complementizer projection will not unambiguously refer to IP/TP. In Section 2.3, I will discuss the structure of projections generated below the complementizer projection headed by *-to* and *-ka*.

2.2.2.3. vP

The widely adopted structure of vP for a simple transitive verb is roughly the following:

- 52) $[_{vP} \text{Subj } [v^0 [_{vP} V^0 \text{Obj}]]]$

In (52), the object of a transitive verb is base-generated as the complement of V^0 . The subject is base-generated in the specifier of light verb v^0 . It has been a standard practice to base-generate the subject of a transitive verb in this position, respecting the VP-internal Subject Hypothesis. Spec,vP is the base-position for the external argument of a transitive verb. This structure has continued to be assumed in the Minimalist framework.

The most popular vP structure for Japanese, however, is the (full or partial) mirror-image of V-Obj order:

53) $[_{vP} \text{ Subj } [v^0 [_{VP} \text{ Obj } V^0]]]$ or $[_{vP} \text{ Subj } [[_{VP} \text{ Obj } V^0] v^0]]$

This mirror-image structure of VP has been adopted by many. It has been the locus of the configurational analysis (Saito 1985, among many others). Unfortunately, neither structure in (53) is allowed in the Antisymmetry theory. What is allowed however is to derive Subj-Obj-Verb order from structure (52) by movement of Obj to a higher specifier (Kayne 1994, 35). I will adopt (52) as a basic structure, admitting that the structure of VP can be more complex as in analyzed in Larson (1988).²⁰

2.2.2.4. *IP/TP*

The basic structure of IP that is well adopted cross-linguistically is something like the following, incorporating the VP-Internal Subject hypothesis:

²⁰ I assume that unaccusative and unergative verbs also accompany vP. I follow the common claim that in unaccusatives the subject is base-generated in the complement of V with an empty Spec,vP and in unergatives, the subject is base-generated in Spec,vP. McClure (2002) presents an argument for the presence of a (aspectual) projection above VP for these verbs.

$$54) \quad [_{IP} I^0 [_{VP} \text{Subj} [v^0 [_{VP} V^0 \text{Obj}]]]]$$

In (54), the subject may move to Spec,IP. The structure of TP in the Minimalist framework is basically parallel to (54), except that it postulates TP in the place of IP:

$$55) \quad [_{TP} T^0 [_{VP} \text{Subj} [v^0 [_{VP} V^0 \text{Obj}]]]]$$

For Japanese, a similar structure has been assumed. It has been common to assume that the subject occupies Spec,IP (or S), as claimed by Saito (1985), Takezawa (1987), among others. More recently the VP-Internal hypothesis is adopted as illustrated in (56):²¹

$$56) \quad [_{TP} \text{Subj} [[_{VP} t_{\text{Subj}} [[_{VP} \text{Obj} V^0] v^0]] T^0]]$$

The structure neatly maps to the linear ordering of elements in sentences like the following:

$$57) \quad [_{TP} \textit{Jim-ga} [[_{VP} t_{\text{Subj}} [[_{VP} \textit{sake-wo} \textit{nom}] v^0]] .u]]$$

J.-NOM sake-ACC drink .CNC

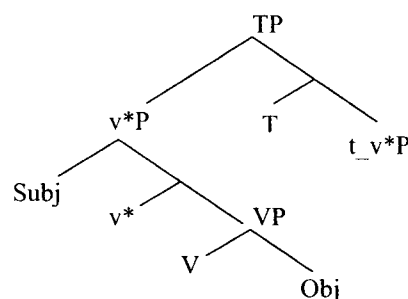
‘Jim drinks sake.’

²¹ Lasnik and Saito (1992) claim that the subject remains in Spec,vP in Japanese. This claim is motivated by the need of explanation for the absence of CED violation effects in scrambling out of a subject. Also see Miyagawa (2001) for the context in which the subject remains in Spec,vP.

Postulating I^0/T^0 on the right of the verb is a reflection of the assumption that inflectional endings of verbs are represented in I^0/T^0 .²² This assumption is shared by many researchers in the GB framework.

Unfortunately there is a problem in (56), besides the problem of base-generating $\text{Obj}-V^0$ order. The head T^0 is on the right of its complement. An Antisymmetric way of deriving $V-T^0$ order is to start out with a structure like (54) and move vP to Spec,TP (and subsequently move Obj and Subj to higher specifiers):

(58) $[_{TP} [_{vP} \text{Subj} [v^0 [_{VP} V^0 \text{Obj}]]] [T^0 t_{vP}]$



In (58), V^0 and T^0 do not form a constituent.²³ This derivation is consistent with Kayne's (1994) idea on the formation of sequences of agglutinative morphemes as opposed to that of sequences of inflectional morphemes.

²² Takezawa (1987), for instance, shows that some inflectional endings like the Conclusive (i.e., present/non-past) ending (as opposed to the Infinitive ending) have an ability to assign Nominative Case. I agree with him to the extent that inflectional endings play a role in Nominative Case assignment; however, they are not the only source of the assignment. This will be discussed below.

²³ There could be movement of V to light verb v .

If we assume that the inflectional ending of present/non-past is represented in T^0 , it is reasonable to consider whether some other inflectional endings that occur in the same position are also represented in T^0 . According to Shibatani (1990), Modern Japanese is normally analyzed as having six inflectional categories, and he claims that each category is composed of a root and an inflectional ending. The following table illustrates roughly what Shibatani (1990, 232) presents, with a couple of exceptions noted.²⁴

59) Inflectional Patterns of Verbs:

	'DIE'	'LOOK AT'	COPULA
IRREALIS [IRR] 'Mizen'	<i>sin.(a)</i> ²⁵	<i>mi.∅</i>	<i>dar</i>
INFINITIVE ²⁶ [INF] 'Renyoo'	<i>sin.i</i>	<i>mi.∅</i>	<i>de</i> <i>ni</i> ²⁷
CONCLUSIVE [CNC] 'Syuusi'	<i>sin.u</i>	<i>mi.ru</i>	<i>da</i>
ATTRIBUTIVE [ATT] 'Rentai' ²⁸	<i>sin.u</i>	<i>mi.ru</i>	<i>na</i>
HYPOTHETICAL [HYP] 'Katei'	<i>sin.e</i>	<i>mi.re</i>	<i>nara</i>
IMPERATIVE [IMPR] 'Meirei'	<i>sin.e</i>	<i>mi.ro</i> <i>mi.yo</i>	-

Similar categories are found in the inflectional paradigm of adjectives:

²⁴ The table does not present Shibatani's seventh category "Cohorative"; it is presented as part of Irrealis following the traditional analysis.

²⁵ It is not clear whether the vowels /a/ in Irrealis represents an Inflectional ending in the same way as other endings.

²⁶ In Shibatani (1990), this category is referred to as "Adverbial". The term 'Infinitive' is used here adopting Bloch's term.

²⁷ The form *ni* is not presented in Shibatani (1990). In the traditional analysis cited in various dictionaries, this form is identified as an Infinitive (Renyoo) form of the copula.

²⁸ This is the form that is used in relative clauses. In Pre-modern Japanese, the Attributive form of adjectives and some classes of verbs (not represented in the table) has an ending distinct from that of the Conclusive form. In Modern Japanese, these forms have identical endings for verbs and adjectives with exception of the copular.

60) Inflectional Patterns of Adjectives:

	'BEAUTIFUL'
IRREALIS [IRR] 'Mizen'	<i>utukusi.k - ar</i> ²⁹
INFINITIVE [INF] 'Renyoo'	<i>utukusi.ku</i>
CONCLUSIVE [CNC] 'Syuusi'	<i>utukusi.i</i>
ATTRIBUTIVE [ATT] 'Rentai'	<i>utukusi.i</i>
HYPOTHETICAL [HYP] 'Katei'	<i>utukusi.k - er.e</i>
IMPERATIVE [IMPR] 'Meirei'	-

With the exception of the Irrealis form, it is clear that the five forms consist of a root and a designated inflectional ending. If the ending of the Conclusive form represents T^0 as traditionally analyzed, it is reasonable to assume that the other four endings also represent T^0 as well. I assume that in addition to the Conclusive form, the four forms are derived from vP moving to Spec,TP as illustrated in (58).³⁰ For the Irrealis form, I assume that it is formed either by vP itself or by projecting TP as the other forms.

The past tense form is more complex. It is composed of the Infinitive form of a verb followed by the past auxiliary whose Conclusive form is *ta* in Modern Japanese (and *tari* in Pre-modern Japanese):

VERB INFINITIVE + PAST CONCLUSIVE:

- 61) Jim-ga okane-wo das.i-ta
 Jim-NOM money-ACC pull-out.INF-PST.CNC
 'Jim pulled out money.'

²⁹ The Irrealis form *utukusikaro* and the Hypothetical form *utukusikere* can be analyzed as a combination of the infinitive form *utukusi.ku* and the Irrealis/Hypothetical form of the verb *aru* 'exist'.

³⁰ I will revisit the formation of the Attributive form in more detail in section 2.3.7; I will discuss the possibility that the Attributive form is composed of the Conclusive form and the ending *-ru*.

The past auxiliary has other forms:

62) Inflectional Patterns of the Past Auxiliary *ta*:

	PAST AUX, MODERN	PAST AUX, PRE- MODERN
IRREALIS [IRR] ‘Mizen’	<i>tar</i>	<i>tar.(a)</i>
INFINITIVE [INF] ‘Renyoo’	<i>(tar.i)</i>	<i>tar.i</i>
CONCLUSIVE [CNC] ‘Syuusi’	<i>ta.ø</i>	<i>tar.i</i>
ATTRIBUTIVE [ATT] ‘Rentai’	<i>ta.ø</i>	<i>tar.u</i>
HYPOTHETICAL [HYP] ‘Katei’	<i>tar.a</i>	<i>tar.e</i>
IMPERATIVE [IMPR] ‘Meirei’	-	<i>tar.e</i>

I assume that the Past auxiliary is a verb and it takes TP headed by the Infinitive ending as the complement. Given that, I propose the following derivation up to TP for the past form:

$$\begin{aligned}
 (63) \quad & \dots [_{VP} v^0 [_{VP} [V \text{ ta}] [_{TP} [_{VP} \text{Subj} [v^0 [_{VP} V^0 \text{Obj}]]] [T^0 t_{VP}]]]] \\
 & \dots [_{TP} T^0 [_{VP} [_{TP} [_{VP} \text{Subj} [v^0 [_{VP} V^0 \text{Obj}]]] [T^0 t_{VP}]] [v^0 [_{VP} [V \text{ ta}] t_{TP}]]]] \\
 & [_{TP} [_{VP} [_{TP} [_{VP} \text{Subj} [v^0 [_{VP} V^0 \text{Obj}]]] [T^0 t_{VP}]] [v^0 [_{VP} [V \text{ ta}] t_{TP}]] [T^0 t_{VP}]]]
 \end{aligned}$$

The derivation in (63) shows that the past form is derived from two layers of TP projection: the lower one for the verb and the higher one for the Past auxiliary. The latter layer is necessary since the Past auxiliary inflects.

2.3. *Positions of Overt Arguments and Adjuncts*

2.3.1. Flexible Ordering

The order of argument and adjunct phrases is flexible in Japanese. Objects and/or adjuncts can occur on the left of the subject, and objects and adjuncts may precede or

follow each other. The sentences (48) and (49), for instance, have at least the following order variation within the domain of the complementizer:

VARIATION EXAMPLES FOR (48):

- 64) kinoo Yoko-wa *nani*-wo Tiffany-de kai-masi-ta-*ka*
 yesterday Y.-TOP what-ACC T.-in buy-Plt-PST-QUES
 ‘What did Yoko buy at Tiffany’s yesterday?’
- 65) *nani*-wo Yoko-wa kinoo Tiffany-de kai-masi-ta-*ka*
 what-ACC Y.-TOP yesterday T.-in buy-Plt-PST-QUES
- 66) Yoko-wa *nani*-wo kinoo Tiffany-de kai-masi-ta-*ka*
 Y.-TOP what-ACC yesterday T.-in buy-Plt-PST-QUES
- 67) Tiffany-de kinoo *nani*-wo Yoko-wa kai-masi-ta-*ka*
 T.-in yesterday what-ACC Y.-TOP buy-Plt-PST-QUES

VARIATION EXAMPLES FOR (49):

- 68) John-wa [asita Yoko-ga Tiffany-de *nani*-wo kau-to] itte-i-masi-ta-*ka*
 J.-TOP tomorrow Y.-NOM T.-in what-ACC buy-DECL say-I-Plt-PST-QUES
 ‘What was John saying that Yoko was going to buy at Tiffany’s tomorrow?’
- 69) John-wa [*nani*-wo Yoko-ga asita Tiffany-de kau-to] itte-i-masi-ta-*ka*
 J.-TOP what-ACC Y.-NOM tomorrow T.-in buy-DECL say-I-Plt-PST-QUES
- 70) John-wa [Yoko-ga *nani*-wo asita Tiffany-de kau-to] itte-i-masi-ta-*ka*
 J.-TOP Y.-NOM what-ACC tomorrow T.-in buy-DECL say-I-Plt-PST-QUES
- 71) John-wa [Tiffany-de asita *nani*-wo Yoko-ga kau-to] itte-i-masi-ta-*ka*
 J.-TOP T.-in tomorrow what-ACC Y.-NOM buy-DECL say-I-Plt-PST-QUES

The above examples illustrate that the subject, the object phrase, and the adjunct phrase can appear in various orders.

Under the standard framework, whatever phrase appears on the left of the subject can be analyzed as a phrase adjoined to IP (or vP, the specifier of which is occupied by

the subject), as explored in Baltin (1982), and Lasnik and Saito (1992), among others. Under the Antisymmetry framework, however, multiple adjunctions are prohibited. Under the proposed analysis, in which the specifier of IP/TP is already occupied by vP, phrases that appear on the left of it must be in the specifiers of projections above IP/TP. Such projections must be projected in a lower position than the complementizer under this analysis; the clause-final complementizer is derived by the movement of a phrase containing these projections past the complementizer. What projections can host these pre-verbal phrases?

2.3.2. Rizzi's Complementizer System

In *The Fine Structure of the Left Periphery* Rizzi (1997) proposes splitting of the complementizer layer into different functional projections, which reflect different roles of complementizers. In the proposal, he identifies four roles of complementizers in clausal structures. The first role is to specify the “Force”. It is to specify a clause as a question, a declarative, a relative, an exclamatory, etc, and such a specification can be selected by an element of a higher clause. The second role is to express a finiteness distinction which selects tense and other specifications on the verbal system (the IP system). The third role refers to the topic-comment articulation. Rizzi states that “The topic is a preposed element [...] and normally expressing old information, somehow available and salient in previous discourse; the comment is a kind of complex predicate, an open sentence predicated of the topic and introducing a new information (Rizzi 1997, 285)”. The fourth role refers to the focus-presupposition articulation. He states, “the preposed element,

bearing focal stress, introduces new information, whereas the open sentence expresses contextually given information (Rizzi 1997, 285)’.

Rizzi formalizes the configurational structure of complementizer projections, considering the relative ordering of four elements in Italian, French, and English-- interrogative pronouns, relative pronouns, topics, and focalized elements, which typically occur in the left periphery of a clause. The maximally expanded structure in his proposal (Rizzi 1997, 296-297) is illustrated below:

72) $[_{\text{ForceP}} \text{Force}^0 [_{\text{TopP}^*} \text{Top}^0 [_{\text{FocP}} \text{Foc}^0 [_{\text{TopP}^*} \text{Top}^0 [_{\text{FinP}} \text{Fin}^0 \text{IP}]]]]]$, where TopP is recursive.

Rizzi assumes that the topic-focus system is “to be present in a structure only if ‘needed’”, whereas the force-finite system is “to be present in all non-truncated clausal structures (i.e., except in ECM and other “S’-deletion” contexts)” (Rizzi 1997, 287-288).

Rizzi maps topic and focus phrases, question and relative *wh*-phrases, and complementizer heads of Italian and English to positions in the complementizer system as follows:

73)

$[_{\text{ForceP}}$	Force^0	$[_{\text{TopP}^*}$	Top^0	$[_{\text{FocP}}$	Foc^0	$[_{\text{TopP}^*}$	Top^0	$[_{\text{FinP}}$	Fin^0	...
	<i>that/</i> <i>che</i>								<i>for/</i> <i>di</i>	
rel. <i>wh</i> -		topic/ left-disloc.		ques. <i>wh</i> -/ focus		topic/ left-disloc.				

Rizzi cites various examples to show compatibility and incompatibility of such phrases and heads as well as ordering constraints among them, and demonstrates how such ordering phenomena can be explained in the proposed complementizer system.

For example, in (73), relative *wh*-phrases occupy the specifier of the highest complementizer position while interrogative *wh*-phrases occupy a lower position. Note that in this proposal Rizzi does not incorporate the ‘raising analysis’ of relatives but assumes the standard view that the ‘head’ nominal is projected outside the complementizer system. The relative ordering comes from the observation of the fact that relative *wh*-phrases cannot follow a topic or a focus, whereas question *wh*-phrases must follow a topic. Rizzi (1997, 298) presents the following contrasts found in Italian:

TOPIC & RELATIVE WH-:

- 74) Un uomo a cui, il premio Nobel, lo daranno senz’altro.
 ‘A man to whom, the Nobel Prize, they will give it undoubtedly.’
- 75) * Un uomo, il premio Nobel, a cui lo daranno senz’altro.
 ‘A man, the Nobel Prize, to whom they will give it undoubtedly.’

TOPIC & INTERROGATIVE WH-:

- 76) * A chi, il premio Nobel, lo daranno?
 ‘To whom, the Nobel Prize, they will give it?’
- 77) Il premio Nobel, a chi lo daranno?
 ‘The Nobel Prize, to whom they will give it?’

FOCUS & RELATIVE WH-:

- 78) Ecco un uomo a cui, IL PREMIO NOBEL, dovrebbero dare (non il premio X).
 ‘Here is man to whom, THE NOBEL PRIZE, they should give (not prize X).’
- 79) * Ecco un uomo, IL PREMIO NOBEL, a cui dovrebbero dare (non il premio X).
 ‘Here is man, THE NOBEL PRIZE, to whom they should give (not prize X).’

Similar contrasts are observed in English:

TOPIC & RELATIVE WH-:

80) ? a man to whom liberty we should never grant (Baltin 1982, in Rizzi 1997, 307)

81) * a man liberty to whom we should never grant (Bianchi 1994/5, 178)

TOPIC & INTERROGATIVE WH-:

82) * What in the living room did Mary find? (Rochemont 1989, in Bianchi 1994/5, 178)

83) In the living room, what did Mary find? (Bianchi 1994/5, 178)

Rizzi's proposal lies in the system presented in Chomsky (1995), in which syntactic movement must be triggered by the satisfaction of certain morphological requirements of heads. He abandons free preposing and adjunction to IP and assumes that preposed phrases enter into a Spec-Head configuration with some heads. As represented in his proposal, the structural configuration respects Kayne's binary branching (Kayne 1984) and restrictive theory of adjunction (Kayne 1994).

2.3.3. Multiple Complementizer Projections for Japanese

Rizzi's (1997) complementizer system provides an option to project multiple complementizer projections above IP/TP, of which the head may or may not be overtly realized. The proposed structure is repeated below:

84) $[_{\text{ForceP}} \text{Force}^0 [_{\text{TopP}^*} \text{Top}^0 [_{\text{FocP}} \text{Foc}^0 [_{\text{TopP}^*} \text{Top}^0 [_{\text{FinP}} \text{Fin}^0 \text{IP}]]]]]$, where TopP is recursive.

Rizzi presents general roles of each type of complementizer projection, as discussed earlier. Among them, he identifies Spec,TopP as a landing site of Italian Left-Dislocation

and English Topicalization, and allows either an argument phrase or an adverb to occupy the position. (He mentions, alternatively, the possibility of a sentential adverb to be base-generated in a TopP.) He also shows the flexibility of order of two topics appearing on the left and right of a focus phrase in Italian (Rizzi 1997, 295-6):

- 85) Credo che a Gianni, QUESTO, domani, gli dovremmo dire
 C Top Foc Top
 ‘I believe that to Gianni, THIS, tomorrow we should say.’
- 86) Credo che domani, QUESTO, a Gianni, gli dovremmo dire
 C Top Foc Top
- 87) Credo che domani, a Gianni, QUESTO gli dovremmo dire
 C Top Top Foc
- 88) Credo che a Gianni, domani, QUESTO gli dovremmo dire
 C Top Top Foc
- 89) Credo che QUESTO domani, a Gianni, gli dovremmo dire
 C Foc Top Top
- 90) Credo che QUESTO a Gianni, domani, gli dovremmo dire
 C Foc Top Top

The flexibility of the Topic field in the number of projections and in their order that is instantiated in Italian is also observed in Japanese. In Japanese, topics are grammatically marked by the particle *-wa*:

- 91) John-wa [asita-wa, *nani-wo*, Tiffany-de-wa, Yoko-ga kau-*to*] itte-i-masi-ta-*ka*
 J.-TOP tomorrow-TOP what-ACC T.-in-TOP Y.-NOM buy-DECL say-I-Plt-PST-QUES
 ‘What was John saying that Yoko was going to buy at Tiffany’s tomorrow?’
- 92) John-wa [Tiffany-de-wa, *nani-wo*, asita-wa, Yoko-ga kau-*to*] itte-i-masi-ta-*ka*
 J.-TOP T.-in-TOP what-ACC tomorrow-TOP Y.-NOM buy-DECL say-I-Plt-PST-QUES

- 93) John-wa [asita-wa, Tiffany-de-wa, *nani-wo*, Yoko-ga kau-to] itte-i-masi-ta-ka
J.-TOP tomorrow-TOP T.-in-TOP what-ACC Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 94) John-wa [Tiffany-de-wa, asita-wa, *nani-wo*, Yoko-ga kau-to] itte-i-masi-ta-ka
J.-TOP T.-in-TOP tomorrow-TOP what-ACC Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 95) John-wa [*nani-wo*, asita-wa, Tiffany-de-wa, Yoko-ga kau-to] itte-i-masi-ta-ka
J.-TOP what-ACC tomorrow-TOP T.-in-TOP Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 96) John-wa [*nani-wo*, Tiffany-de-wa, asita-wa, Yoko-ga kau-to] itte-i-masi-ta-ka
J.-TOP what-ACC T.-in-TOP tomorrow-TOP Y.-NOM buy-DECL say-I-Plt-PST-QUES

The above examples show that in Japanese more than one topic can appear in a clause and that they can appear on the left or on the right of a scrambled phrase.³¹

Note however that in Japanese, flexibility is not particular to topics, but scrambled phrases as well. The same order flexibility is observed in non *wa*-marked counterparts:

³¹ I leave open the question of whether the two different uses of *-wa* that Kuno (1973) observes are realized differently in the complementizer system. Kuno's (1973, 38) two different uses of *-wa* refer to "thematic" use and "contrastive" use. The former can typically be paraphrased in English as *speaking of ...*, and the latter, as *X..., but ...*:

- (i) John-wa gakusei desu.
J.-TOP student COP
'Speaking of John, he is a student'
- (ii) Ame-wa hutte-i-masu-ga ...
rain-TOP fall-I-Polite-but
'It is raining but ...'

With multiple topics, the only one (usually the right most topic) may be interpreted as "theme" with the rest interpreted as "contrastive".

Shibatani (1990), on the other hand, considers these interpretations as "epiphenomena". In Fiengo and McClure (2002), the use of *-wa* has been re-analyzed from a speech act point of view.

- 97) John-wa [asita, *nani*-wo, Tiffany-de, Yoko-ga kau-to] itte-i-masi-ta-ka
 J.-TOP tomorrow what-ACC T.-in Y.-NOM buy-DECL say-I-Plt-PST-QUES
 ‘What was John saying that Yoko was going to buy at Tiffany’s tomorrow?’
- 98) John-wa [Tiffany-de, *nani*-wo, asita, Yoko-ga kau-to] itte-i-masi-ta-ka
 J.-TOP T.-in what-ACC tomorrow Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 99) John-wa [asita, Tiffany-de, *nani*-wo, Yoko-ga kau-to] itte-i-masi-ta-ka
 J.-TOP tomorrow T.-in what-ACC Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 100) John-wa [Tiffany-de, asita, *nani*-wo, Yoko-ga kau-to] itte-i-masi-ta-ka
 J.-TOP T.-in tomorrow what-ACC Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 101) John-wa [*nani*-wo, asita, Tiffany-de, Yoko-ga kau-to] itte-i-masi-ta-ka
 J.-TOP what-ACC tomorrow T.-in Y.-NOM buy-DECL say-I-Plt-PST-QUES
- 102) John-wa [*nani*-wo, Tiffany-de, asita, Yoko-ga kau-to] itte-i-masi-ta-ka
 J.-TOP what-ACC T.-in tomorrow Y.-NOM buy-DECL say-I-Plt-PST-QUES

Rizzi does not specify where a scrambled phrase might appear in the complementizer system. The similarity in flexibility of word order and the possibility of multiplicity between topics and scrambled phrases indicates that the projection of landing sites of scrambled phrases shares the necessity-driven, potentially recurring nature with the projection of landing/generation sites of topic phrases.

Scrambling, on the other hand, differs from Topicalization in Japanese. First, quantificational phrases with *-mo* and *wh*-phrases can undergo scrambling, while such phrases cannot occur as a topic (i.e., with *-wa*):³²

³² For the incompatibility of *-wa* with *wh*-phrases, see Miyagawa (1987).

- 103) Yoko-wa [dono otoko-ni-mo(*-wa), maiban, onna-wo, san-nin, Joe-ga syookai si-ta-to] omot-ta
 Yoko-TOP [which man-DAT-MO(-TOP), everynight, woman-ACC, 3-human, Joe-NOM introduce do-PST-DECL] think-PST
 ‘Yoko thought that Joe introduced every man three women every night.’

The incompatibility of topics with quantificational phrases is one of the criteria that Rizzi (1997) employs to motivate the postulation of TopP (independently of FocP). His claim is based on Italian data, which show that quantificational elements (no one, all, etc.) cannot be Topics, while they allow focalization. If this criterion should apply to characterize elements in the specifier of TopP, then landing sites of scrambling should not be Spec,TopP.

Scrambling in Japanese also differs from Focalization in Rizzi’s sense. Scrambling does not give rise to weak crossover effects. Rizzi follows Culicover’s (1992) analysis that Focalization exhibits such effects (unlike topicalization). In Japanese, the pronominal element *soitu* ‘he/that guy’ can be bound by a quantificational phrase and it gives a bound reading, as illustrated in (104). When it is not preceded by a quantificational phrase, it cannot have such a reading, as illustrated in (105) and (107). When a quantificational

object is scrambled to the left of *soitu*, however, it gives a bound reading, as illustrated in (106) and (108):³³

- 104) dono syoonen-mo_i(-ga) soitu_i-ga katte-i-ta inu-wo oikake-ta
 which boy-MO-(NOM) he-NOM own-I-PST dog ACC run.after-PST
 ‘Every boy_i ran after the dog that he_i owned.’
- 105) * soitu_i-ga katte-i-ta inu-ga dono syoonen-mo_i oikake-ta
 he-NOM own-I-PST dog-NOM which boy-MO run.after-PST
 * ‘The dog that he_i owned ran after every boy_i.’
- 106) dono syoonen-mo_i soitu_i-ga katte-i-ta inu-ga oikake-ta
 which boy-MO he-NOM own-I-PST dog-NOM run.after-PST
 ‘Every boy_i, the dog that he_i owned ran after.’
- 107) * keikan-ga [soitu_i-ga katte-i-ta inu-ga dono syoonen-mo_i oikake-ta-to] it-ta
 officer-NOM he-NOM own-i-PST dog-NOM which boy-MO run.after-PST-DECL-say-
 PST
 * ‘The police officer said that the dog that he_i owned ran after every boy_i.’
- 108) dono syoonen-mo_i keikan-ga [soitu_i-ga katte-i-ta inu-ga oikake-ta-to] it-ta
 which boy-MO officer-NOM he-NOM own-i-PST dog NOM run.after-PST-DECL-say-
 PST
 ‘Every boy_i, the police officer said that the dog that he_i owned ran after.’

³³ Yoshimura (1989, cited in Nemoto 1993) and Nemoto (1993) observe that long-distance scrambling remedies weak crossover violations:

- (i) ? dare_j-wo [soitu_i-no hahao_y-ga [Hanako-ga *t*₁ aisite-iru-to] it-ta no]
 who-ACC he-NOM mother-NOM H.-NOM love-I-DECL say-PST QUES
 ‘Who does his mother said that Hanako loves?’
- (ii) ? dare_j-wo [soitu_i-no hahao_y-ga Michael-ni [PRO *t*₁ kubi-ni suru yoo(ni)] tanon-
 da no]
 who-ACC he-NOM mother-NOM M.-DAT fire-DAT do ask-PST
 QUES
 ‘Who does his mother asked Michael to fire?’

The absence of weak crossover effects in scrambling indicates that it differs from Focalization in English and Italian. Since the sensitivity to weak crossover is one of the characteristics of Spec,FocP, the latter position is not the landing site of scrambling.

Since the properties of scrambling do not exactly match the properties of either TopP or FocP that Rizzi describes, I assume that there are recursive complementizer projections available for scrambling in the complementizer system, those projections which can host quantificational elements. I call such complementizer projections as SP, and for the moment leave aside the question of whether some quantificational element occupies Spec,FocP rather than Spec,SP. I assume that SP can occur between ForceP and FinP, like TopP, and is projected as needed. The structure of complementizer projections that I assume is something like the following:

- 109) $[_{\text{ForceP}} \text{Force}^0 [_{\text{TopP}^*/\text{SP}^*} \text{Top}^0/\text{S}^0 [_{\text{FocP}} \text{Foc}^0 [_{\text{TopP}^*/\text{SP}^*} \text{Top}^0/\text{S}^0 [_{\text{FinP}} \text{Fin}^0 \text{IP}]]]]]$, where TopP and SP are recursive and their order is not fixed.

2.3.4. Ga-Marking of Subject

The structure (109) facilitates positions for topic phrases, scrambled phrases, and adjunct phrases. Where should a *ga*-marked subject be?

Many researchers of Japanese syntax have held the view that *ga*-marking is a realization of Nominative Case assignment and that it is licensed by the tensed/finite INFL, with the assumption that the tensed/finite INFL is realized in the Conclusive form of a predicate. Takezawa (1987) observes pairs like (110) and (111), in which *ga*-

marking is possible with the Conclusive form but not possible with the Infinitive form in the Exceptional Case Marking construction:

ADJECTIVE: CONCLUSIVE FORM:

- 110) Taroo-wa Hanako-ga/wo *utukusi.i*-to omot-ta
 Taroo-TOP Hanako-NOM/ACC beautiful.CNC-DECL think-PST
 ‘Taroo thought that Hanako is beautiful.’

ADJECTIVE: INFINITIVE FORM:

- 111) Taroo-wa Hanako-*ga/wo *utukusi.ku* omot-ta
 Taroo-TOP Hanako-NOM/ACC beautiful.INF think-PST
 ‘Taroo thought Hanako beautiful.’

Takezawa analyzes that the verb *omou* ‘think’ can take two different types of clausal complement. One is a tensed S’ (CP), as in (110), and one is a non-finite, small clause (IP) as in (111). Observing such contrasts, Takezawa concludes that the tensed/finite INFL, realized as the Conclusive form, is responsible for Nominative Case assignment of a subject, hence *ga*-marking of a subject. The impossibility of *ga*-marking in (111) follows from the absence of the tensed/finite INFL with the Infinitive form of the adjective.

Whitman (2003) makes it clear, however, that the absence of tense specification of a predicate alone does not guarantee the unavailability of *ga*-marking. He challenges Takezawa’s view by showing occurrences of *-ga* in the absence of a tensed form of a predicate. The following examples illustrate this point:

VERB: INFINITIVE FORM: KUNO (1973, 195)

- 112) John-ga uwagi-wo *nu.gi.(de)*, Mary-ga hangaa-ni kake-ta
 John-NOM coat-ACC takeoff.INF.(TE) Mary-NOM hanger-DAT hang.INFL-PST.CNC

‘John took off his coat, and Mary hung it on the hanger.’

ADJECTIVE: INFINITIVE FORM:

- 113) Sono kadan-wa sumire-ga *utukusi.ku. (te)*, bara-mo ii kaori da
 that flowerbed-TOP pansy-NOM beautiful.INF.(TE) rose-also good scent COP.CNC
 ‘In that flower bed, pansies are beautiful and roses also smell nice.’

The co-occurrence of the Infinitive form and a *ga*-marked subject in the above examples indicates that the impossibility of *ga*-marking cannot be predicted by the non-tense specification of a predicate alone.

Whitman also points out, on the other hand, that there is a relationship between -*ga* and finiteness, as indicated by the incompatibility of *ga*-marking in the Exceptional Case Marking construction in (111). The Exceptional Case Marking is possible for a subject of a non-finite clause. Since the tense specification of a predicate does not uniquely correspond to *ga*-marking, Whitman argues for a more direct relationship between -*ga* and finiteness; he argues that -*ga* itself is the realization of finiteness. It follows that *ga*-marking in a complement clause is incompatible with a verb that selects a non-finite clause. This view is inspired by Kayne’s (1994) analysis of -*ga* and -*wa* as clausal heads. As a clausal head, -*ga* has the ability to occur with a range of predicate forms (in embedded contexts), including the Infinitive form, as illustrated in (112) and (113).³⁴

³⁴ The *ga*-as-finite-head analysis resolves some of the mysteries that would arise from the *ga*-marking via predicate’s tense specification.

If we adopt Kayne's idea that the topic marker *-wa* is a clausal head together with the idea that topics are in TopP, then the subject topic should be in Spec,TopP (instead of Spec,FinP) with *-wa* in the head of TopP, as illustrated below:

- 121) [CP ... [TopP Subj_i -wa [FinP Fin⁰ [TP [_vP t₁ [_vP V⁰ t₂]] T⁰ t_{vP}]]] -to ...]
- TOP V -CNC -DECL

Thirdly, an overt subject may be marked by one of the emphatic/quantificational markers. Some of the markers can accompany *-ga* or *-wa*:

- 122) John-wa [kinoo, sore-wo, Yoko-dake(-ga/wa) kat-ta-to] itte-i-masi-ta
J.-TOP yesterday that-ACC Y.-only(-NOM/TOP) buy-PST-DECL say-I-Plt-PST
'John was saying that only Yoko bought it yesterday'

The co-occurrence possibility of a marker like *-dake* ‘only’ with either *-ga* and *-wa* makes it difficult to unambiguously identify the position of the subject. It may be in Spec,FinP or Spec,TopP. Alternatively, it may be in the specifier of a complementizer projection appropriate for the emphasis/quantification expressed by the particle.

2.3.5. SOV Order of Japanese

2.3.5.1. The Clause Stacking Approach

The structure (114) derives OSV order. How should we derive SOV order?

Japanese entertains order flexibility not only above the subject but also below the subject.

We have counterparts of (91)~(102) which have the subject on the left of all the arguments and adjuncts:

WITH TOPICS:

- 123) John-wa [Yoko-ga, asita-wa, *nani-wo*, Tiffany-de-wa, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM tomorrow-TOP what-ACC T.-in-TOP buy-DECL say-I-Plt-PST-QUES
 ‘What was John saying that Yoko was going to buy at Tiffany’s tomorrow?’
- 124) John-wa [Yoko-ga, Tiffany-de-wa, *nani-wo*, asita-wa, kau to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM T.-in-TOP what-ACC tomorrow-TOP buy-DECL say-I-Plt-PST-QUES
- 125) John-wa [Yoko-ga, asita-wa, Tiffany-de-wa, *nani-wo*, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM tomorrow-TOP T.-in-TOP what-ACC buy-DECL say-I-Plt-PST-QUES
- 126) John-wa [Yoko-ga, Tiffany-de-wa, asita-wa, *nani-wo*, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM T.-in-TOP tomorrow-TOP what-ACC buy-DECL say-I-Plt-PST-QUES
- 127) John-wa [Yoko-ga, *nani-wo*, asita-wa, Tiffany-de-wa, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM what-ACC tomorrow-TOP T.-in-TOP buy-DECL say-I-Plt-PST-QUES
- 128) John-wa [Yoko-ga, *nani-wo*, Tiffany-de-wa, asita-wa, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM what-ACC T.-in-TOP tomorrow-TOP buy-DECL say-I-Plt-PST-QUES

WITHOUT TOPICS:

- 129) John-wa [Yoko-ga, asita, *nani-wo*, Tiffany-de, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM tomorrow what-ACC T.-in buy-DECL say-I-Plt-PST-QUES
 ‘What was John saying that Yoko was going to buy at Tiffany’s tomorrow?’
- 130) John-wa [Yoko-ga, Tiffany-de, *nani-wo*, asita, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM T.-in what-ACC tomorrow buy-DECL say-I-Plt-PST-QUES
- 131) John-wa [Yoko-ga, asita, Tiffany-de, *nani-wo*, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM tomorrow T.-in what-ACC buy-DECL say-I-Plt-PST-QUES
- 132) John-wa [Yoko-ga, Tiffany-de, asita, *nani-wo*, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM T.-in tomorrow what-ACC buy-DECL say-I-Plt-PST-QUES
- 133) John-wa [Yoko-ga, *nani-wo*, asita, Tiffany-de, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM what-ACC tomorrow T.-in buy-DECL say-I-Plt-PST-QUES
- 134) John-wa [Yoko-ga, *nani-wo*, Tiffany-de, asita, kau-to] itte-i-masi-ta-ka
 J.-TOP Y.-NOM what-ACC T.-in tomorrow buy-DECL say-I-Plt-PST-QUES

The problem is that FinP does not project above another complementizer projection and it itself cannot project recursively like TopP. However, it is structurally possible to project a null copula-like predicate which can have TP and FinP above it. It can be thought of something similar to the ‘it-is-CP’ construction as in *It was that the car broke down*. If we apply this idea, projections that are involved in the construction of SOV order of Japanese will be the following:³⁶

$$135) \quad \dots [\text{FinP}_2 \text{Fin}^0 [\text{TP}_2 \text{T}^0 [\text{vP}_2 \text{v}^0 [\text{VP}_2 \text{V}^0_{\text{COP}} [\text{CP}_1 \text{C}^0 [\text{SP} \dots [\text{FinP}_1 \text{Fin}^0 [\text{TP}_1 [\text{vP}_1 \text{v}^0 [\text{VP}_1 \text{V}^0 \dots]] \text{T}^0 t_{\text{VP}_1}]]]]]]]]]]$$

In (135), the verb copula is projected above CP. Above the copula, vP, TP, and another FinP are projected. This FinP hosts the subject that occurs on the left of the object.

Note that C just below the copula is null. It is not clear whether its complement should move to Spec,CP as in the case of the overt complementizers discussed earlier. I have not found a Japanese structure which is reasonably analyzed as having $\text{V}_{\text{COP}}\text{[C-clause]}$ order. On the other hand, there is a structure that represents $\text{[clause-C]}\text{-V}_{\text{COP}}$ order; an interrogative clause ending with *-ka* can function as a predicate of a copular construction:

³⁶ I am not completely denying the possibility that there may be positions above vP and below TP in which an object (and adverbs) can occupy. However, an object follow a subject and at the same time precede a temporal adverb and an adverb like ‘fortunately’, which have been assumed to be generated somewhere around TP (e.g., Miyagawa 2001). Some syntactic differences have been found between these adverbs and manner adverbs, which have been claimed to be generated around vP. If it is correct to generate the former adverbs above TP, we would need a position of an overt object above TP and below the subject, to derive Subj-Obj-Adv order.

- 136) Mondai-wa Yoko-ga nani-wo katta-ka desu/da
 problem-TOP Y.-NOM what-ACC buy.PST-QUES COP
 ‘The question is what Yoko bought.’

Although (136) is not exactly the structure we are talking about, the presence of this structure indicates that [clause-C]-V_{COP} order is a possibility for other constructions as well. In order to derive this order, we first need to move the complement of C to Spec,CP, which will derive the following:

- 137) ... [FinP₂ Fin⁰ [TP₂ T⁰ [vP₂ v⁰ [vP₂ V⁰_{COP} [CP₁ [SP ... [FinP₁ Fin⁰ [TP₁ [vP₁ v⁰ [vP₁ V⁰ ...]] T⁰ t_{vP₁}]]] C⁰ t_{SP}]]]]]

Then, we need to move CP to a pre-copula position. In copular constructions in Japanese, a predicate precedes the copula when it is overt. Thus, there must be a pre-copula position available for a predicate. I conjecture that the position is the specifier of the light verb projected above the copula; this light verb does not have an external argument in its specifier position and the latter position should be available:

- 138) ... [FinP₂ Fin⁰ [TP₂ T⁰ [vP₂ [CP₁ [SP ... [FinP₁ Fin⁰ [TP₁ [vP₁ v⁰ [vP₁ V⁰ ...]] T⁰ t_{vP₁}]]] C⁰ t_{SP}] v⁰ [vP₂ V⁰_{COP} t_{CP}]]]]]

In this analysis, examples (123)~(134) will be analyzed as having the subject in the higher Spec,FinP.

- 139) [CP₂ [FinP₂ Subj₁ -ga [TP₂ T⁰ [vP₂ [CP₁ [SP ... Obj₂ S⁰ ... [FinP₁ Fin⁰ [TP₁ [vP₁ t₁ [vP₁ V⁰ t₂]]] T⁰ t_{vP₁}]]] C⁰ t_{SP}] v⁰ [vP₂ V⁰_{COP} t_{CP}]]]] -to ...] ...

In (139), the subject has moved from Spec,vP₁ to higher Spec,FinP.

The clause-stacking analysis with a null copula is not as strange for the grammar of Japanese as it seems. First, the null copula (with *ga*-marking) is common with nominal and adjectival nominal predicates.³⁷ Modern Japanese has (at least) two copulas: polite *desu* and neutral *da*. They follow nominal or adjectival nominal predicates; however, their presence is not obligatory in non-past contexts:

WITH OR WITHOUT COPULA:

- 140) Sore-ga mondai (da) (yo)
 that-NOM problem (COP.CNC) (EXCL)
 ‘(It is that) That is a problem.’
- 141) Sore-ga mondai (da) -to omou
 that-NOM problem (COP.CNC) -DECL think
 ‘[I] think that is a problem.’

Second, an overt copula can appear with a clause whose predicate is realized in the Conclusive form (past or non-past). In such a case, the copula follows the predicate:

COPULA FOLLOWING CONCLUSIVE FORM OF VERB:

- 142) Joe-ga sake-wo nom.u dar-oo³⁸
 Joe-NOM sake-ACC drink.CNC COP.IRR-Presump.CNC
 ‘Joe will drink sake.’

³⁷ Here I leave aside the question of whether the null copula has exactly the same set of features as the overt copular, especially regarding the tense specification.

³⁸ Note that *dar-oo* is the Irrealis form of the Modern copula *da* followed by the Presumptive auxiliary *(y)oo*, which only has the Conclusive form. More precisely, *dar-oo* is a contracted form, composed of the Infinitive form (*de*) of the copula *da*, the Irrealis form (*ar*) of verb *aru* ‘exist’, and the Presumptive auxiliary *(y)oo*. In either analysis, what immediately follows the Conclusive form of the verb in this example is the copula. In the current analysis, in order to form *dar-oo*, there must be another verbal projection headed by the auxiliary *(y)oo* immediately above the TP (or vP) that hosts the copula.

- 143) Joe-ga sake-wo nom.u *des-yoo*
 Joe-NOM sake-ACC drink.CNC COP.IRR-Presump.CNC
 ‘Joe will drink sake.’
- 144) Nom.u *dya* [= de-wa] nai
 drink.CNC COP.INF-TOP Neg.CNC
 ‘[you said you don’t, but] you do drink, don’t you?’
- 145) Joe-wa nom.u *de-mo* tabe.ru *de-mo* naku, tada suwatte.i.ta
 Joe-TOP drink.CNC COP.INF-MO eat.CNC COP.INF-MO Neg.INF, merely sit.I.PST
 ‘Joe was merely sitting while neither drinking nor eating.’

COPULA FOLLOWING CONCLUSIVE FORM OF ADJECTIVE:

- 146) Yoko-ga totemo utukusi.i (desu)
 Yoko-NOM very beautiful.CNC (COP.CNC)
 ‘Yoko is very beautiful.’

COPULA FOLLOWING CONCLUSIVE FORM OF NEG ADJECTIVE:

- 147) Joe-wa sake-wo noma-na.i (desu)
 Joe-NOM sake-ACC drink.IRR-Neg.CNC (COP.CNC)
 ‘Joe don’t drink sake.’

COPULA FOLLOWING CONCLUSIVE FORM OF PAST AUXILIARY VERB:

- 148) Joe-ga sake-wo non-da *dar.oo*
 Joe-NOM sake-ACC drink.INF-PST.CNC COP.IRR-Presump.CNC
 ‘Joe perhaps drank sake.’
- 149) Joe-ga sake-wo noma-naka.t-ta (desu)
 Joe-NOM sake-ACC drink.IRR-Neg.INF-PST.CNC (COP.CNC)
 ‘Joe didn’t drink sake.’
- 150) Non-da *dya* [= de-wa] nai
 drink.INF-PST.CNC COP.INF-TOP Neg.CNC
 ‘[you said you didn’t, but] you did drink, didn’t you?’

COPULA FOLLOWING CONCLUSIVE FORM OF NEG AUXILIARY VERB:

- 151) Joe-ga sake-wo nom.i-mase-n desi-ta
 Joe-NOM sake-ACC drink.INF-Plt.IRR-Neg.CNC COP.INF-PST.CNC
 ‘Joe didn’t drink sake.’

Third, the Irrealis form (*nara*) of the Pre-modern copular *nari* is still commonly used as a copular in conditional clauses; like the copulas *da* and *desu*, it follows a nominal predicate, as illustrated in (152). The copula *nara*, in turn, can be followed by a subordinate marker of conditional *-ba*. The same form also follows the Conclusive form of a verb, an auxiliary, or an adjective to form a conditional clause, as illustrated in (153).

- 152) Joe-ga byooki nara(-ba), nomikai-wo enki-suru
 Joe-NOM sick COP.CND(-BA) drinking.event-ACC postpone-do.CNC
 ‘If Joe is sick, I will postpone the drinking party.’
- 153) Joe-ga sake-wo nom.u nara(-ba), boku-wa biiru-wo nom.u
 Joe-NOM sake-ACC drink.CNC COP.CND(-BA) I-TOP beer-ACC drink.CNC
 ‘If Joe is going to drink sake, I will drink beer.’

The occurrence of a copula following the Conclusive form indicates that it is possible to project a copula construction above a clause.³⁹ The structure in a sentence like (149) can be derived from a structure similar to the one in (139) for the null copula case:

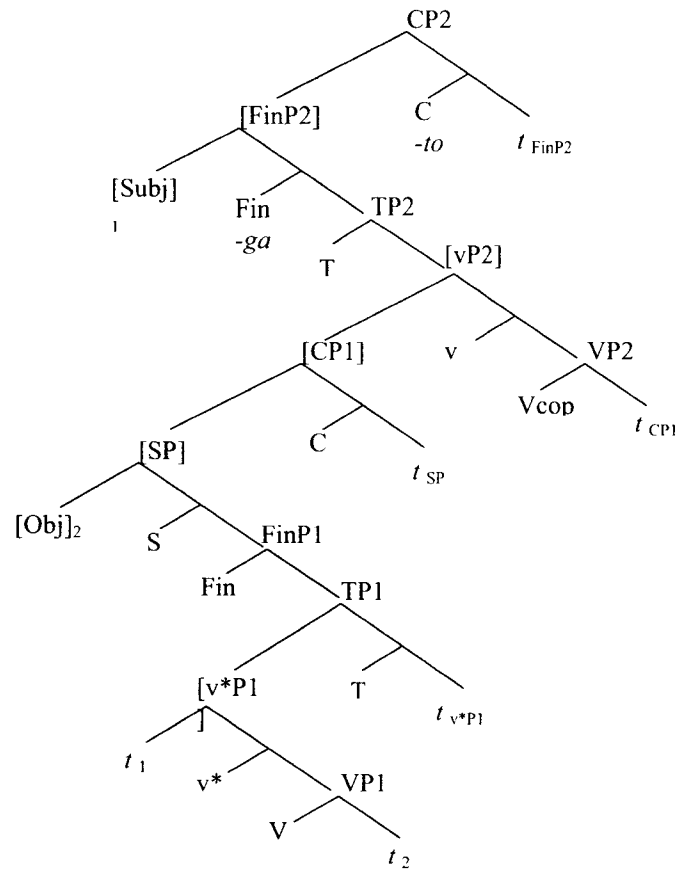
³⁹ There seems to be a dialect/style that exhibits this construction more extensively. In the dialect/style, the Conclusive form of the non-polite copula follows the Conclusive form of verbs as well as the Past auxiliary:

- (i) Joe-ga sake-wo takusan nom.u da yo
 Joe-NOM sake-ACC a lot drink.CNC COP.CNC EXC
 ‘Joe drinks sake a lot.’
- (ii) Joe-ga sake-wo non-da da yo
 Joe-NOM sake-ACC drink.INF-PST.CNC COP.CNC EXC
 ‘Joe drank sake.’

I assume these sentences are fully grammatical, however, non-standard.

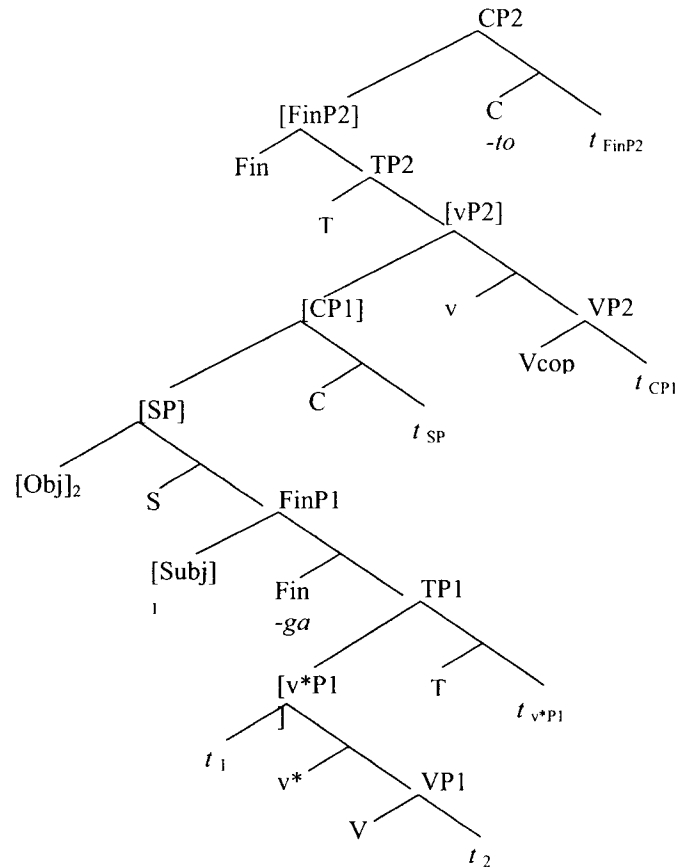
instances of the construction. To summarize, the structure of SOV order shown in (123)~(134) is illustrated roughly as (158), with the projection of a null copula:

- 158) $[CP_2 \dots [FinP_2 \text{Subj}_1 \text{-ga} [TP_2 T^0 [vP_2 [CP_1 [SP \dots \text{Obj}_2 S^0 \dots [FinP_1 \text{Fin}^0 [TP_1 [vP_1 t_1 [VP_1 V^0 t_2]]] T^0 t_{VP1}]]] C^0 t_{SP}] v^0 [VP_2 V^0_{COP} t_{CP}]]] \dots]$



For the OSV order shown in (91)~(102), we have discussed that the subject is in lower FinP as illustrated in (159):⁴¹

- 159) $[_{CP2} [_{FinP2} Fin^0 [_{TP2} T^0 [_{VP2} [_{CP1} [_{SP} \dots Obj_2 S^0 \dots [_{FinP1} Subj_1 -ga [_{TP1} [_{VP1} t_1 [_{VP1} V^0 t_2]] T^0 t_{VP1}]]] C^0 t_{SP}] v^0 [_{VP2} V^0_{COP} t_{CP}]]] -to \dots] \dots$



Although higher Spec,FinP is not projected in (159), I claim that the null copula and the associated projections are projected.

⁴¹ Nonetheless, the analysis does not exclude the possibility that both the subject and the object are in higher complementizer projections as in (i):

- (i) $[_{CP2} \dots Obj \dots [_{FinP2} Subj Fin^0 [_{TP2} \dots COP [_{CP1} C^0 \dots [_{FinP1} Fin^0 [_{TP1} \dots V^0 \dots]]]]]]$

This possibility will be discussed later.

The use of ‘yes’ and ‘no’ in (161) makes perfect sense in the copula clause stacking analysis, assuming that their choice reflects the answer to the positive proposition expressed by the null copula. In this analysis, the question is similar to an English question with a copula as in *Is it the case that you don’t understand?*. In this case, it can be answered by *Yes* or *Yes, it is (the case that I don’t understand)*. In English, the copula is overt and there is also an expletive *it*. In Japanese, on the other hand, the copula may be null and there is no overt expletive. Thus, the counterpart of *it is (the case) that* may not surface.

Support for this analysis comes from the fact that an overt copula can follow the negation in a question and in an answer. Overt copula counterparts of (160) and (161) are the following:

- 162) Wakara-na.i des.u ka?
 understand.IRR-Neg.CNC COP.CNC QUES
 ‘Don’t you understand it?’
- 163) a. Hai, wakara-na.i des.u
 yes, understand.IRR-Neg.CNC COP.CNC
 ‘Yes, it is that I don’t understand it.’
- b. Iie, wakara-na.ku na.i des.u
 no, understand.IRR-Neg.INF Neg.CNC COP.CNC
 ‘No, it is not that I don’t understand it.’

The parallelism between (160) and (162) indicates that the null copula is available in negative yes/no questions.⁴³

⁴³ The scope of the above analysis is confined to negative questions that do not involve the speaker's presupposition for the positive answer. Kuno (1973, 274) observes that the following negative question, which is formed with a tag expression *no de-wa arimase-n ka* 'isn't it that', is one that expresses the speaker's presupposition for the positive answer and its answers pattern like ones in English negative questions:

- (i) Kinoo gakkoo-ni it-ta n zya arimasen- ka?
 yesterday school-DAT go-PST that COP.TOP exist-NEG-QUES
 'Isn't it the case that you went to school yesterday?'
 a. Hai, iki-masi-ta yo.
 yes go-Polite-PST EMPH
 'Yes, I went.'
 b. Iie, iki-mase-n desi-ta yo.
 no go-Polite-NEG COP-PST EMPH
 'No, I didn't go.'

In (i), *n* (glossed as 'that') is an abbreviated form of nominalizer *no*, and *zya* is a contracted form of *de-wa*, where *de* is an Infinitive form of the copula *da* and *wa* is the topic marker. Also note that *arimase-n* 'exist-NEG' can be paraphrased with *nai-desu* 'not-is, NEG-COPULA'.

Another instance of negative questions that involve the speaker's presupposition for the positive answer are ones with indefinite pronouns ending with *-ka*. This observation is also due to Kuno (1973, 276-7):

- (i) Nani-ka kai-mase-n desi-ta-ka?
 what-KA buy-Polite-NEG COP-PST-QUES
 'Didn't you buy something?'
 a. Hai, hon-wo kai-masi-ta.
 yes book-ACC buy-Polite-PST
 'Yes, I bought a book.'
 b. Iie, nani-mo kai-mase-n desi-ta.
 no what-MO buy-Polite-NEG COP-PST
 'No, I didn't buy anything.'

Kuno notes that the use of some in negative questions in English has the effect of expressing the speaker's presupposition for the positive proposition.

The postulation of a null copula for the above cases makes it possible to distinguish them from negative questions that are used for invitation. The use of ‘yes’ and ‘no’ in an answer to a negative question for invitation is reverse:

- 164) Coffee-wo nom.i-mase-n ka?
 coffee-ACC drink.INF-Plt.IRR-Neg.CNC QUES
 ‘Why don’t you drink coffee?’
- 165) a. Hai, itadak.i-mas.u
 yes, drink.INF-I-Plt.CNC
 ‘Yes, I will have some.’
- b. Iie, nom.i-mase-n
 no, drink.INF-I-Plt.IRR-Neg.CNC
 ‘No, I don’t drink any.’

The distinction between invitation and non-invitation negative questions can be made by assuming either that the null copula is not available in invitation or that the choice of ‘yes’ or ‘no’ in invitation anchors the main predicate rather than the copula in invitation.

I find partial support for the distinction between simple negative questions and invitation questions by means of the availability/unavailability of a copular construction. The overwhelming norm is that we do not use a copular construction in negative questions for invitation, although it is not completely unheard of. The following example is parallel to the one in (162) having an overt copula at the end:

- 166) Coffee-wo noma-nai desu-ka?
 Coffee-ACC drink-Neg COP-QUES
 # [Intended] ‘Why don’t we drink coffee?’

To my ear, the above question is very awkward as an invitation question.

2.3.5.2.2. Predicate Truncation

Another well-known phenomenon in the structure of Japanese is the use of a (null/overt) copula construction of the type “X (is) Y”, implying that X is the agent of some action involving Y or the topic of some state involving Y. The most popular example is the following, which can be said in a restaurant context in which the speaker is deciding which one to order:⁴⁴

- 167) Boku-wa unagi (da) (Okutsu 1978; Kindaichi 1988, 151; Nakajima 1987, 182)
 I-TOP eel (COP.CNC)
 ‘I am an eel.’

Okutsu’s (1978, cited in Tokizaki 2002) claim is that the copula construction like (167) is an instance of the truncation of a Case marker and a predicate like *(wo) taberu* ‘eat’ (replacing it with the copula). He conjectures that the underlying structure for this example is something like the following:

- 168) Boku-wa unagi-wo tabe.ru
 I-TOP eel-ACC eat.CNC
 ‘I will eat an eel.’

It seems necessary that the truncation includes the Case marker for its overt realization makes the sentence very awkward:

⁴⁴ Nakajima (1987, 182) cites Bates Hoffer (1972) for the fact that similar sentences are possible in limited contexts English, while he admits that the use of such sentences is not as extensive as that in Japanese. He cites the following discourse from Hoffer (1972):

Waitress: “Now, who is the veal and who is the spaghetti?”
 Patron: “I’m the veal; he’s the spaghetti”.

I will leave aside the question of whether the analysis that I propose below shall be extended to this case in English.

- 169) ?* Boku-wa unagi-wo (da)
 I-TOP eel-ACC (COP.CNC)

A question arises, however, as to what syntactic operation it is that would perform the deletion of the Case marker and the predicate, which are obviously syntactically discontinuous elements.⁴⁵ Note that the construction is not limited to the case of Accusative objects. Nominal phrases that are implicitly interpreted as other arguments and adjuncts may occur in the position corresponding to that of *unagi* in (167) given an appropriate pragmatic context. In the following, (a) examples are truncated versions and can be interpreted as what (b) examples express:

- 170) a. Boku-wa (asita(-wa)) Tokyo (da)⁴⁶
 I-TOP (tomorrow(-TOP)) Tokyo (COP.CNC)
 (lit.) 'I am Tokyo tomorrow.'
- b. Boku-wa (asita(-wa)) Tokyo-*ni iku*
 I-TOP (tomorrow(-TOP)) Tokyo-DAT go.CNC
 'I am going to Tokyo tomorrow.'
- 171) a. Kimi-ga kuruma-de kayou-nara, boku-wa basu (da)
 You-nom car-with commute CND I-TOP bus (COP.CNC)
 (lit.) 'If you are going to commute by car, I am bus.'
- b. Kimi-ga kuruma-de kayou-nara, boku-wa basu-*de kayou*
 You-nom car-with commute CND I-TOP bus-with commute.CNC
 'If you are going to commute by car, I am going to commute by bus.'

⁴⁵ Okutsu (1978) also finds this to be problematic.

⁴⁶ Also possible is the following, in which the subject is null:

- (i) Asita(-wa) Tokyo (da)
 Tomorrow(-TOP) Tokyo (COP.CNC)
 (lit.) 'Tomorrow is Tokyo.' 'I am going to Tokyo tomorrow.'

Our clause stacking approach to the clausal construction facilitates a structure for the truncation analysis. The basic idea is to take the basic structure similar to (137) and truncate lower CP, leaving the subject in a complementizer projection above the copula projected above the CP. The subject in (167) is marked by the topic marker *-wa*, and it appears in Spec,TopP, as illustrated below:

- 172) ... [_{TP2} T⁰ [_{VP2} V⁰ [_{VP2} da [_{CP1} [_{SP} unagi-wo₂ S⁰ ... [_{FinP1} Fin⁰ [_{TP1} ... Boku tabe.ru]]] C⁰ t_{SP}]]]]

The truncation of CP in (172) is reminiscent of the truncation of CP in a cleft sentence, as in *It is the eel* for *It is the eel that I ordered*. What we need to complete the derivation is to place *unagi* ‘eel’ as a nominal predicate of the copula. In Japanese, a nominal predicate precedes a copula when it is overt. Thus, there must be a pre-copula position that is available for a nominal predicate in this case. Suppose that that position is Spec,vP. Then, *unagi* may be base-generated in that position and co-indexed with the object in lower CP, and *unagi* will be outside of the CP that is subject to truncation. Prior to truncation, we will have the following representation:

- 173) [_{CP2} ... [_{TopP} Subj Top⁰ [_{FinP2} Fin⁰ [_{TP2} [_{VP2} unagi_i v⁰ [_{VP2} V⁰_{COP} [_{CP1} [_{SP} ... pro_i ... [_{FinP1} Fin⁰ [_{TP1} ... V⁰ ...]]] C⁰ t_{SP}]]]]]]]]

The derivation proceeds to truncate the lower CP, resulting in the following structure:

- 174) [_{CP2} ... [_{TopP} Subj Top⁰ [_{FinP2} Fin⁰ [_{TP2} [_{VP2} unagi_i v⁰ [_{VP2} V⁰_{COP} [_{CP1} $\overline{\text{---}}$]]]]]]]]

The clause-stacking analysis makes it possible to derive the apparently Japanese particular construction from the simple truncation of CP.

2.3.6. Higher vs. Lower Subject Positions

The clause-stacking analysis that we have pursued gives two possible positions for an overt *ga*-marked subject to appear: the lower Spec,FinP and the higher Spec,FinP, where the latter is the specifier of FinP that is projected above a (null) copula. OSV order is derived by moving the subject to lower Spec,FinP, and SOV order is derived by moving the subject to higher Spec,FinP. In either case, the object can stay in the specifier of a complementizer projection within lower CP. In the discussion of yes/no answers to non-invitation negative questions, the analysis implies that the negation does not have scope over the (null) copula projected above the CP that contains the negative auxiliary verb or adjective (*nu* or *nai*). It predicts that the *ga*-marked subject that lands in higher Spec,FinP will be outside the scope of negation. The analysis finds support in the domain of indicative declaratives.

Miyagawa (2001) finds that there are differences between *ga*-marked subjects in SOV order and in OSV order in terms of the availability of partial negation interpretation with an indefinite *zen'in* 'all (people)' in indicative declaratives in Japanese. He finds that in indicative declaratives, the partial negation interpretation is not available with the *ga*-marked indefinite subject *zen'in-ga* when it precedes an object, but the partial negation interpretation is available when it follows an object:⁴⁷

SOV, ZEN'IN = S: (MIYAGAWA 2001, 299)

⁴⁷ In my intuition, the contrast between [not > all] and [all > not] in (175) is not as sharp as how I might express as * vs. non-marking although I prefer the latter interpretation than the former. I assume however that the contrast is significant and requires an explanation.

- 175) Zen'in-ga sono tesuto-wo uke-nakat-ta (yo/to omou)
 all-NOM that test-ACC take-Neg-PST (EXCL/DECL think)
 'All did not take the test.' [* not > all, all > not]

OSV, ZEN'IN = S: (MIYAGAWA 2001, 299)

- 176) Sono tesuto-wo zen'in-ga uke-nakat-ta (yo/to omou)
 that test-ACC all-NOM take-Neg-PST (EXCL/DECL think)
 'All did not take the test.' [not > all, (all > not)]

Miyagawa finds that *zen'in* in the subject in OSV order in (176) can have a partial negation interpretation, just like that in the object in SOV order:

OSV, ZEN'IN = O: (MIYAGAWA 2001, 298)

- 177) Taroo-ga zen'in-wo home-nakat-ta (yo/to omou)
 Taroo-NOM all ACC praise-Neg-PST (EXCL/DECL think)
 'Taroo didn't praise all.' [not > all, (all > not)]

Miyagawa argues that the subject in SOV order as in (175) has moved to Spec,TP (in overt syntax, being triggered by the EPP feature) while the subject in OSV order as in (176) remains in Spec,vP (because in this case the object moves to Spec,TP being triggered by the EPP feature), assuming that partial negation is possible only if it is c-commanded by the negation. The structure he assumes is the one that the negation is projected above vP and below TP (in a non-Antisymmetric way), and therefore, the

indefinite subject that stays in vP will be c-commanded by the negation, leading to partial negation.⁴⁸

Our structural analysis is radically different from what Miyagawa adopts to derive the analysis. However, one thing that we share is the view that the positions of subjects in SOV order and OSV order differ. In our case, in SOV order, the subject lands in the Spec,FinP (or the specifier of a higher complementizer projection) projected above the (null) copula, as illustrated in (158) (repeated in (178)), and in OSV order, the subject lands in the Spec,FinP (or the specifier of a higher complementizer projection) projected below the (null) copula, as illustrated in (159) (repeated in (179)):

178) [CP₂ ... [FinP₂ Subj₁ -ga [TP₂ T⁰ [vP₂ [CP₁ [SP ... Obj₂ S⁰ ... [FinP₁ Fin⁰ [TP₁ [vP₁ t₁ [vP₁ V⁰ t₂]] T⁰ t_{vP1}]]] C⁰ t_{SP}] v⁰ [vP₂ V⁰_{COP} t_{CP}]]] ...]

179) [CP₂ [FinP₂ Fin⁰ [TP₂ T⁰ [vP₂ [CP₁ [SP ... Obj₂ S⁰ ... [FinP₁ Subj₁ -ga [TP₁ [vP₁ t₁ [vP₁ V⁰ t₂]] T⁰ t_{vP1}]]] C⁰ t_{SP}] v⁰ [vP₂ V⁰_{COP} t_{CP}]]] -to ...] ...

⁴⁸ Note, however, that the contrast in the availability of partial negation with the indefinite subject between SOV and OSV order is found with non-Attributive forms, as Miyagawa (2001) points out. He finds that this contrast does not hold when the predicate is in the Attributive form.

(The Attributive form is used in the predicate of relative clauses, complex NPs, and other constructions where the clause/phrase which the predicate functions as the main predicate of modifies a nominal element that follows it. In Modern Japanese, the difference in verb endings between the Attributive form and the Conclusive form has been lost. Miyagawa uses the complementizer *-to* or the exclamatory particle *-yo* at the end of the above examples to refer to the Conclusive form of a predicate, since these particles can follow the Conclusive form but not the Attributive form.)

Miyagawa discusses other conditions that play roles in determining the availability/unavailability of partial negation with *zen'in*. They include displacement of adjuncts and placement of *wh*-phrases in *wh*-questions.

In our analysis, the unavailability of a partial negation interpretation of the indefinite subject in (175) follows from the assumption that the negation of *nai* does not extend its scope over the projection of the null copula that is projected above it. As for the indefinite object, this analysis predicts that the indefinite object in OSV order can have a partial negation interpretation, just like the indefinite object in SOV order, since it can be within the CP below the null copula. The prediction is born out; the indefinite object *zen'in* in (180) can be interpreted as partial negation.⁴⁹

- 180) Zen'in-wo Taroo-ga home-nakat-ta (yo/to omou)
 all-ACC Taroo-NOM praise-Neg-PST (EXCL/DECL think)
 'Taroo didn't praise all.' [not > all, all > not]

Note that the examples (175), (176), (177) and (180) can be paraphrased using an overt copula following a negation auxiliary. In our analysis, if our assumption about the scope of negation with *zen'in* is correct, this paraphrasing should not cause a change in the availability of partial negation interpretation. In our analysis, as depicted in (154)~(157), the structure of a clause with an overt copula (following the Conclusive form) minimally differs from the structure of a clause with the null copula. The former is derived by movement of lower CP to Spec,vP (or a pre-copula position); thus, this derivation itself induces no change in positions of arguments and adjuncts within lower CP. Overt copula counterparts (181)~(184) are parallel with the above non-overt copula examples in the availability of partial negation with *zen'in*:

- 181) Zen'in-ga sono tesuto-wo uke-nakat-ta desu (yo)
 all-NOM that test-ACC take-Neg-PST COP (EXCL)

⁴⁹ The availability of partial negation in (180) is not predicted in Miyagawa (2001).

- ‘All did not take the test.’ [* not > all, all > not]
- 182) Sono tesuto-wo zen’in-ga uke-nakat-ta desu (yo)
 that test-ACC all-NOM take-Neg-PST COP (EXCL)
 ‘All did not take the test.’ [not > all, all > not]
- 183) Taroo-ga zen’in-wo home-nakat-ta desu (yo)
 Taroo-NOM all ACC praise-Neg-PST COP (EXCL)
 ‘Taroo didn’t praise all.’ [not > all, all > not]
- 184) Zen’in-wo Taroo-ga home-nakat-ta desu (yo)
 all-ACC Taroo-NOM praise-Neg-PST COP (EXCL)
 ‘Taroo didn’t praise all.’ [not > all, all > not]

The unavailability of partial negation in (181) as opposed to the other three examples is expected in our analysis.

We have evidence that the indefinite subject *zen’in* in OSV order lands in the lower Spec,FinP while the object lands in some specifier above the FinP within lower CP, under the assumption that the scope of negation for this indefinite expression is limited to lower CP in the above type of sentences. Our structural analysis, however, does not exclude the possibility that both the subject and the object in OSV order could move past the copula to specifiers in higher CP, as illustrated below:

- 185) [CP₂ ... Obj ... [FinP₂ Subj Fin⁰ [TP₂ ... COP [CP₁ C⁰ ... [FinP₁ Fin⁰ [TP₁ ... V⁰ ...]]]]]

Our analysis predicts that in the structure (185), the subject will be outside the scope of negation, and thus if the subject is *zen’in* it will not give a partial negation interpretation. There is a context which forces this derivation. According to Miyagawa (2001, 301),

partial negation is impossible when a sentential adverb like *saiwai-ni* ‘fortunately’ follows the indefinite subject *zen’in* in OSV order:

OS-ADV-V, ADV = SENTENTIAL: (MIYAGAWA 2001, 301)

- 186) Kono ronbun-wo zen’in-ga saiwai-ni yoma nakat-ta (yo/to omou)
 this article-ACC all NOM fortunately read-Neg-PST (EXCL/DECL think)
 ‘This article, all did not fortunately read.’ [* not > all, all > not]

Miyagawa (2001, 301) states, “An adverb such as ‘fortunately’ occurs high in the projection of T”. In his analysis, which claims that the scope of negation is vP, the subject must be in Spec,TP to be on the left of the adverb. Consequently, it is outside of the scope of negation.

In our analysis, no phrase can have an adjunct in addition to a specifier, as demanded by the Antisymmetry theory; thus, a sentential adverb cannot be projected above the specifier of TP within the TP. A sentential adverb that appears on the left of the predicate (in Japanese) must be projected (or moved to) above the TP. Since lower FinP is projected directly above the TP, the subject cannot be in the specifier of the lower FinP while having a sentential adverb on the right. Consequently, a subject that appears on the right of a sentential adverb (which is in turn on the left of the predicate) must be in the specifier of higher FinP, as illustrated below:

- 187) [CP₂ ... Obj ... [FinP₂ Subj₁ -ga [TP₂ T⁰ [vP₂ [CP₁ [SP ... Obj₂ S⁰ ... [FinP₁ Fin⁰ [TP₁ [vP₁ t₁ [vP₁ V⁰ t₂]] T⁰ t_{vP1}]] C⁰ t_{SP}] V⁰ [vP₂ V⁰_{COP} t_{CP}]]]]

In this analysis, the subject *zen’in* in (186) lands in higher Spec,FinP, partial negation becomes impossible.

Note that when a manner adverb appears on the right of the subject *zen'in*, it can have a partial negation interpretation, just like when there is no adverb. This is another observation made by Miyagawa (2001):

OS-ADV-V, ADV = MANNER: (MIYAGAWA 2001, 302)

- 188) Kono ronbun-wo zen'in-ga yorokonde yoma-nakat-ta (yo/to omou)
 this article-ACC all NOM happily read-Neg-PST (EXCL/DECL think)
 'This article, all did not read happily.' [not > all, all > not]

Miyagawa states that a VP adverb such as 'happily' occurs in the projection of V.

Aligned with Miyagawa, our approach to the placement of a manner adverb is to assume that it can occur in some projection projected between T and VP. Under this assumption, the presence of a manner adverb on the right of the subject does not force the subject to land in higher Spec,FinP and allows it to land in lower one. As a result, partial negation is possible.

We have discussed the position of an overt subject relative to the position of an overt accusative object with transitive verbs. With non-transitive verbs, there are two cases: unergative verbs and unaccusative verbs. Miyagawa (2001) finds that with unergative verbs like *asobu* 'play' and *odoru* 'dance' in structures like (189), (190), and (191), the indefinite subject *zen'in* cannot be interpreted as partial negation (regardless of the position of an adjunct), while with unaccusative verbs like *tuku* 'arrive', it can be interpreted as partial negation (regardless of the position of a locative PP/an adjunct):

WITH UNERGATIVE VERB: (MIYAGAWA 2001, 304 & 317)

- 189) Zen'in-ga asoba-nakat-ta (yo/to omou)
 all-NOM play-Neg-PST (EXCL/DECL think)
 'All did not play.' [* not > all, all > not]

190) Hanako-to zen'in-ga asoba-nakat-ta (yo/to omou)
 Hanako-with all-NOM play-Neg-PST (EXCL/DECL think)
 'With Hanako, all did not play.' [* not > all, all > not]

191) Disuko-de zen'in-ga odora-nakat-ta (yo/to omou)
 Disco-in all-NOM dance-Neg-PST (EXCL/DECL think)
 'At the disco, all did not dance.' [* not > all, all > not]

WITH UNACCUSATIVE VERB: (MIYAGAWA 2001, 333)

192) Zen'in-ga zikan.doori-ni yado-ni tuka-nakat-ta (yo/to omou)
 all-NOM time.as-DAT inn-DAT arrive-Neg-PST (EXCL/DECL think)
 'All did not arrive at the inn on time.' [not > all, all > not]

193) Yado-ni (zikan.doori-ni) zen'in-ga tuka-nakat-ta (yo/to omou)
 inn-DAT (time.as-DAT) all-NOM play-Neg-PST (EXCL/DECL think)
 'At the inn, all did not arrive (on time).' [not > all, all > not]

Miyagawa's explanation for the cases with unergative verbs (190) & (191) is that these PPs (non-*wh* PPs) lack a feature that a feature on T can agree with and they do not satisfy the EPP feature of T while moving to Spec,TP. In this case, the subject raises to Spec,TP to satisfy the EPP feature of T. Consequently, the subject is outside the negation. As Miyagawa demonstrates, however, this explanation does not hold for the cases with unaccusative verbs.

Under our approach, the contrast shown above can be interpreted as an indication that the *ga*-marked subject of an unergative verb must land in the higher Spec,FinP in such structures while the *ga*-marked subject of an unaccusative verb can land in the lower Spec,FinP, as illustrated below:

UNERGATIVE:

194) [CP₂ ... [FinP₂ Subj Fin⁰ [TP₂ ... [CP₁ ... [FinP₁ Fin⁰ [TP₁ ... V⁰_{Unerg.} ...]] ...] ...]]

UNACCUSATIVE I:

195) [CP₂ ... [FinP₂ Fin⁰ [TP₂ ... [CP₁ ... [FinP₁ Subj Fin⁰ [TP₁ ... V⁰_{Unacc.} ...]]] ...] ...]]

As to why it is the case is however a bit of a mystery. I conjecture that it has something to do with the activation of lower CP. Suppose that lower CP is the area within which an internal argument is licensed and that lower FinP can be ‘activated’ to project a specifier when there is an (overt) internal argument.⁵⁰ Following this assumption, lower FinP cannot be activated with an unergative verb since the verb does not accompany an internal argument. Consequently, only the higher Spec,FinP is available with a verb of this class in these structures (unless there are other ways to activate the area)⁵¹. Since the higher Spec,FinP is outside the scope of negation, partial negation is unavailable, as shown in (189)~(191). With an unaccusative verb, on the other hand, the subject itself is an internal argument. Thus, lower FinP can be activated to project a specifier. The

⁵⁰ This condition is similar to the condition found in Rizzi’s (1997) analysis on *that-t* effects in a sense that the presence of a certain phrase in the complementizer field legitimizes the projection of another. In principle, his multiple complementizer analysis allows the following structure, where ForceP (whose head is occupied by *that*) is projected directly above FinP and Spec,FinP has a trace of the subject:

- (i) [*] Who do you think [that [*t*’ Fin⁰+Agr [*t* will win the prize]]] (Rizzi 1997, 314)

There must be some condition to rule out this representation while allowing cases where some overt adverb/adjunct intervenes between *that* and the trace in the subject position:

- (ii) Which doctor did you tell me that, during an operation, *t* had had a heart attack?
(Rizzi 1997, 311)

⁵¹ In addition to an internal argument, a *wh*-phrase might be able to activate lower CP. Miyagawa (2001, 318) cites the following examples with acceptable partial negation. In my intuition, however, it is hard for me to obtain a partial negation interpretation for this case, and I will leave this issue open:

- (i) Dare-to zen’in-ga asoba-nakat-ta-no?
who-with all-NOM play-Neg-PST-QUES
‘With whom, all didn’t play?’ [not > all, all > not]

subject lands in lower Spec,FinP, and partial negation becomes possible, as shown in (192) & (193).

The lower Spec,FinP does not seem to be the only place for the subject of an unaccusative verb, however. It can appear in higher Spec,FinP. When a modal adverb appears on the right of the subject *zen'in*, a partial negation interpretation seems unavailable:

- 196) Zen'in-ga akiraka-ni zikan.doori-ni yado-ni tuka-nakat-ta (yo/to omou)
 all-NOM clearly time.as-DAT inn-DAT arrive-Neg-PST (EXCL/DECL think)
 'All clearly did not arrive at the inn on time.' [?*not > all, all > not]

The unavailability of partial negation in the above example follows from the hypothesis that the modal adverbs occurs above TP (and lower FinP). Then, *zen'in* in (196) cannot be in lower Spec,FinP and must be in higher Spec,FinP, which is outside the negation.

This means that we have another position of the subject of an unaccusative verb, in addition to the one in (195):⁵²

UNACCUSATIVE 2:

[CP₂ ... [FinP₂ Subj Fin⁰ [TP₂ ... [CP₁ ... [FinP₁ Fin⁰ [TP₁ ... V⁰_{Unacc.} ...]] ...] ...]]

2.3.7. “Attributive” Clauses

We have observed that the indefinite subject *zen'in* takes scope over the negation in SOV order, as in (175), but it can be within the scope of the negation in OSV order, as in (176). As mentioned in footnote 48, this contrast is not found when the clause is the clause of a complex NP; in a complex NP, the indefinite subject of SOV order can be within the scope of the negation. Again the observation comes from Miyagawa (2001):

SOV, ZEN'IN = S: COMPLEX NP: (MIYAGAWA 2001, 303)

⁵² The following fact may also support the possibility of licensing of the subject of an unaccusative predicate in higher Spec,FinP. When the subject *zen'in* is followed by both an overt time adverb and an overt phrase of destination followed by *-ni* it can have a partial negation interpretation if they occur in the order of time-destination (with *-ni*). In contrast, when they occur in the opposite order, a partial negation interpretation becomes more difficult to obtain:

- (i) Zen'in-ga kinoo yado-ni tuka-nakat-ta (yo/to omou)
all-NOM yesterday inn-DAT arrive-Neg-PST (EXCL/DECL think)
'All did not arrive at the inn yesterday.' [not > all, all > not]
- (ii) Zen'in-ga yado-ni kinoo tuka-nakat-ta (yo/to omou)
all-NOM inn-DAT yesterday arrive-Neg-PST (EXCL/DECL think)
'All did not arrive at the inn yesterday.' [?? not > all, all > not]

If it is the case that a time adverb and a location PP can be generated in that order (and note the other way around) in TP and if there is no landing site for scrambling within TP, then the PP would have to land in somewhere above lower FinP. Then, the subject on the left of the PP would have to be in higher Spec,FinP.

- 197) Zen'in-ga sono tesuto-wo uke-nakat-ta koto
 all-NOM that test-ACC take-Neg-PST.ATT fact
 'the fact that all did not take the test.' [not > all, (all > not)]

This phenomenon is unexpected. In Miyagawa's analysis, the indefinite subject in (197) is in Spec,TP, which is projected above the projection of the negation. Miyagawa claims, however, that the possibility of partial negation in (197) is a result of the raising of the verb to C, which raises the negative morpheme along. Since the negative morpheme is in C, it takes scope over the subject in Spec,TP. This raising occurs in a complex NP but not in an indicative context where the declarative complementizer *-to* or the emphatic particle *-yo* can occur.

Miyagawa rationalizes this distinction by referring to the difference in predicate forms in the two contexts. He draws attention to previous studies such as Hirakawa (to appear) and Watanabe (1996) and adopts the idea that the distinction between the Conclusive form and the Attributive form (which Miyagawa calls the "Subjunctive" form), which used to be realized in morphological forms in Pre-modern Japanese, still holds in Modern Japanese. In particular, Miyagawa follows Hirakawa's claim that the Attributive form must raise to C to be licensed.

The verb raising analysis that Miyagawa puts forth, unfortunately, does not quite fit in our structural analysis. In our analysis, the agglutination of an inflectional ending or auxiliary is derived by movement of a phrase past the ending or auxiliary to a higher specifier position. On the other hand, the distinction between the Conclusive form and the Attributive form can be brought in to capture the difference in the scope of negation

(with respect to the indefinite *zen'in*) between indicative and Attributive clauses. My approach is to first assume that the scope of the negation (embedded within a predicate complex) in Japanese is determined by a complementizer that carries an 'appropriate' feature. I assume that one of the 'appropriate' features for the scope of negation is a mood feature that marks the indicative, the attributive/subjunctive, and the like. To make it more explicit, my claim is something like the following:

- 198) The negation (in Japanese) must be associated with a complementizer with an 'appropriate' feature to determine its scope, where the 'appropriate' features include the mood feature.⁵³

Under this assumption, the difference in the scope of negation between the indicative clause in (175) and the Attributive clause in (197) must be due to the difference in the location of the complementizer that marks their mood. The logic is parallel to Miyagawa's approach except that we are dispensing with the verb raising analysis.

For indicative clauses like (175), we have assumed that the scope of negation does not go beyond the null copula that is projected above the CP that contains the object and the predicate. We can rephrase this assumption with a more explicit one: lower C, which is projected below the (null) copula, carries the indicative feature. The postulation of the indicative feature in lower C makes sense considering the fact that the CP is separated from higher CP by the (null) copula, where higher C will have its own mood feature.

⁵³ There seems to be other features that delimit the scope of negation. Miyagawa (2001) points out that when the indefinite subject and the negation are intervened by an emphatic construction with *-mo*, the subject takes scope over the negation even in OSV order. This means, in our approach, that there are other complementizer features plays a role in determining the scope of negation.

The absence of partial negation in the Attributive clause (197) indicates that the mood feature, specifically the Attributive feature, must not be in the same position but in a higher complementizer position above the subject. How can we rationalize this?

First of all, there is a structural difference between the indicative and the Attributive clauses. We have seen that in indicative clauses, the predicate can be followed by an overt copula. Relevant examples are repeated below:

- 199) Joe-ga sake-wo noma-naka.t-ta (desu) (yo)
 Joe-NOM sake-ACC drink-Neg-PST (COP) (EXCL)
 ‘Joe didn’t drink sake.’
- 200) Joe-ga sake-wo nomi-mase-n desi-ta (yo)
 Joe-NOM sake-ACC drink-Plt-Neg COP-PST (EXCL)
 ‘Joe didn’t drink sake.’

In an Attributive clause (where the predicate is followed by a noun in this case), on the other hand, the presence of an overt copula (in any form) makes the sentence very awkward at best:⁵⁴

- 201) ?* Joe-ga sake-wo noma-naka.t-ta desu koto
 Joe-NOM sake-ACC drink-Neg-PST COP fact
 ‘... the fact that Joe didn’t drink sake.’

⁵⁴ Likewise, the non-polite copula cannot appear in that position. We have discussed in footnote 39 that there is a dialect/style that allows the non-polite copula in indicative clauses. Even in that dialect/style, the copula in any form is not allowed in Attributive clauses:

- (i) * Joe-ga sake-wo takusan nom.u da/na koto
 Joe-NOM sake-ACC a lot drink.CNC COP.CNC/ATT fact
 ‘the fact that Joe drinks sake a lot.’
- (ii) * Joe-ga sake-wo non-da da/na koto
 Joe-NOM sake-ACC drink.INF-PST.CNC COP.CNC/ATT fact
 ‘the fact that Joe drank sake.’

- 202) ?* Joe-ga sake-wo nomi-mase-n desi-ta koto
 Joe-NOM sake-ACC drink-Plt-Neg COP-PST fact
 ‘... the fact that Joe didn’t drink sake.’

Second, the Attributive form of certain classes of verbs in Pre-modern Japanese can be thought of as a combination of the Conclusive form and the additional ending *-ru*. According to Ohno (1978, 210), the Attributive form of verbs of five out of nine conjugation classes is formed by the Conclusive form and the ending *-ru*. The two forms of some of the verbs are illustrated below:⁵⁵

203)

	<i>Pre-modern</i>		<i>Modern</i>	
	<i>Conclusive</i>	<i>Attributive</i>	<i>Conclusive</i>	<i>Attributive</i>
‘dawn’	ak.u	ak.uru	ake.ru	ake.ru
‘come’	k.u	k.uru	k.uru	k.uru

Ohno’s observation makes sense in our clause stacking analysis if we consider that the additional ending *-ru* (which can be null in Modern Japanese) replaces the (null) copula in the Attributive clause. In this view, the Attributive form is composed of three morphemes: a stem, the Conclusive ending in T (which can be null in some conjugation classes), and the ending *-ru* located in the verb position above lower CP. The ending *-ru* competes with the copula for the verb position. Thus, they cannot co-occur and it results in the impossibility of an overt copula in the Attributive clause. Since the ending *-ru* is part of the inflection of a predicate, it is reasonable to assume that the mood feature is somewhere above the inflection. That means it will not be in lower C. For our purpose, I

⁵⁵ The Attributive form of other classes of verbs can be thought of as a combination of the stem with the ending *-(r)u*.

assume that the Attributive feature is located in a complementizer position higher than where the subject, the object, and adjunct phrases can land. Since the Attributive feature is in a position higher than the indefinite subject in (197), the latter will be within the scope of negation and can be interpreted as partial negation.

We have discussed examples of complex NPs in relation to the Attributive form. The Attributive form occurs in relative clauses as well. For verbs, the form is identical to the Conclusive form in Modern Japanese, as illustrated below:

- 204) Joe-ga sake-wo *nom.u* (yo)
 Joe-NOM sake-wo drink.CNC (EXCL)
 ‘Joe drinks sake.’
- 205) Joe-ga *nom.u* sake
 Joe-NOM drink sake
 ‘the sake that Joe drinks’
- 206) sake-wo *nom.u* hito
 sake-ACC drink person
 ‘the person who drinks sake’

The morphological distinction is, however, maintained in the non-polite copula. The Conclusive form of the copula is *da*, and the Attributive form is *na*. A relative clause formed with an adjectival nominal predicate such as *suki* ‘like, pleasing’, the Attributive form of the copula appears at the end of the clause:

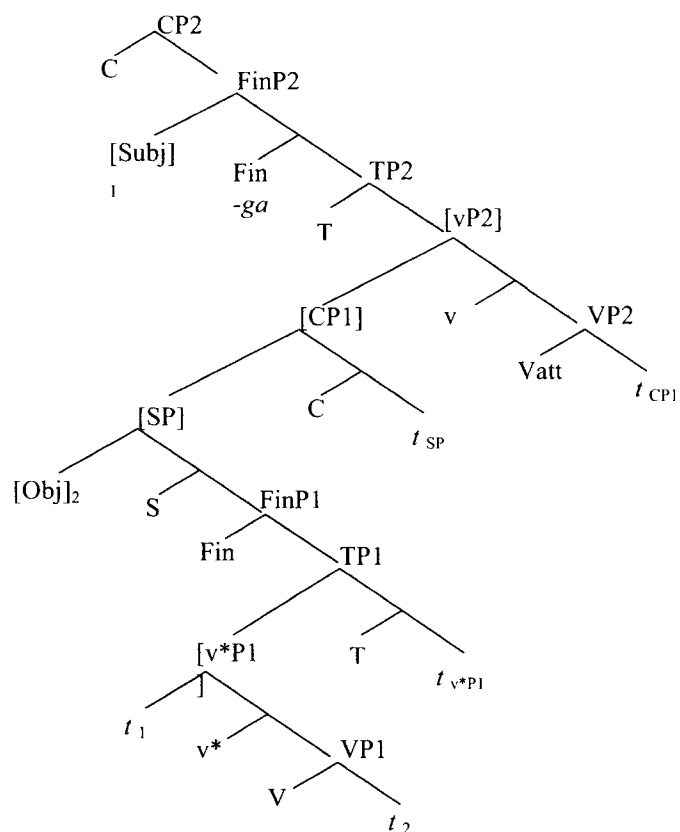
- 207) Zen’in-ga sono hito-wo suki *da* (yo)
 all-NOM that person-ACC like.CNC (EXCL)
 ‘All like that person.’

- 208) Joe-ga suki *na* hito
 Joe-NOM like COP.ATT person
 ‘the person that Joe likes’ or ‘the person who likes Joe’
- 209) Joe-wo suki *na* hito
 Joe-ACC like COP.ATT person
 ‘the person who likes Joe’

I assume, as it has been, that the form of the verb or adjective in relative clauses is the Attributive form in Modern Japanese, although it is no longer morphologically distinct from the Conclusive form. In our analysis, the Attributive form is formed by the stacking of two clauses, where higher verb position is occupied by the null counterpart of the ending *-ru*. It is natural to assume that relative clauses are formed by the stacking of two clauses, as illustrated in the following structures:

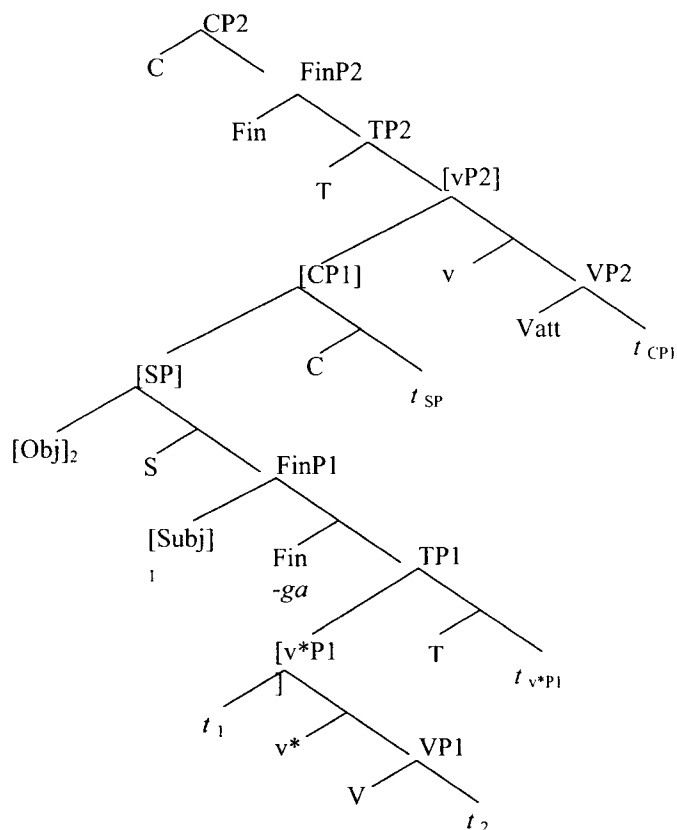
S(O)V:

210) $[_{CP2} \dots [_{FinP2} Subj_1 Fin^0 [_{TP2} T^0 [_{VP2} [_{CP1} [_{SP} \dots Obj_2 S^0 \dots [_{FinP1} Fin^0 [_{TP1} [_{VP1} t_1 [_{VP1} V^0 t_2]] T^0 t_{VP1}]]] C^0 t_{SP}] V^0 [_{VP2} V^0_{ATT} t_{CP}]]] \dots]$



OSV:

- 211) $[_{CP2} \dots [_{FinP2} Fin^0 [_{TP2} T^0 [_{VP2} [_{CP1} [_{SP} \dots Obj_2 S^0 \dots [_{FinP1} Subj_1 Fin^0 [_{TP1} [_{vP1} t_1 [_{VP1} V^0 t_2]]] T^0 t_{VP1}]]] C^0 t_{SP}] V^0 [_{VP2} V^0_{ATT} t_{CP}]]]] \dots]$



2.4. Case-markers and Post-positions

We have discussed the cases where overt subjects are generated as DPs and move to Spec,FinP or Spec,TopP. Some overt arguments may be followed by Case-markers. Other overt nominal phrases may accompany the so-called “post-positions”.

For the structure of post-positional phrases, the most straightforward derivation introduced in Kayne (1994) is to move DP to Spec,PP:

212) $[_{PP} DP [_{PP} P^0 t_{DP}]]$

Basically I will adopt a parallel movement operation to derive post-positional and Case-marker final structure of nominal phrases.

2.4.1. Overt Case-marking

2.4.1.1. *Accusative Objects*

Case-markers of arguments in Japanese may be labeled as K of KP in the sense of Bittner and Hale (1996) rather than as post-positional counterparts P of PP. K is a functional head that expresses the Case feature of DP that it selects. K differs from typical P in that K requires a relationship with another element such as T, D, V/v, or P to successfully assign Case to a DP. P, on the other hand, may assign Case to a DP and may not require a relationship to such elements. Bittner and Hale (1996) claim that there are two types of Cases: one is what they call “Direct Case”, and the other is “Oblique Case”. Roughly speaking, the Direct Case refers to Ergative Case in Ergative systems and Accusative Case in Accusative systems. Other complements of verbs may receive language-specific Oblique Cases. The conditions are the following:

213) Direct Case Realizations (universal conditions)

If α Case-binds an overt empty-headed $KP\beta$, then the empty K of β is realized as:

- a. ERG, if α is I (or D);
- b. ACC, if α is V (or P) and has an adjoined D.

214) Oblique Case Realizations (e.g., Warlpiri)

If α Case-binds an overt empty-headed $K\beta$, and does not meet the conditions of [Direct Case Realizations], then the empty K of β is realized DAT.

In their theory, the distributions of Ergative-Case and Accusative-Case markings are predicted by the universal conditions (213), leaving Oblique-Case assignments to be language-specific. The structure of KP that they propose is the following:

215) $[_{KP} K^0 DP]$

A clear instance of K in Japanese is the Accusative marker *-wo*, which has been part of the claim by Bittner and Hale (1996). In their approach, Accusative KP has a “Case-binder”, which can be identified as the light verb *v* projected above a transitive verb in the current framework.⁵⁶ Upon being “Case-bound” by the light verb, Accusative K assigns Case to the DP that it selects. An Antisymmetric way of deriving the K-final structure is to move the DP complement of K to Spec,KP:

216) $[_{VP} DP_{subj} [v [_{VP} V [_{KP} DP_{obj} [_{KP} K^0 t_{DP}]]]]]$

The idea that I wish to adopt from the KP approach is the following:

217) For overt DPs, their Case-assignments involve three roles: (i) a Case-assigner (e.g., K, an overt realization of Case), (ii) a target DP of Case-assignment, and (iii) a “Case-binder”.

In (216), the light verb *v* is the “Case-binder”, DP_{obj} is the target of the assignment by K, and the Accusative marker is realized as K. Examples of (216) are Accusative objects

⁵⁶ The bare subject DP in Spec,vP may play the role of “adjoined D”, which they call “Case-competitor”.

like the following, in which D is filled by the existential quantifier *-ka*, and K, by the Accusative marker *-wo*:

-wo: THEME

- 218) [KP [DP [QP *nani*] [DP *-ka t_{QP}*]] [KP *-wo t_{DP}*]] *kat-ta*
 what -KA -ACC buy-PST
 ‘[I] bought something.’

-wo: TRAVERSAL

- 219) [KP [DP [QP *doko*] [DP *-ka t_{QP}*]] [KP *-wo t_{DP}*]] *arui-ta*
 where -KA -ACC walk-PST
 ‘[I] walked somewhere.’

I assume the Case Filter to rule out overt DPs that are not Case-assigned:

CASE FILTER

- 220) Every (non-predicative) overt DPs must be Case-assigned.

2.4.1.2. *Dative Objects*

Apart from the Accusative object, we may also label as KP the indirect object of a ditransitive verb and the object of a verb like *au* ‘meet’, both of which are realized as Dative-marked phrases. Like the Accusative object, these phrases are “Case-bound” by a verbal element in vP. We may want to call these Cases Oblique Cases since they are not predicted by the universal conditions. These objects are traditionally classified as NPs (on a par with Accusative objects) as opposed to PPs:⁵⁷

⁵⁷ When the particle *-mo* occurs (as universal quantifier or as a particle meaning ‘also, even’) with a Case-marker or post-position, the preferred order is NP-K/P-*mo*. This contrasts with the case of the particle *-ka*, which prefers NP-*ka*-K/P order. The latter conforms to our analysis of the structure of KP/PP but the former is not. There are other particles like *-dake* ‘only’ which seem to occur in either order with little preference over

-NI: COMPLEMENT OF VERBS LIKE *AU* ‘MEET’

- 221) [KP [DP [QP dare] [DP -ka *t*_{QP}]] [KP -*ni* *t*_{DP}]] at-ta
 who -KA -DAT meet-PST
 ‘[I] met someone.’

-NI: INDIRECT OBJECT OF DITRANSITIVE VERBS

- 222) [KP [DP [QP dare] [DP -ka *t*_{QP}]] [KP -*ni* *t*_{DP}]] hon-wo age-ta
 who -KA -DAT book-ACC give-PST
 ‘[I] gave a book to someone.’

2.4.1.3. *Adjuncts*

Adjunct nominals are traditionally analyzed as PPs. PPs differ from KPs in that the former are licensed independently of the subcategorization of predicates. I assume that for adjuncts, P is both a Case-assigner and “Case-binder”. We may represent adjunct nominals that are overtly marked by a post-position as PPs and analyze them as to have the following structure:

-DE: LOCATION

- 223) [PP [DP [QP doko] [DP -ka *t*_{QP}]] [PP -*de* *t*_{DP}]] odot-ta
 where -KA -DE dance-PST
 ‘[I] cut danced somewhere.’

-DE: INSTRUMENTAL

- 224) [PP [DP [QP nani] [DP -ka *t*_{QP}]] [PP -*de* *t*_{DP}]] kit-ta
 what -KA -DE cut-PST

the other (e.g., NP-*ni-dake* or NP-*dake-ni*). What is compatible with our current analysis to project *-mo* and other “strong” quantifier particles (such as *-sika* ‘not other than -’) as a clausal head, as a complementizer. Alternative to this is to derive NP-K/P-*mo* order by moving QP to Spec,KP/PP. Further research is needed to determine the structure(s) of KPs/PPs in conjunction with occurrences of various (quantificational) particles in Japanese.

‘[I] cut [it] with something.’

-TO: ACCOMPANIMENT

- 225) [PP [DP [QP dare] [DP -ka t_{QP}]] [PP -to t_{DP}]] odot-ta
 who -KA -TO dance-PST
 ‘[I] danced with someone.’

-KARA: STARTING POINT

- 226) [PP [DP [QP doko] [DP -ka t_{QP}]] [PP -kara t_{DP}]] ochi-ta
 where -KA -KARA fall-PST
 ‘[It] fell from somewhere.’

-NI: TIME

- 227) [PP [DP 3-zi] [PP -ni t_{DP}]] tui-ta
 3-hour -DAT arrive-PST
 ‘[I] arrived at 3 o’clock.’

2.4.2. Absence of Overt Case-Markings

2.4.2.1. *Complements*

The Accusative object in Japanese can occur without the marker *-wo* in a range of contexts; other objects may also occur without a marker but in more limited contexts. In the Bittner and Hale approach, the possibility of occurrences of a bare Accusative object (under certain contexts) is predicted by their claim that K of Accusative KP, which is a “Direct Case”, is inherently empty, as opposed to K of non-Accusative KP, which would be an “Oblique Case”, is inherently filled by an overt Case marker. In other words, Oblique K has no empty counterpart while Accusative K has both an overt and a null counterpart (where the null counterpart is subject to the ECP).

Their insight that Oblique K has no empty/null counterpart finds support from a contrast between Accusative and Dative objects. The contrast is that while Accusative objects can occur in K-less (*wh*)-forms, such forms of Dative objects are judged as unacceptable.⁵⁸ The context of the occurrence of K-less (*wh*)-forms are nonetheless very restrictive; they occur in a position immediately preceding or very close to the overt predicate. Of the following examples, those of Accusative objects are cited in Bittner and Hale (1996) for their arguments for the inherently empty status of the Accusative marker:

BARE-WH: ACCUSATIVE OBJECT:

228) John-ga *dare*-(wo) nagut-ta no?

J.-NOM who-(ACC) hit-PST-QUES

‘Who did John hit?’

229) *dare*-(wo) John-ga nagut-ta no?

who-(ACC) J.-NOM hit-PST-QUES

BARE-WH: DATIVE OBJECT:

230) Kare-ga *dare*-(ni) at-ta-ka sitte.ru?

he-NOM who-(DAT) meet-PST-QUES know

‘Do you know who he met?’

231) Kare-ga hon-wo *dare*-(ni) age-ta-ka sitte.ru?

he-NOM book-ACC who-(DAT) give-PST-QUES know

‘Do you know who he gave a book to?’

A question arises as to whether we should represent an empty K syntactically when the Accusative marker is not overt in sentences. Bittner and Hale postulate an empty K and argue that it is subject to the ECP. In the traditional structural analysis of transitive verb

⁵⁸ The contrast basically holds for K-less non-*wh*-nominals as well. However, topics can also be K-less with a long pause. We will use *wh*-forms to avoid the confusion.

phrases, the object KP would be in a sister relation with the verb (where the verb governs the KP) in (228), which would satisfy the ECP. The government relation does not hold in (229) in contrast, and the empty K results in ungrammaticality.⁵⁹

The absence of overt Case markings is not limited to the above case, however. When an Accusative object is followed by a quantificational/emphatic particle such as *-mo*, it can occur without the Accusative marker *-wo* and can occur on the left of the subject:

DP-MO: ACCUSATIVE OBJECT:

232) Zen'in-ga Mary-mo sikat-ta
all-NOM M.-MO scold-PST
'All scold even Mary.'

233) Mary-mo zen'in-ga sikat-ta
M.-MO all-NOM scold-PST

Interesting is that the occurrence of a K-less Dative objects with *-mo* is unacceptable on the right of the *ga*-marked subject but it seems possible on the left of the subject:

DP-MO: DATIVE OBJECT:

234) Zen'in-ga Mary-?(ni)-mo at-ta
all-NOM M.-(DAT)-MO meet-PST
'All met even Mary.'

235) Mary-?(ni)-mo zen'in-ga at-ta
M.-(DAT)-MO all-NOM meet-PST

⁵⁹ What may not be predicted is that a (short) adverb can intervene between a non-marked Accusative object and the predicate:

- (i) Nani kinoo kat-ta no?
what yesterday buy-PST-QUES
'What did you buy yesterday?'

- 236) Zen'in-ga Mary-*(ni)-mo hon-wo age-ta
 all-NOM M.-(DAT)-MO book-ACC give-PST
 'All gave a book even to Mary.'
- 237) Mary-?(ni)-mo zen'in-ga hon-wo age ta
 M.-(DAT)-MO all-NOM book-ACC give-PST

A similar situation is observed with the Topic marker *-wa*. A K-less Accusative object can occur with *-wa* on the right or left of the *ga*-marked subject.⁶⁰

DP-WA: ACCUSATIVE OBJECT:

- 238) Zen'in-ga Mary-wa sikara-nakat-ta
 all-NOM M.-TOP scold-Neg-PST
 'All didn't scold Mary.'
- 239) Mary-wa zen'in-ga sikara-nakat-ta
 M.-TOP all-NOM scold-Neg-PST

In contrast, the occurrence of a K-less Dative object with *-wa* is possible on the left but not on the right:

DP-WA: DATIVE OBJECT:

- 240) Zen'in-ga Mary-?*(ni)-wa awa-nakat-ta
 all-NOM M.-(DAT)-TOP meet-Neg-PST
 'All didn't meet Mary.'

⁶⁰ Occurrences of Accusative-Topic markers in Pre-modern Japanese are attested. According to Matsumura (1988), *-wo-wa* is often pronounced as *-wo-ba* and it expresses some emphasis. One common instance seems to be the following, which can be heard today:

- (i) Siturei-wo-ba itasi-masi-ta
 rudeness-ACC-TOP do-Polite-pst
 'Excuse me.'

- 241) *Mary-?(ni)-wa zen'in-ga awa-nakat-ta*
 M.-(DAT)-TOP all-NOM meet-Neg-PST
- 242) *Zen'in-ga Mary-*(ni)-wa hon-wo age nakat-ta*
 all-NOM M.-(DAT)-TOP book-ACC give-Neg-PST
 'All didn't give a book to Mary.'
- 243) *Mary-?(ni)-wa zen'in-ga hon-wo age nakat-ta*
 M.-(DAT)-TOP all-NOM book-ACC give-Neg-PST

The above distributions of K-less objects are suggestive of the fact that they are constrained more globally by some condition other than or in addition to a condition like the ECP.

I first would like to hypothesize that there is no K that represents the phonologically null counterpart of an overt Case-marker. According to this hypothesis, the K-less nominals discussed above are DPs. The hypothesis is stated below:

- 244) No K represents the phonologically null counterpart of an overt Case-marker.

Along with the hypothesis is the idea that overt DPs need a Case-assigner. Based on the hypothesis, we can make three claims.

Firstly, if the Case value of assignment is structurally predictable, it can be assigned by the "Case-binder". The claim is an extension of the idea that the Accusative marking of the object of a transitive verb, for instance, is structurally predictable. Thus, the value does not need to be overtly realized by K (provided that other conditions on bare DPs are met). The Accusative assignment of an object DP can be made in the absence of KP under a certain condition, by the light verb *v* of a transitive verb. On the

other hand, the same marking does not apply to Dative objects. The Dative Case value of the object of a transitive verb is not structurally predictable and requires a Case-assigner independently of the “Case-binder”.

Secondly, we may claim that K-less nominals can be Case-assigned by certain complementizers. The fact that K-less Dative objects are allowed in certain structural contexts but not in others indicate that Case-assignment is possible in some way other than by the projection of K and it is subject to some syntactic condition(s). It is introduced by Bittner and Hale (1996) that a K-less nominal can be Case-assigned by C, a complementizer.⁶¹

For Japanese, we may identify S of SP and Top of TopP in higher CP as potential Case-assigners (and not those in lower CP) for non-predictable Cases (e.g., the Dative Case). Recall that we have presented the clause-stacking analysis for Japanese sentences. In that analysis, a sentence is formed by two CPs. In a SOV transitive sentence, the object lands in the specifier of a complementizer of lower CP, while in an OSV sentence, the object may land in the specifier of a complementizer of lower CP or higher CP. The claim is that an argument DP whose head is filled by an overt particle may be Case-assigned via agreement with the head of SP or TopP of higher CP and subsequently moving to its specifier.

⁶¹ This idea is expressed in their K Filter (Bittner and Hale 1996):

- (i) An argument chain headed by a K-less nominal (DP or NP) contains a position that is c-commanded and governed by K or C, and does not contain any Case-bound position.

Thirdly, for predictable Cases (e.g., the Accusative Case), we may stipulate that a K-less object with an empty D may be Case-assigned by Fin of lower FinP or Top of TopP in lower/higher CP.

The three claims on the Case-assignment conventions for arguments are summarized below:

CASE-ASSIGNMENT CONVENTIONS FOR ARGUMENTS (JAPANESE)

245) Predictable Case-assignment:

- a. If a K-less nominal is headed by an overt particle (e.g., *-mo*), it may be Case-assigned by the “Case-binder”;
- b. Otherwise, a K-less nominal may be Case-assigned via agreement with Fin of lower FinP or Top of TopP in lower/higher CP.

246) Non-predictable Case-assignment:

- a. If a K-less nominal is headed by an overt particle (e.g., *-mo*), it can be Case-assigned via agreement with S of SP in higher CP;
- b. Otherwise, a K-less nominal may be Case-assigned via agreement with Top of TopP in higher CP.

Let us recast the data in light of the above conventions. (a) of (245) allows K-less Accusative objects headed by an overt particle to be Case-assigned directly by light verbs. The K-less Accusative objects headed by *-mo* in (232) and (233) are assigned Case by the light verbs. Thus, the Case Filter is satisfied.

(b) of (245) accounts for the fact that K-less Accusative objects are allowed in (228) but not in (229). In the former example, the Accusative object can be located in lower Spec,FinP and in this case the lower Fin Case-assigns the object. The Case-assignment is impossible in the latter example, in which the *ga*-marked subject agrees with the lower Fin and occupies the Spec,FinP. The sentence is ungrammatical because

the object is not Case-assigned by lower Fin and has no other potential Case-assigner. K-less Accusative objects can be Case-assigned by Top of TopP in lower or higher CP. Consequently, they can occur with *-wa* either on the left or right of the *ga*-marked subject. Their possibilities are shown in (238) and (239).

Dative objects are subject to the Non-predictable Case-marking convention in (246). It does not have a convention to allow bare Dative nominals; it must be followed by a particle like *-mo* or the topic marker *-wa*. Thus, the examples (230) and (231) are not allowed. When K-less Dative objects are headed by a particle like *-mo* it can be Case-marked by S of SP, and when they are topicalized, they can be Case-assigned by Top of TopP. In both cases, however, the complementizer S/Top must be located in higher CP. In our structural analysis, the presence of a *ga*-marked subject on the left of the object implies that the latter is not in higher CP. Consequently, the Dative objects in (234), (236), (240), and (242) are unacceptable because they are not Case-assigned.

It is important to note that S of SP and T of TP that attract a KP or PP to their specifiers do not Case-assign it; otherwise, it would have two Case-assignments.

2.4.2.2. *Subject*

In this framework, the subject of an accusative system is a K-less nominal. It follows that it must be Case-assigned by a complementizer. We have discussed that a *ga*-marked subject in Japanese lands in Fin of FinP. To incorporate this idea to the Case-assignment conventions, I hypothesize that the finite feature +[Finite] of Fin of FinP Case-assigns the *ga*-marked subject. The subject also needs a “Case-binder”. My

hypothesis is that it is +[Finite] of Fin of FinP for *ga*-marked as well as non-*ga*-marked subjects. I specify the “Case-binding” (and Case-assigning) Fin to be the one that has the finite feature, for not all Fins projected in the clause are “Case-binders” (and Case-assigners) of the subject.

As discussed, an overt subject can appear without *ga*. A *ga*-less subject can appear with the topic marker *-wa*, with a particle like *-mo*, and in bare form (only in a position close to the predicate). I claim that the Case-assignment of a subject follows the Predictable Case-assignment conventions (245). This is supported by the following data. First, a bare subject can occur if it is not followed by an overt object:

BARE-WH: SUBJECT:

- 247) *Dare-(ga) ki-ta-ka sitte.ru?*
 who-(NOM) come-PST-QUES know
 ‘Do you know who came?’
- 248) *Dare-?*(ga) hon-wo kat-ta-ka sitte.ru?*
 who-(NOM) book-ACC buy-PST-QUES know
 ‘Do you know who bought a book?’

The above contrast makes sense if the bare subject is allowed in lower Spec,FinP and not in higher one. In our structural analysis, the overt object with *-wo* occurs somewhere above lower FinP; thus, the occurrence of the subject on the left of the object cannot be lower Spec,FinP.

In contrast, a *mo*-marked subject can occur in places where a *ga*-marked subject can, on the left or on the right of an overt object. This distribution also follows from the

Predictable Case-assigning conventions. A *mo*-marked subject is assigned Case by the “Case-binder”, which is Fin of FinP with +[Finite].

DP-MO: SUBJECT:

- 249) Zen'in-wo *Mary-mo* sikat-ta c.f., Zen'in-wo *Mary-ga* sikat-ta
 all-ACC M.-MO scold-PST all-ACC M.-NOM scold-PST
 ‘Mary also scold all.’ ‘Mary scold all.’
- 250) *Mary-mo* zen'in-wo sikat-ta c.f., *Mary-ga* zen'in-wo sikat-ta
 M.-MO all-ACC scold-PST M.-NOM all ACC scold-PST

A *wa*-marked subject is assigned Case by Top of TopP in lower or higher CP, while its “Case-binder” is Fin of FinP with +[Finite]. It also patterns like a K-less accusative object:

DP-WA: SUBJECT:

- 251) Zen'in-wo *Mary-wa* sikara-nakat-ta
 all-ACC M.-TOP scold-Neg-PST
 ‘Mary didn’t scold all.’
- 252) *Mary-wa* zen'in-wo sikara-nakat-ta
 M.-TOP all-ACC scold-Neg-PST

2.4.2.3. “PP Complements”

There are other phrases that may be generated under VP. They include the destination expression (with *-ni*) of an unaccusative verb like *iku* ‘go’, the location expression (with *-ni*) of a stative verb like *aru* ‘exist, be’ and *iru* ‘be (for animate)’, and the accompaniment expression (with *-to*) of a verb that take plural participants like *deeto-suru* ‘date with’. Verbs of the latter may be characterized as those that typically take plural subjects. When they have a singular subject, it requires another participant to

accompany. In this respect, they are different from other verbs which do not require such a role. Examples of these phrases are cited below:

-NI: DESTINATION OF UNACCUSATIVE VERBS LIKE *IKU* 'GO':⁶²

- 253) doko-ka-ni it-ta
 where-KA-DAT go PST
 '[I] went somewhere.'

-NI: LOCATION OF STATIVE VERBS LIKE *ARU* 'EXIST, BE':

- 254) doko-ka-ni aru
 where-KA-DAT exist
 '[It] is somewhere.'

-TO: ACCOMPANIMENT OF VERBS LIKE *DEETO-SURU* 'DATE':

- 255) dare-ka-to deeto-suru
 who-KA-DAT date-do
 '[I] date with someone.'

These phrases are traditionally labeled post-positional phrases. They differ from the Accusative and Dative objects and are similar to adjuncts in one respect. According to Miyagawa (1989), post-positional phrases cannot be associated with floating numeral quantifiers.

NQ: ACCUSATIVE/DATIVE OBJECTS

- 256) Taroo-wa *hasi-wo 2-tu* watat-ta. (Miyagawa 1989, 35)
 T.-TOP bridge-ACC 2-CL cross-PST
 'Taroo crossed two bridges.'
- 257) Boku-wa *yuumei na gakusya-ni 3-nin* at-ta. (Miyagawa 1989, 35)
 I-TOP famous be scholar-DAT 3-CL meet-PST

⁶² The scope of the analysis on the destination phrase is somewhat limited. In particular, I exclude a class of verbs like *saru* 'leave', which may co-occur with the destination phrase but the event that they denote centers on the starting point and not the destination.

‘I met three famous scholars.’

NQ: NON-ACC/DAT PHRASES

258) * *Kodomotachi-wa kooen-ni 2-tu it-ta.* (Miyagawa 1989, 36)

children-TOP park-DAT 2-CL go-PST

‘The children went to two parks.’

259) * *Ike-ga kooen-ni 2-tu aru.*

pond-NOM park-DAT 2-CL exist

‘There are ponds in two parks.’

260) * *Boku-wa daigakusei-to 3-nin deeto site-iru.*

I-TOP college.student-TO 3-CL date do-I

‘I am dating with three college students.’

The above data illustrate that there is some difference between the post-positional phrases and Accusative/Dative objects. Miyagawa’s explanation is that DP/NP c-commands a numeral quantifier out of Case-marking while it does not c-command it out of PP.

Unfortunately we cannot adopt this explanation given our structural analysis of PP and KP. In our analysis, a DP cannot c-command out of the KP or PP that contains it.

Nonetheless I consider the distinction to be syntactically significant and leave unsolved the question of how KPs, and not PPs, can be associated with numeral quantifiers.

If we consider the non-Accusative/Dative phrases in question to be PPs, we still wish to account for some phenomena that are reminiscent of Accusative/Dative objects. First, let us examine their behavior in bare (*wh*)-forms. *NI*-phrases of verbs like *iku* ‘go’ and *iru/aru* ‘exist’ behave like Accusative objects in that they can occur in bare (*wh*)-forms when they are not followed by the subject. On the other hand, the *TO*-phrase of *deeto suru* ‘date’ cannot occur in such a form in the corresponding position:

BARE-WH: *NI*-PP: DESTINATION:

- 261) Kanozyo-ga *doko*-(ni) it-ta-ka sitte.ru?
 she-NOM where-(DAT) go-PST-QUES know
 ‘Do you know where she went?’
- 262) *doko*-?*(ni) kanozyo-ga it ta-ka sitte.ru?
 where-(DAT) she-NOM go-PST-QUES know

BARE-WH: *NI*-PP: LOCATION OF EXISTENCE:

- 263) Kanozyo-ga *doko*-(ni) iru-ka sitte.ru?
 she-TOP where-(DAT) exist-QUES know
 ‘Do you know where she is?’
- 264) *doko*-?*(ni) kanozyo-ga iru-ka sitte.ru?
 where-(DAT) she-TOP exist-QUES know

BARE-WH: *TO*-PP:

- 265) Kanozyo-ga *dare*-*(to) deeto site-iru-ka sitte.ru?
 she-NOM where-(DAT) date do-I-QUES know
 ‘Do you know who she is dating with?’

A *NI-TO* contrast is also observed in the distribution of topics without these markers. A null *NI* phrase can occur with *-wa* either on the right or the left of the *ga*-marked subject. In contrast, a null *TO*-phrase can only occur on the left of the subject:

DP-WA: *NI* PP: DESTINATION:

- 266) Zen’in-ga *Tokyo*-(ni)-*wa* ika-nakat-ta
 all-NOM T.-(DAT)-TOP go-Neg-PST
 ‘All didn’t go to Tokyo.’

- 267) *Tokyo*-(ni)-*wa* zen’in-ga ika-nakat-ta
 T.-(DAT)-TOP all NOM go-Neg-PST

DP-WA: *NI* PP: LOCATION OF EXISTENCE:

268) Ike-ga sono kooen-(ni)-wa nakat-ta
 pond-NOM that park-(DAT)-TOP Neg-PST
 ‘There weren’t ponds in that park.’

269) Sono kooen-(ni)-wa ike-ga nakat-ta
 that park-(DAT)-TOP pond-NOM Neg-PST

DP-WA: *TO*-PP:

270) Kanozyo-ga Mary-*(to)-wa deeto si-nakat-ta
 she-NOM M.-(TO)-TOP date do-Neg-PST
 ‘She didn’t date with Mary.’

271) Mary-?(to)-wa kanozyo-ga deeto si-nakat-ta
 M.-(TO)-TOP she-NOM date do-Neg-PST

The above *NI-TO* contrasts are reminiscent of the contrasts that we have observed between Accusative and Dative objects earlier. We analyzed the latter contrasts to reflect the difference between the structurally predictable and non-predictable Case-assignments. The best way is to analyze the marker *-ni* for verbs like *iku* ‘go’ and *aru/iru* ‘exist’ as a predictable Case, and the marker *-to* (and others if any) for a verb like *deeto suru* ‘date’ as a non-predictable Case. In this respect, the markers *-ni* and *-to* themselves in these structural contexts should be analyzed Case-markers on a par with *-wo* of Accusative objects and *-ni* of Dative objects. Based on their observation, I propose that the *NI* phrase and the *TO*-phrase in question are PPs headed by a null P and KP is projected as its complement that is headed by *-ni* or *-to*. The structure of the *NI/TO*-PPs is illustrated below:

272) [PP P- $\emptyset$ [KP DP [K-*ni/to* t_{DP}]]]

Let us recast the data of PP-complements in light of the above claim. *NI*-PPs are subject to the Predictable Case-assignment conventions in (245). In (261), the K-less phrase is in lower Spec,FinP. It agrees with Fin of FinP and is successfully Case-assigned by it. In (262), in contrast, the K-less phrase cannot be in lower Spec,FinP; this is implied by the *ga*-marked subject on the right. Thus, the Case-marking by lowerFin fails. No other Case-assignment is available for this case. Predictable K-less phrases can be Case-assigned by Top of TopP in lower/higher CP. Thus, the K-less topics in (266), (267), (268), and (269) are ruled in.

TO-PPs are subject to the Non-predictable Case-assignment conventions in (246). The contrast between (270) and (271) is predicted by (b) of (246). The non-predictable K-less nominal in (271) is Case-assigned by Top in higher CP but that in (270) is not. With the *ga*-marked subject on the left, it cannot be in higher CP. The example (265) is ruled out because the non-predictable K-less nominal does not accompany *-mo* and it is not topicalized either and there is no other way that it can be Case-assigned.

The predictions on K-less PP phrases with *-mo* also seem to be born out. A K-less *NI* phrase can occur with *-mo* either on the right or the left of the *ga*-marked subject. In contrast, a K-less *TO* -phrase can only occur on the left of the subject:

DP-MO: *NI*-PP: DESTINATION:

277) Mary-ga Tokyo-?(ni)-*mo* it-ta
 M.-NOM T.-(DAT)-MO go-PST
 ‘Mary went to Tokyo too.’

278) Tokyo-?(ni)-*mo* Mary-ga it ta
 T.-(DAT)-MO M.-NOM go-PST

DP-MO: *NI-PP*: LOCATION OF EXISTENCE.⁶³

279) *Ike-ga sono kooen-?(ni)-mo at-ta*
 pond-NOM that park-(DAT)-MO exist-PST
 ‘There was a pond in that park too.’

280) *Sono kooen-(ni)-mo ike-ga at-ta*
 that park-(DAT)-MO pond-NOM exist-PST

DP-MO: *TO-PP*:

281) *Kanozyo-ga Mary-*(to)-mo deeto si-ta*
 she-NOM M.-(TO)-TOP date do-PST
 ‘She dated with Mary too.’

282) *Mary-?(to)-mo kanozyo-ga deeto si-ta*
 M.-(TO)-MO she-NOM date do-PST

K-less nominals can be Case-assigned by the “Case-binder” (the null P in this case) if they are headed by *-mo*, according to (a) of (245). In (277), (278), (279), and (280), the K-less nominals are Case-assigned by the “Case-binder”, the null P. This Case-assignment is possible only for predictable Cases, in this case, the Dative Case. The K-less nominals in (281) and (282) are subject to the Non-predictable Case-assignment. The K-less nominal in the former lacks Case-assignment; it lacks agreement with S of SP in higher CP.

2.4.2.4. *Adjuncts*

Many overt adjuncts cannot occur in bare nominal forms. Certain temporal adjuncts are exceptions to this generalization. We will discuss non-temporal adjuncts

⁶³ There seems to be considerable variation in degrees of acceptability of examples of apparently parallel structures.

first. Non-temporal adjuncts without markers are impossible even with a particle like -*mo* or the topic marker -*wa*:

DP-MO: LOCATION:

283) Kanozyo-ga *sunahama*-(de) *mo* odot-ta
 she-NOM beach-(DE)-MO dance-PST
 ‘She danced in the beach.’

284) *Sunahama*-(de) *mo* kanozyo-ga odot-ta
 beach-(DE)-MO she-NOM dance-PST

DP-MO: INSTRUMENTAL:

285) Kanozyo-ga *sabi-ta naihu*-(de) *mo* ringo-wo kit-ta
 she-NOM rusty knife-(DE)-MO apple-ACC cut-PST
 ‘She cut apples even with rusty knives.’

286) *Sabi-ta naihu*-(de) *mo* kanozyo-ga ringo-wo kit-ta
 rusty knife-(DE)-MO she-NOM apple-ACC cut-PST

DP-MO: ACCOMPANIMENT:

287) Kanozyo-ga *Mary*-(to) *mo* odot-ta
 she-NOM M.-(TO)-MO dance-PST
 ‘She danced even with Mary.’

288) *Mary*-(to) *mo* kanozyo-ga odot-ta
 M.-(TO)-MO she-NOM dance-PST

DP-MO: STARTING POINT

289) Ringo-ga *eda*-(kara) *mo* ochi-ta
 apple-NOM branch-(FROM)-MO fall-PST
 ‘An apple fell from the branch.’

290) *Eda*-(kara) *mo* ringo-ga ochi-ta
 branch-(FROM)-MO apple-NOM fall-PST

DP-WA: LOCATION:⁶⁴

- 291) Kanozyo-ga *sunahama*-(de) *wa* odot-ta
 she-NOM beach-(DE)-TOP dance-PST
 ‘She danced in the beach.’

- 292) *Sunahama*-(de)-*wa* kanozyo-ga odot-ta
 beach-(DE)-TOP she-NOM dance-PST

DP-WA: INSTRUMENTAL:

- 293) Kanozyo-ga *sabi-ta naihu*-(de)-*wa* ringo-wo kit-ta
 she-NOM rusty knife-(DE)-TOP apple-ACC cut-PST
 ‘She cut apples even with rusty knives.’

- 294) *Sabi-ta naihu*-(de)-*wa* kanozyo-ga ringo-wo kit-ta
 rusty knife-(DE)-TOP she-NOM apple-ACC cut-PST

DP-WA: ACCOMPANIMENT:

- 295) Kanozyo-ga *Mary*-(to)-*wa* odot-ta
 she-NOM M.-(TO)-TOP dance-PST
 ‘She danced even with Mary.’

- 296) *Mary*-(to)-*wa* kanozyo-ga odot-ta
 M.-(TO)-TOP she-NOM dance-PST

DP-WA: STARTING POINT

- 297) Ringo-ga *eda*-(kara)-*mo* ochi-ta
 apple-NOM branch-(FROM)-TOP fall-PST
 ‘An apple fell even from the branch.’

- 298) *Eda*-(kara)-*mo* ringo-ga ochi-ta
 branch-(FROM)-TOP apple-NOM fall-PST

⁶⁴ The impossibility of topicalization of location and instrumental phrases without the overt marker *-de* has been discussed in Kuno (1973) and others.

Recall that we have analyzed adjunct phrases followed by an overt post-position to form PPs. The impossibility of overt post-position drop can be explained if we assume the Ps in PPs are Case-assigners as well as “Case-binders” and that there are no null counterparts of these Ps. Then, the absence of an overt post-position in an adjunct phrase implies that it is a bare DP, which lacks a Case-assigner and a “Case-binder”. Consequently, the ungrammaticality of the above examples without overt post-positions is explained by the lack of Case-assigners for the bare DPs. I further hypothesize that adjuncts are not subject to the Predictable/Non-predictable Case-assignment conventions. Thus, a P-less adjunct DP would not be Case-assigned via agreement with some complementizers.

An adjunct appears to occur without an overt Case morpheme when there is an overt “Case-binder”. One example is an adjunct phrase that is embedded in a predicate phrase. Accompaniment can be expressed by a predicate *issyø* ‘together’ that takes a *TO*-phrase:

- 299) Kanozyo-ga Mary-to *issyø* ni odot-ta
 she-NOM M.-TO together-DAT dance-PST
 ‘She danced together with Mary.’

In the presence of the predicate phrase *issyø ni*, the marker *-to* can be absent under the following context:

- 300) Mary-?(to)-mo kanozyo-ga *issyø*-ni odot-ta
 she-NOM M.-TO together-DAT dance-PST
 ‘She danced together even with Mary.’

- 301) *Mary-(to)-wa kanozyo-ga issyø ni odot-ta.*⁶⁵
 she-NOM M.-TO together-DAT dance-PST
 ‘She danced together with Mary.’

In the above cases, *issyø* must be a “Case -binder” and the bare DP is Case-assigned by a complementizer of higher CP. *Issyo* can occur as an independent predicate and accompany a *TO*-phrase:

- 302) *Joe-ga Mary-to issyo dat-ta.*
 J.-NOM M.-TO together COP-PST
 ‘Joe was with Mary.’

I conjecture that in (302), the *TO*-phrase is a KP and *issyø* is the “Case -binder”. It should then behave similarly to the *TO*-phrase of a verb like *deeto suru* ‘date’, discussed earlier. Compare the following examples with the examples of *deeto suru* in (270), (271), (281), and (282):

- 303) *Joe-ga Mary-??(to)-wa issyo de-wa naka-ta.*⁶⁶
 J.-NOM M.-(TO)-MO together COP-TOP Neg-PST
 ‘Joe wasn’t with Mary.’
- 304) *Mary-(to)-wa Joe-ga issyo de-wa naka-ta.*
 M.-(TO)-MO J.-NOM together COP-TOP Neg-PST
- 305) *Joe-ga Mary-??(to)-mo issyo dat-ta.*
 J.-NOM M.-(TO)-MO together COP-PST
 ‘Joe was with Mary.’

⁶⁵ Kuno (1973) illustrates the possibility of topicalization of such a phrase without *-to* in the presence of *issyø* and the impossibility in the absence of *issyø*

⁶⁶ For (303) and (305), when the subject is not pronounced, the sentence is perfectly acceptable.

- 306) *Mary*-(to)-*mo* *Joe*-ga *issyo* dat-ta.
 M.-(TO)-MO J.-NOM together COP-PST

The above data indicate that *issyo* is a predicate that “Case -binds” a KP, just like the verb *deeto suru*. The marker *-to* can be absent in (304) and (306) because *issyo* “Case -binds” the KP, and the DP is Case-assigned by the complementizer (S or Top) in higher CP. In this respect, *Mary* in these sentences is not an adjunct but the object of the predicate *issyo*.

2.4.2.5. *Time Adjuncts*

Overt time adjuncts have two types. One type requires the marker *-ni* when it appears as a time adjunct in a sentence. This type includes expressions like *3-zi* ‘3 o’clock’ and *nan-zi* ‘what time’.⁶⁷ Another type does not require *-ni*. This type includes expressions like *sono hi* ‘that day’, *sono toki* ‘that time’, *getuyoobi* ‘Monday’, *kinoo* ‘yesterday’, *kesa* ‘this morning’. I will call the first type “Marked” time adjuncts and the second type “Unmarked” time adjuncts.

I hypothesize that Marked time adjuncts form PPs similar to other adjuncts, in which the head P is the Case-assigner and the “Case-binder” of the DP that it selects. This hypothesis is supported by their behavior parallel to the adjuncts discussed above:

DP-MO: MARKED TIME

- 307) *Densya*-ga *3-zi*-(ni)-*mo* *eki*-ni *tui*-ta
 train-NOM 3-hour-(DAT)-MO station-DAT arrive-PST

⁶⁷ Time expressions of this type can be used without *-ni*. However, such use seems to distinctively signal the newspaper style writing.

‘Trains arrived at the station at 3 o’clock too.’

- 308) *3-zi-*(ni)-mo* *densya-ga eki-ni* *tui-ta*
 3-hour-(DAT)-MO train-NOM station-DAT arrive-PST

DP-WA: MARKED TIME

- 309) *Densya-ga 3-zi-*(ni)-wa* *eki-ni* *tuka-nakat-ta*
 train-NOM 3-hour-(DAT)-TOP station-DAT arrive-Neg-PST
 ‘Trains didn’t arrive at the station at 3 o’clock.’

- 310) *3-zi-*(ni)-wa* *densya-ga eki-ni* *tuka-nakat-ta*
 3-hour-(DAT)-TOP train-NOM station-DAT arrive-Neg-PST

In contrast with Marked time adjuncts, Unmarked time adjuncts can appear with or without the marker *-ni*:

DP-MO: UNMARKED TIME

- 311) *Densya-ga doyoobi-(ni)-mo* *eki-ni* *tui-ta*
 train-NOM saturday-(DAT)-MO station-DAT arrive-PST
 ‘Trains arrived at the station on Saturday too.’

- 312) *doyoobi-(ni)-mo* *densya-ga eki-ni* *tui-ta*
 saturday-(DAT)-MO train-NOM station-DAT arrive-PST

DP-WA: UNMARKED TIME

- 313) *Densya-ga doyoobi-(ni)-wa* *eki-ni* *tuka-nakat-ta*
 train-NOM saturday-(DAT)-TOP station-DAT arrive-Neg-PST
 ‘Trains didn’t arrive at the station on Saturday.’

- 314) *doyoobi-(ni)-wa* *densya-ga eki-ni* *tuka-nakat-ta*
 saturday-(DAT)-TOP train-NOM station-DAT arrive-Neg-PST

If we follow the spirit of what we have claimed so far, we cannot claim that there is a null counterpart of *-ni*. I claim instead that the *ni*-marked phrases in the above examples are PPs similar to PPs of Marked time adjuncts while the non-marked phrases are DPs. The

claim implies that there must be a Case-assigner and a “Case-binder” for such DPs. I hypothesize that there are two candidates. One is Fin with +[Finite] specification, and one is a null predicate head that identifies a time expression as a temporal specifier of a more specific instance of time.

Let us first present a rationale for relating the Finite specification with a non-marked time expression. Time expressions like *sensyuu-no doyoobi* ‘last Saturday’ with or without the marker *-ni* can be interpreted as specifying the time of the event:

- 315) Joe-ga *sensyuu-no doyoobi*-(ni) Tokyo-ni i-ta
 J.-NOM lastweek saturday-(DAT) T.-DAT exist-PST
 ‘Joe was in Tokyo last Saturday.’

It seems that the time specified by the time expression must not contradict the anteriority/non-anteriority expressed by the predicate. Thus, the following sentence is not suited for a description of a state/event:

- 316) # Joe-ga *sensyuu-no doyoobi*-(ni) Tokyo-ni iru
 J.-NOM lastweek saturday-(DAT) T.-DAT exist
 ‘Joe is in Tokyo last Saturday.’

I find a contrast in interpretation between *ni*-marked and non-marked time expressions in the following context:

- 317) Joe-ga *sensyuu-no doyoobi*-ni-wa Tokyo-ni tuite-iru
 J.-NOM lastweek saturday-(DAT)-TOP T.-DAT arrive-I
 ‘Joe has arrived in Tokyo since last Saturday.’
- 318) Joe-ga *sensyuu-no doyoobi*-wa Tokyo-ni tuite-iru
 J.-NOM lastweek saturday-TOP T.-DAT arrive-I

* ‘Joe has arrived in Tokyo since last Saturday.’

A paraphrase of (317), which contains the *ni*-marked time expression, is something like: the result of Joe’s arrival on last Saturday exists at the present time. (318) however cannot mean exactly that. This sentence sounds somewhat bizarre if it is said without more contexts. The only interpretation of the latter sentence is that *sensyuu-no doyoobi* understood as a specifier of some more specific instance of time, which is not pronounced in that sentence. The role of the non-marked time expression in (318) seems to be the same as that of the corresponding time expression in the following sentence:

- 319) Joe-ga *sensyuu-no doyoobi*-wa 3-zi-ni Tokyo-ni tuite-iru
 J.-NOM lastweek saturday-TOP 3-hour-DAT T.-DAT arrive-I
 ‘Joe has arrived in Tokyo since 3 o’clock of the last Saturday.’

(319) can be paraphrased with a time expression in which *sensyuu-no doyoobi* ‘last Saturday’ appears as the genitive modifier of 3-zi ‘3 o’clock’:

- 320) Joe-ga *sensyuu-no doyoobi-no* 3-zi-ni Tokyo-ni tuite-iru
 J.-NOM lastweek saturday-GEN 3-hour-DAT T.-DAT arrive-I

The above data indicates a potential source of the Case-assigner (and a “Case-binder”) for non-marked time expressions: the head of a predicate that identifies a (non-marked) time expression as a temporal specifier of a more specific instance of time. We may claim that in (319), non-marked *sensyuu-no doyoobi* is allowed because the abstract predicate head that specifies its role as a modifier of another time expression Case-assigns it.

The fact that non-marked *sensyuu-no doyoobi-wa* in (318) can only be interpreted as the modifier of a more specific instance of time requires an explanation. In other words, why can't it directly modify the event denoted by the verb in the aspectual construction *V-te iru*. The modification of the event is possible by the corresponding *ni*-marked expression, which results in the interpretation in (317). It seems to be related to the fact that the clause formed by *V-te* in the *V-te iru* construction cannot take an overt subject independently of the subject of the matrix clause:

- 321) * Joe-ga Tokyo-ni *kare-ga* tuite-iru/i-ta
 J.-NOM T.-DAT arrive-I/I-PST
 'Joe has arrived at Tokyo.'

In a coordination construction, *V-te* can have an overt subject, and *sensyuu-no doyoobi-wa* can be interpreted as the time modifier of the event denoted by *V-te*.

- 322) Joe-wa *sensyuu-no doyoobi-wa* Tokyo-ni tuite, kare-wa ima Shibuya-ni iru
 J.-TOP lastweek saturday-TOP T.-DAT arrive-I he-TOP now S.-DAT exist
 'Joe arrived in Tokyo last Saturday, and he is now in Shibuya.'⁶⁸

The above data show that the possibility of time modification of the event corresponds to the possibility of the occurrence of an overt subject. We have discussed that an overt subject is "Case-bound" by +[Finite] feature of Fin of FinP. Obviously, this feature is absent from the clause formed by *V-te* in the *V-te iru* construction. If we hypothesize that this feature of Fin can also Case-assign and "Case-bind" a time adjunct DP, then the impossibility of the intended interpretation of the non-marked time phrase in (318) can be thought of as a failure of Case-assignment. In contrast, *ni*-marked time expressions are

⁶⁸ Shibuya is a ward of Tokyo Metropolitan.

not subject to the same conditions since they form PPs and P is the Case-assigner of the DP that it embeds.

2.4.3. Implicit Licensers

2.4.3.1. *Pseudo-clefts*

We have discussed how K-less nominals are licensed in simple clauses. K-less nominals on the right of pseudo-cleft constructions can occur on the right of pseudo-cleft constructions. One might expect that their occurrences in pseudo-cleft constructions are predictable by the possibility of occurrences of K-less nominals in simple clauses. However, the distribution of K-less nominals in pseudo-cleft constructions is slightly different from what we have seen in simple clauses, implying that their licensing conditions are somewhat different from the Case-assignments that we discussed.

Let us begin with a brief illustration of some basic facts on pseudo-cleft constructions in Japanese regarding Case-markers/post-positions. There are Case-markers/post-positions that cannot appear in the predicate position of the construction. They include *-wo*, *-ni*, *-ga*, and *-wa*. The impossibility of *-ga* and *-wa* in that position is predicted in our structural analysis if we take a movement analysis of pseudo-cleft, as pointed out by Whitman (2001). In our analysis, *-ga* and *-wa* are clausal head, and the movement of a subject followed by *-ga/wa* would involve a non-constituent:

PSEUDO-CLEFT: SUBJECT:

- 323) [*e*₁ hon-wo kat-ta no-wa] *kanozyo*-(**ga*/**wa*)₁ da
 book-ACC buy-PST that-TOP she-(NOM/TOP) COP
 ‘It is she who bought the/a book.’

If the phrase in the predicate corresponds to an Accusative object, the object appears without *-wo*, as in (324) and (325). If the phrase in the predicate corresponds to a *ni*-marked phrase, the phrase may appear without *-ni*, as in (326) ~ (330):

PSEUDO-CLEFT: ACCUSATIVE OBJECT:

- 324) [Kanozyo-ga *e*₁ kat-ta no-wa] *sono hon-(*wo)*₁ da
 she-NOM buy PST that-TOP that book-(ACC) COP
 ‘It is that book that she bought.’

- 325) [Kanozyo-ga *e*₁ arui-ta no-wa] *zyarimiti-(*wo)*₁ da
 she-NOM walk-PST that-TOP gravel road-(ACC) COP
 ‘It is the gravel road that she walked.’

PSEUDO-CLEFT: DATIVE OBJECT:

- 326) [Kanozyo-ga *e*₁ at-ta no-wa] *Joe-no tomodachi-(*ni)*₁ da
 she-NOM meet-PST that-TOP Joe-GEN friend-(DAT) COP
 ‘It is a friend of Joe that she met.’
- 327) [Kanozyo-ga *e*₁ hon-wo age-ta no-wa] *Joe-no tomodachi-(*ni)*₁ da
 she-NOM book-ACC give-PST that TOP Joe-GEN friend-(DAT) COP
 ‘It is a friend of Joe that she gave a book to.’

PSEUDO-CLEFT: *NI* PP COMPLEMENT: DESTINATION:

- 328) [Kanozyo-ga *e*₁ it-ta no-wa] *Kyoto-(*ni)*₁ da
 she-NOM go-PST that-TOP Kyoto-(DAT) COP
 ‘It is Kyoto that she went.’

PSEUDO-CLEFT: *NI* PP COMPLEMENT: LOCATION:

- 329) [otera-ga takusan *e*₁ aru no-wa] *Kyoto-(*ni)*₁ da
 temple-NOM many exist-PST that-TOP Kyoto-(DAT) COP
 ‘It is Kyoto that there are many temples.’

PSEUDO-CLEFT: TIME ADJUNCT:

- 330) [Kanozyo-ga *e*₁ Kyoto-ni tui-ta no-wa] *3-zi-(*ni)*₁ da
 she-NOM K.-DAT arrive-PST that-TOP 3-hour-(DAT) COP

‘It is 3 o’clock that she arrived in Kyoto.’

I do not know what prohibits the appearance of these markers/post-positions in that position. Occurrences of other markers/post-positions are possible and in some cases obligatory:

PSEUDO-CLEFT: *E*-PP COMPLEMENT: DESTINATION:

- 331) [Kanozyo-ga *e*₁ it-ta no-wa] *Kyoto*-(*e*)₁ da
 she-NOM go-PST that-TOP Kyoto-(toward) COP
 ‘It is Kyoto that she went.’

PSEUDO-CLEFT: *TO*-PP COMPLEMENT:

- 332) [Kanozyo-ga *e*₁ deeto si-ta no-wa] *Joe-no tomodachi*-(*to*)₁ da
 she-NOM date do-PST that-TOP Joe-GEN friend-(DAT) COP
 ‘It is a friend of Joe that she dated with.’

PSEUDO-CLEFT: *TO*-ACCOMPANIMENT ADJUNCT:

- 333) [Kanozyo-ga *e*₁ odot-ta] no-wa *Joe-no tomodachi*-?*(*to*)₁ da
 she-NOM dance-PST that-TOP J.-GEN friend-(TO) COP
 ‘It is with a friend of Joe who she danced.’

PSEUDO-CLEFT: *KARA* STARTING-POINT ADJUNCT:

- 334) [Joe-ga *e*₁ ochi-ta] no-wa *ano gake*-?*(*kara*)₁ da
 J.-NOM fall-PST that TOP that cliff-(FROM) COP
 ‘It is from that cliff that Joe fell.’

The above data show that all the complements (i.e., Accusative objects, Dative objects, and “PP complements”) and some adjuncts can appear in the predicate position of pseudo-cleft constructions in bare forms. Whatever condition might prohibit *-ni* and *-wo* to occur in the predicate position of pseudo-cleft constructions, it does not seem to be directly related to the argument structure; *-ni* in particular is incompatible regardless of the roles of the phrases. It does not seem to be about a semantic aspect of the argument

structure either since the marker *-e*, which alternates with *-ni* in the destination (and also direction) interpretation in simple clauses, can occur in pseudo-cleft constructions, as shown in (331) above.

Apart from the marker particular phenomenon, there is a phenomenon that does not make much sense from the perspective of the Case-assignment conventions discussed above. In the Case-assignment point of view, Dative objects as in (326) and (327), *TO*-PP complements as in (332), and non-time adjuncts as in (336) and (337) should not occur in bare forms. Dative objects and *TO*-PP complements are subject to the Non-predictable Case-assignment convention (246) and this convention does not allow their bare forms in simple clauses when they do not accompany a particle like *-mo* or the topic marker *-wa*. The convention does not provide an alternative way to assign Case to these bare forms. For non-time adjuncts, post-positions are their Case assigners, and without them the adjuncts lack Case.

The above phenomena indicate that the Cases of bare nominals in pseudo-cleft clauses are licensed differently from overt nominals appearing in simple clauses discussed above. One respect in which cleft clauses differ from simple clauses is the presence of a nominalizing complementizer. The cleft clause is followed by *no*, which signals nominalization of a clause.⁶⁹ Given the possibility of some complementizers functioning as Case-assigners as discussed above, it is reasonable to hypothesize that the

⁶⁹ At this point, it does not matter so much whether *no* actually is a nominalizing complementizer or it is a particle that indicates the presence of the complementizer.

nominalizing complementizer has the ability to assign Case to a DP. Let us hypothesize the following:

- 335) A nominalizing complementizer can Case-assign a DP under agreement if it is “Case-bound”.

We assume that a DP that agrees with and is Case-assigned by a nominalizing complementizer must either move out of the clause or be null. Then we would not expect an overt bare DP in the cleft clause that is Case-assigned by the nominalizing complementizer.

We also assume that the nominalizing complementizer is not a “Case-binder”. This implies that there must be “Case-binders” for acceptable cases of bare nominals in pseudo-cleft constructions. Acceptable cases include all the arguments (i.e., subjects, Accusative objects, Dative objects, and “PP complements”). We have already identified “Case-binders” of arguments. “Case-binders” of complements are light verbs and null Ps, and the “Case-binder” of subjects is +[Finite] Fin. This hypothesis will instantly rule in bare nominals of Dative objects and *TO*-PP complements as well as those of other arguments. The Dative object nominal in (326) is “Case-bound” by the light verb, and the bare *TO*-PP complement in (332) is “Case-bound” by the null P. And they are Case-assigned by the nominalizing complementizer.

For time adjuncts, we have identified two potential “Case-binders”. One is Fin with +[Finite] specification, and one is a null predicate head that identifies a time expression as a temporal specifier of a more specific instance of time. Thus, bare time

adjunct nominals in pseudo-cleft constructions will be “Case-bound” by them and Case-assigned by the nominalizing complementizer, as illustrated in (330) above.

As for non-time adjuncts, some allow bare nominals in pseudo-cleft constructions and some do not. The latter behavior is predicted. Post-positions are their Case-assigners as well as “Case-binders”. Without them, they will not be “Case-bound” (and will not be Case-assigned); thus, they will not be Case-assigned by the nominalizing complementizer. This explanation is applicable for adjuncts of accompaniment and starting points, as in (333) and (334) respectively, which show the obligatory occurrence of *-de*. However this is not the case for pseudo-cleft constructions of location and instrumental adjuncts. That is, location and instrumental adjuncts can occur in the predicate position without a post-position (or with a post-position):

PSEUDO-CLEFT: *DE*-LOCATION:

- 336) [Kanozyo-ga *e*₁ oyoi-da] no-wa sono sunahama-?(de)₁ da
 she-NOM swim-PST that-TOP that beach-(DE) COP
 ‘It is the beach where she swam.’

PSEUDO-CLEFT: INSTRUMENTAL:

- 337) [Kanozyo-ga *e*₁ ringo-wo kit-ta] no-wa sono naihu-?(de)₁ da
 she-NOM apple-ACC cut-PST that TOP that knife-(DE) COP
 ‘It is with that knife that she cut apples.’

The hypothesis is that these bare instrumental and location adjuncts must have “Case-binders”.

Let us identify what property/feature can constitute a “Case-binder” of a bare instrumental adjunct. A closer examination reveals that a bare instrumental adjunct is not

allowed in all cases; there is a class of predicates in the cleft clause that are incompatible with bare occurrence of instrumental adjuncts in the predicate position. The class of predicates refers to “unaccusative achievement” predicates in McClure (2000). Compare the following two sets of examples. The first set contains cleft clauses with unaccusative achievement predicates, and the second set contains cleft clauses with other predicates. The bare form of instrumental adjunct is not allowed with the predicates in the first set, while it is allowed with those in the second set:

1ST SET: UNACCUSATIVE ACHIEVEMENT:

- 338) [Joe-ga *e*₁ Paris-ni tui-ta] no-wa sono hikooki-*(de)₁ da
 J.-NOM P.-DAT arrive-PST that-TOP that airplane-(DE) COP
 ‘It is that airplane by which Joe arrived at Paris.’
- 339) [Joe-ga *e*₁ Kyoto-ni it-ta] no-wa sono densya-*(de)₁ da ⁷⁰
 J.-NOM K.-DAT go-PST that-TOP that train-(DE) COP
 ‘It is that train by which Joe went to Kyoto.’
- 340) [Doa-ga *e*₁ ai-ta] no-wa sono kagi-*(de)₁ da
 door-NOM open-PST that-TOP that key-(DE) COP
 ‘It is that key with which the door opened.’

2ND SET: OTHERS:

⁷⁰ A similar sentence is acceptable without *-de*, which has a complex predicate containing a verb like *noru* ‘ride’ that takes *densya* ‘train’ as its complement:

- (i) [Joe-ga Kyoto-ni *e*₁ notte it-ta] no-wa sono densya-(de)₁ da
 J.-NOM K.-DAT ride go-PST that-TOP that train-(DE) COP
 ‘It is that train by which Joe went to Kyoto.’

This supports the view that the presence of a “Case-binder” is an important criteria for the occurrence of bare nominals.

- 341) [Joe-ga e_1 Paris-wo tat-ta] no-wa *sono hikooki*-(de)₁ da ⁷¹
 J.-NOM P.-ACC leave-PST that-TOP that airplane-(DE) COP
 ‘It is that airplane by which Joe left Paris.’
- 342) [Joe-ga e_1 zyarimiti-wo hasit-ta] no-wa *sono kuruma*-(de)₁ da
 J.-NOM gravel road-ACC run-PST that-TOP that train-(DE) COP
 ‘It is that car by which Joe drove on the gravel road.’
- 343) [Joe-ga e_1 doa-wo ake-ta] no-wa *sono kagi*-(de)₁ da
 J.-NOM door-ACC open-PST that-TOP that key-(DE) COP
 ‘It is that key with which Joe opened the door.’

The contrast between the first set (unaccusative achievement) and the second set indicates that some property in the verbal predicate is responsible for “Case-binding” of a bare instrumental adjunct. McClure (2000) proposes that the head of the projection (which he labels “AP”) above the lexical VP expresses aspectual properties; in particular, the projection of unaccusative achievement has the property of BECOME. To incorporate this analysis into our framework, we can claim that the light verb *v* of vP of an unaccusative achievement verb has a feature, say $+[achievement]$, which lacks the ability to “Case-bind” a bare instrumental adjunct. In other words, a bare instrumental adjunct can be “Case-bound” by a light verb that does not have $+[achievement]$ feature. The structure that I assume is something like the following:

- 344) [_{VP} DP_{subj} [v [_{AdvP} DP_{ins} [Adv [_{VP} V ...]]]]]
 $*+[achievement]$

⁷¹ Also possible is:

- (i) [Joe-ga e_1 Kyoto-ni mukat-ta] no-wa *sono densya*-(de)₁ da
 J.-NOM K.-DAT face-PST that-TOP that train-(DAT) COP
 ‘It is that train by which Joe went toward Kyoto.’

The idea that a bare adjunct must have a “Case-binder” in pseudo-cleft is further supported by the fact that a bare form becomes possible when an expression that contains a “Case-binder” is added. Recall that accompaniment adjuncts, which accompany *-to* in a simple clause, can be expressed by a longer form *Kare to issy-ni* ‘together with him’. We have identified *issyøtogether*’ is a “Case -binder” for *Kare* (*to*) and this makes it possible for *Kareto* occur without accompanying *-to* under a certain context. In the presence of *issyø- to* is not a post-position that both Case-assigns and “Case-binds” *Kare* but a K, and in the absence of K, some complementizer can assign Case to *Kare*. The bare form of accompaniment can occur in pseudo-cleft when *issyø ni* occurs in the clause. Compare the following (345) with the example (333) above:

PSEUDO-CLEFT: *TO*-ACCOMPANIMENT ADJUNCT:

- 345) [Kanozyo-ga *e*₁ *issyø-ni* *odot-ta*] *no-wa Joe-no tomodachi-(?to)*₁ *da*
 she-NOM together-DAT dance-PST that-TOP J.-GEN friend-(TO) COP
 ‘It is together with a friend of Joe who she danced.’

The contrast suggests that the bare adjunct in (333) lacks Case.

As for bare location adjuncts, I suspect that it can be “Case-bound” by some feature of T, but this requires further research.

Adjuncts of accompaniment and starting point do not allow bare forms to occur in the predicate position of pseudo-cleft constructions. In our analysis, this means that they do not have “Case-binders” independently of overt post-positions associated with them. In the absence of “Case-binding” post-positions, these adjuncts cannot occur in bare

forms in simple clauses as well as in pseudo-cleft constructions, because they are not assigned Case.

There are other classes of adjuncts that we have not discussed. They include adjuncts of cause and passive agent. Let us discuss adjuncts of cause first. Adjuncts of cause also accompany *-de* in simple clauses:

ADJUNCT OF CAUSE:

- 346) *Sono kusura de atama-ga itaku nat-ta*
 that pill-DE head-NOM hurt become-PST
 ‘[I] got headache because of the pill.’

Adjunct of cause differ from instrumental adjuncts in that the former can be paraphrased with explicit expressions such as *X-no sei-de* ‘for the sake of X’. When this test applies to instrumental adjuncts, they are no longer interpreted as an instrument:

ADJUNCT OF CAUSE: PARAPHRASE

- 347) *Sono kusura no sei-de atama-ga itaku nat-ta*
 that pill-GEN sake-DE head-NOM hurt become-PST
 ‘[I] got headache because of the pill.’

ADJUNCT OF INSTRUMENT: *PARAPHRASE

- 348) *Joe-ga sono hikooki-no sei-de Paris wo tat-ta*
 J.-NOM that airplane-GEN sake-DE P.-ACC leave-PST
 ‘Joe left Paris for the sake of the airplane.’
 * ‘Joe left Paris by airplane.’

Adjuncts of cause in bare forms seem to be “Case-bound” by a semantic property different from that of instrumental adjuncts. In pseudo-cleft constructions, the presence of *-de* does not seem to be required when the cleft clause is in present tense in which the

adjunct is interpreted as a generic cause rather than the cause of some specific event.

When the cleft clause is in past tense, it is difficult to omit *-de*:

PSEDO-CLEFT: ADJUNCT OF CAUSE:

349) [*e*₁ atama-ga itaku nat-ta] no-wa sono kusuri ??(de)₁ da
 head-NOM hurt become-PST that-TOP that pill-(DE) COP
 ‘It is that pill because of which I got headache.’

350) [*e*₁ atama-ga itaku naru] no-wa sono kusuri (de)₁ da
 head-NOM hurt become that-TOP that pill-(DE) COP
 ‘It is that pill because of which I/one get(s) headache.’

It is unclear what formal property constitutes a “Case-binder” of a bare adjunct of cause.

I assume however that the formal property is different from that of instrumental adjuncts.

As for the agent of passive, overt nominals are marked by *-ni* (or *-ni yotte*) in simple clauses. Like adjuncts of accompaniment and starting point, they do not tolerate P/K-less forms in simple clauses:

PASSIVE AGENT:

351) Gakusei-ga Joe-*(ni)-wa/mo sika-rare-ta
 student-NOM J.-(DAT)-TOP/MO scold-PSS-PST
 ‘Students were scolded by Joe.’

352) Joe-*(ni)-wa/mo gakusei-ga sika-rare-ta
 J.-(DAT)-TOP/MO student-NOM scold-PSS-PST

I analyze *Joe-ni* as a PP adjunct, in which *-ni* is a P that serves as the Case-assigner and “Case-binder” of the DP. Since *-ni* is the Case-assigner as well as the “Case-binder” of an overt passive agent expression, the impossibility of K-less forms is explained as a result of the failure of Case-assignment provided that there is no other “Case-binder”.

A passive agent, with or without *-ni*, cannot appear in the predicate position in a pseudo-cleft construction. Recall that *-ni* is impossible in a predicate position regardless of the role of the phrase. The impossibility of a bare form indicates that there is no “Case-binder” in structures like the following:

PSEUDO-CLEFT: PASSIVE AGENT:

- 353) * [Gakusei ga *e*₁ sika-rare-ta] no-wa Joe-(ni)₁ da
 student-NOM scold-PSS-PST that-TOP J.-(DAT) COP
 ‘It is Joe by whom students were scolded.’

To summarize, a bare adjunct can occur in the predicate position of a pseudo-cleft construction if there is a “Case-binder” in the clause. In the presence of a “Case-binder”, it can be Case-assigned by the nominalizing complementizer. We have identified the “Case-binder” to be some feature of a (functional) head. For a bare instrumental adjunct, it is a light verb that does not carry +[achievement]. The presence/absence of this feature distinguishes acceptable occurrences of a bare instrumental adjunct from unacceptable ones. We did not identify features for all cases of adjuncts but infer that the presence of a “Case-binder” is a precondition for Case-assignment by the nominalizing complementizer.

Overt bare adjuncts are impossible in clauses which lack a nominalizing complementizer. In the presence of overt post-positions, adjuncts are “Case-bound” and Case-assigned by them. In their absence, they lack Case-assigners. Even in the presence of a “Case-binder”, there is no Case-assigner for adjuncts in such clauses. They do not have a nominalizing complementizer. Also they are not subject to the Predictable/Non-

predictable Case-assignment conventions; thus alternative Case-assignments, which are available to arguments, are not available to adjuncts.

2.4.3.2. *Relative Clauses*

Relativization is possible for arguments and adjuncts that allow bare forms in the predicate position of a pseudo-cleft construction. That is, all arguments can be relativized. Also possible are some of the adjuncts such as time adjuncts, location adjuncts, instrumental adjuncts (in the absence of +[achievement] in the light verb), and cause adjuncts. On the other hand, adjuncts of accompaniment, starting point, passive agent, and instrumental adjuncts (in the presence of +[achievement] in the light verb) are not relativizable (at least with a gap). The following are examples of argument relativization:

RELATIVE: SUBJECT:

- 354) [*e*₁ hon-wo kat-ta] *kyaku*₁
 book-ACC buy-PST customer
 ‘the customer who bought the/a book.’

RELATIVE: ACCUSATIVE OBJECT:

- 355) [Kanozyo-ga *e*₁ kat-ta] *hon*₁
 she-NOM buy PST book
 ‘the book that she bought.’
- 356) [Kanozyo-ga *e*₁ arui-ta] *zyarimiti*₁
 she-NOM walk-PST gravel road
 ‘the gravel road that she walked.’

RELATIVE: DATIVE OBJECT:

- 357) [Kanozyo-ga *e*₁ at-ta] *otoko*₁
 she-NOM meet-PST man

‘the man that she met.’

- 358) [Kanozyo-ga *e*₁ hon-wo age-ta] *otoko*₁
 she-NOM book-ACC give-PST man
 ‘the man that she gave a book to.’

RELATIVE: *NIE* -PP COMPLEMENT: DESTINATION:

- 359) [Kanozyo-ga *e*₁ it-ta] *machi*₁
 she-NOM go-PST town
 ‘the town that she went to.’

RELATIVE: *NI* PP COMPLEMENT: LOCATION:

- 360) [otera-ga takusan *e*₁ aru] *machi*₁
 temple-NOM many exist-PST town
 ‘the town where there are many temples.’

RELATIVE: *TO*-PP COMPLEMENT:

- 361) [Kanozyo-ga *e*₁ deeto si-ta] *otoko*₁
 she-NOM date do-PST man
 ‘the man that she dated with.’

Let us examine finer distinctions that are observed for bare nominal adjuncts in the pseudo-cleft cases. First, as in pseudo-cleft, there is a contrast between the presence and absence of *issyō-ni* ‘together with’ in relatives. An accompaniment adjunct can be relativized when the relative clause contains *issyō ni* but it is impossible when the clause does not contain such an expression:

RELATIVE: *TO*-ACCOMPANIMENT ADJUNCT:

- 362) * [Kanozyo-ga *e*₁ odot-ta] *otoko*₁
 she-NOM dance-PST man
 ‘the man who she danced with.’
- 363) [Kanozyo-ga *e*₁ *issyō-ni* odot-ta] *otoko*₁
 she-NOM together-DAT dance-PST man

The same explanation can apply to the above contrast in relatives; the gap in the clause is a DP and it lacks a “Case-binder” and consequently it lacks Case.

Second, in pseudo-cleft constructions we have seen a contrast between instrumental adjuncts with an unaccusative achievement predicate and with other predicates. With the former predicate a bare nominal is impossible, while with the latter it is possible. A parallel phenomenon is observed in relatives as well:

RELATIVE: INSTRUMENTAL:

1ST SET: UNACCUSATIVE ACHIEVEMENT:

364) ?* [Joe-ga *e*₁ Paris ni tui-ta] *hikooki*₁
 J.-NOM P.-DAT arrive-PST airplane
 ‘the airplane by which Joe arrived at Paris.’

365) * [Joe-ga *e*₁ Kyoto-ni it-ta] *densya*₁
 J.-NOM K.-DAT go-PST train
 ‘the train by which Joe went to Kyoto.’

366) * [Doa-ga *e*₁ ai-ta] *kagi*₁
 door-NOM open-PST key
 ‘the key with which the door opened.’

2ND SET: OTHERS:

367) [Joe-ga *e*₁ Paris-wo tat-ta] *hikooki*₁
 J.-NOM P.-ACC leave-PST airplane
 ‘the airplane by which Joe left Paris.’

368) [Joe-ga *e*₁ zyarimiti-wo hasit-ta] *kuruma*₁
 J.-NOM gravel road-ACC run-PST car
 ‘the car by which Joe drove on the gravel road.’

369) [Joe-ga *e*₁ doa-wo ake-ta] *kagi*₁
 J.-NOM door-ACC open-PST key
 ‘the key with which Joe opened the door.’

The unavailability of relativization of an instrumental adjunct in (364) ~ (366) indicates that the relative clauses do not contain a null counterpart of the post-position *-de*. The possibility of relativization in (367) ~ (369), on the other hand, suggests that the Case-assignment of these adjunct DPs is made without the post-position. As in the case of pseudo-cleft, Case must have been assigned by the nominalizing complementizer.

Third, there is a slight contrast in relativization of adjuncts of causes between past tense and non-past tense. Relativization of a cause adjunct is acceptable when the predicate is in non-past tense, but it is somewhat less acceptable when the predicate is in past tense. A similar contrast is observed with bare adjuncts of cause in pseudo-clefts:

PSEUDO-CLEFT: ADJUNCT OF CAUSE:

- 370) ? [*e*₁ atama-ga itaku nat-ta] *kusuri*₁
 head-NOM hurt become-PST pill
 ‘the pill because of which [s/he] got headache.’
- 371) [*e*₁ atama-ga itaku naru] *kusuri*₁
 head-NOM hurt become pill
 ‘the pill because of which one get(s) headache.’

The exact cause of the contrast is to be investigated in future; however, the parallel behavior in relatives and bare nominal pseudo-clefts indicates that it is related to the absence of the post-position in these structures.

Finally, the possibility/impossibility of relativization with time adjuncts, location adjuncts, starting-point adjuncts, and passive agent is parallel to the possibility/impossibility of pseudo-cleft with bare nominals. These constructions allow time adjuncts and location adjuncts, but not starting-point adjuncts and passive agent:

RELATIVE: TIME ADJUNCT:

- 372) [Kanozyo-ga *e*₁ Kyoto-ni tui-ta] *ziku*₁
 she-NOM K.-DAT arrive-PST time
 ‘the time that she arrived in Kyoto.’

RELATIVE: *DE*-LOCATION ADJUNCT:

- 373) [Kanozyo-ga *e*₁ oyo-da] *sunahama*₁
 she-NOM swim-PST beach
 ‘the beach where she swam.’

RELATIVE: *KARAS* TARTING-POINT ADJUNCT:

- 374) * [Joe-ga *e*₁ ochi-ta] *gake*₁
 J.-NOM fall-PST cliff
 ‘the cliff that Joe fell from.’

RELATIVE: PASSIVE AGENT:

- 375) * [Gakusei ga *e*₁ sika-rare-ta] *sensei*₁
 student-NOM scold-PSS-PST teacher
 ‘the teacher by whom students were scolded.’

The correspondence between the relativizability of adjuncts and the possibility of bare form occurrences in pseudo-cleft constructions is suggestive of the fact that Case-assignments of elements that undergo relativiation are made by the same strategy. The strategy is that bare phrases that have “Case-binders” are Case-assigned by the nominalizing complementizer. This strategy is available in relatives under the standard assumption that relative clauses involve nominalization, which implies the presence of a nominalizing complementizer.⁷² If the same strategy applies to relative phrases, then they are DPs as opposed to KPs or PPs.

⁷² Recall that relative clauses are “Attributive” clauses in that the predicate is formed with the attributive ending. I identified the ending as the V that is located above lower CP.

2.4.4. The Structure of Genitive Phrases

Den Dikken and Singhapreecha (2002) hypothesize that the marker *-no* in Japanese is a “linker”. The linker occurs between a nominal and a predicate within a DP and signals Predicate Inversion. Their analysis is based on the examination of syntactic behavior of the copular elements *thîi* in Thai, *de* in French, and *of* in English. I will describe their analysis in more detail in Chapter 5. Important here is their idea that the syntactic function of *-no* is not specific to Case-assignment but instead it links an inverted predicate and a nominal.

Typical examples of *-no* as the Genitive marker in Japanese are the following:

- 376) kanozyo-no ie
she-GEN house
‘her house’
- 377) Kyoto-no otera
K.-GEN temples
‘temples of/in Kyoto’
- 378) hon-no syuppan
book-GEN publication
‘publication of books’
- 379) dooro-no oodan
road-GEN crossing
‘crossing of roads’

The V projects a higher CP layer created above it. I assume that the attributive ending signals the presence of an abstract nominalizing complementizer in the higher CP layer.

- 380) 3-zi-no oyatu
 3-hour-GEN snack
 ‘a snack at 3 o’clock’

However, *-no* can occur with some Case-markers and post-positions as well:

- 381) kanozyo-to-no deeto
 she-TO-GEN date
 ‘a date with her’
- 382) Europe-e-no ryokoo
 Europe-E-GEN trip
 ‘a trip to Europe’
- 383) kooen-de-no sanpo
 park-DE-GEN walk
 ‘a walk in the park’
- 384) densya-de-no tootyaku
 train-DE-GEN arrival
 ‘arrival by train’
- 385) 3-zi-kara-no yotei
 3-hour-KARA-GEN schedule
 ‘schedules from 3 o’clock’
- 386) kanozyo-to-no skii
 she-TO-GEN ski
 ‘ski with her’
- 387) kanozyo-to-issyo-no heya
 she-TO-together-GEN room
 ‘a room (sharing) with her’
- 388) seito-e-no hon-no syookai
 student-E-GEN book-GEN introduction
 ‘introduction of the book to students’

- 389) syoozyo-no kare-ni-yotte-no satuzin
 girl-GEN he-DAT-by GEN introduction
 ‘murder of a girl by him’

It is interesting that the set of Case-markers and post-positions that cannot directly follow *-no* seems to be identical to the set of markers that cannot follow the copular *da* in pseudo-cleft. The markers are *-wo*, *-ni*, *-wa*, and *ga*. If they are not followed by *-no*, these markers can occur; but with *-no*, they cannot occur:

- 390) hon-wo syuppan (suru)
 book-ACC-GEN publication (do)
 ‘publishing books’
- 391) * hon-wo-no syuppan
 book-ACC-GEN publication
 ‘publication of books’
- 392) 3-zi-ni oyatu (da/-wo taberu)
 3-hour-GEN snack (COP/-ACC eat)
 ‘(have) a snack at 3 o’clock’
- 393) * 3-zi-ni-no oyatu
 3-hour-DAT-GEN snack
 ‘a snack at 3 o’clock’

Another interesting fact is that it is hard to accept the occurrences of universal quantificational expressions like *dare-mo* ‘everyone’ in either the genitive position or the predicate position of the pseudo-cleft construction.

- 394) ?* dare-mo-no ie
 who-MO-GEN house
 ‘everyone’s house’

- 395) ?* [_I ie-wo kat-ta] no-wa dare-mo_I da
 house-ACC buy-PST who-MO-GEN COP
 ‘Who bought a house is everyone.’

These parallelisms make sense if we analyze the genitive phrases as located in the predicate position of a clause (preceding a copular element).

It is also important to ask how these markers that appear on the left of *-no* are assigned. Consider the following examples for instance (repeated from above):

- 396) kanozyo-to-no deeto
 she-TO-GEN date
 ‘a date with her’
- 397) Europe-e-no ryokoo
 Europe-E-GEN trip
 ‘a trip to Europe’
- 398) seito-e-no hon-no syookai
 student-E-GEN book-GEN introduction
 ‘introduction of the book to students’

The modified nouns in examples (396), (397), and (398) are nominal counterparts of verbal expressions *deeto suru* ‘to date’, *ryokoo suru* ‘to take a trip’, and *syhookai suru* ‘to introduce’, respectively. These nominals have the argument structure corresponding to their verbal counterparts, and the argument roles are expressed by the markers preceding *-no*. With the exception of *-wo* and *-ni*, which are prohibited in this context, the markers *-to* and *-e* are Case-assigners as in verbal counterparts. This implies that there must also be “Case-binders” for them somewhere in the structure.

My proposal makes use of the clause-stacking approach, Predicate Inversion, and the CP truncation.

The following is a detailed proposal. The genitive phrase excluding *-no* is a light verb projection vP projected above a null copula VP. The VP takes a CP as its complement, within which a Case-assignment takes place as relevant for the argument structure. The Case-assigned phrase (DP, KP, or PP) moves to Spec,vP projected above the complement CP. At this point, the structure looks very similar to the structure of an “I-am-an-eel” sentence prior to the truncation of CP, which we discussed in Chapter 2. The structure is illustrated below, using the example (396):

399) $[_{VP2} [_{KP} \text{ kanozyo-to}]_1 [_V [_{VP2} V [_{CP1} C [_{FinP1} \text{ Fin } [_{TP1} \dots [_{VP1} \dots [\text{deeto}] \dots t_1]]]]]]]]$

Above the vP to the specifier of which KP has just moved, a TP is projected. Then, the ‘head’ nominal moves to its specifier:

400) $[_{TP2} [\text{deeto}]_2 [_T [_{VP2} [_{KP} \text{ kanozyo-to}]_1 [_V [_{VP} V [_{CP1} C [_{FinP1} \text{ Fin } [_{TP1} \dots [_{VP1} \dots t_2 \dots t_1]]]]]]]]]]$

After that, a FinP is projected above the TP:

401) $[_{FinP2} \text{ Fin } [_{TP2} [\text{deeto}]_2 [_T [_{VP2} [_{KP} \text{ kanozyo-to}]_1 [_V [_{VP} V [_{CP1} C [_{FinP1} \text{ Fin } [_{TP1} \dots [_{VP1} \dots t_2 \dots t_1]]]]]]]]]]$

Then, the vP whose specifier is occupied by the KP moves to Spec,FinP, performing Predicate Inversion:

402) $[_{FinP2} [_{VP2} [_{KP} \text{ kanozyo-to}]_1 [_V [_{VP} V [_{CP1} C [_{FinP1} \text{ Fin } [_{TP1} \dots [_{VP1} \dots t_2 \dots t_1]]]]]]]]_3 [_{Fin} [_{TP2} [\text{deeto}]_2 [_T t_3]]]]$

After the Predicate Inversion, the CP inside of the moved vP is truncated:

- 403) $[_{FinP2} [_{VP2} [_{KP} \text{ kanozyo-to}]_1 [v [_{VP} V [_{CP} C [_{FinP1} \text{Fin} [_{TP1} \dots [_{vP1} \dots t_2 \dots t_4]]]]]]]]_3$
 $[_{Fin} [_{TP2} [\text{deeto}]_2 [T \ t_3]]]]$

Lastly, functional projections of DPs (e.g., QP and DP) are projected above the FinP:

- 404) $[_{DP} [_{QP} [_{FinP2} [_{VP2} [_{KP} \text{ kanozyo-to}]_1 [v [_{VP} V [_{CP} \dots]]]]]_3 [_{Fin} [_{TP2} [\text{deeto}]_2 [T \ t_3]]]]]]$

Where is *-no*? I hypothesize that *-no* in this structure is generated in the Fin whose specifier is occupied by the inverted vP. This idea is motivated by the syntactic history of *-no*. It has been documented (e.g., Nakajima 1987) that in Pre-modern Japanese, the particle that appears between the modifier and the modified nominal was *-ga*, and that the use of *-no* in this position has developed later. Traces of the use of *-ga* are found in some phrases used even in Modern Japanese:

- 405) ume-ga ka
 plum-NOM scent
 ‘the scent of the plum’

- 406) wa-ga kuni
 I-NOM country
 ‘my country’

This fact is often discussed in literature together with the fact that in Pre-modern Japanese the subject of an “Attributive” clause is often marked by *-no*, instead of *-ga*, which use is still productive in Modern Japanese:

- 407) [ame-no huru] hi
 [rain-GEN fall.ATT] day
 ‘a day that it rains’

The genitive *no*-as-Fin analysis establishes a common syntactic ground for the historical change of the form from *-ga* to *-no* in a pre-nominal position and the use of *-no* as a subject marker in “Attributive” clauses. While all historical changes need not be thought in this way, the identity of their syntactic position can be a rationale for the alternation between the two particles.

Going back to the structure in (404), let us first discuss what can be predicted from the derivation (404).⁷³ In this derivation, the projection FinP of this Fin is the highest complementizer projection and there is no SP or TopP above it. This predicts that Case-assignments that take place in the presence of complementizers above the higher FinP should not be available. The prediction is based on the assumption that the Case-assignments apply to elements in the predicate as they apply in ordinary clauses. One exception is that the predicate that constructs the argument structure in the lower CP may or may not be null.⁷⁴ Another exception is that the distinction between the presence/absence of an overt particle like *-mo* does not seem to apply and that topicalization also does not seem to take place within the lower CP. The conclusion is that no SP or TopP is projected in the lower CP or the higher CP. This implies that K-less nominals in the predicate vP (to be inverted) lack Case-assignment options (by S or Top) that are available in ordinary clauses.

⁷³ The distribution of a different set of K/P-less nominals will be discussed later.

⁷⁴ When we analyze, the argument structure must be reconstructed from the meaning of the genitive phrase.

Let us discuss first Case-assignments of arguments. Recall that Case-assignments of arguments are subject to the Case-assignment Conventions, which are composed of the Predictable and Non-predictable Case-assignments. The conventions are repeated below:

CASE-ASSIGNMENT CONVENTIONS FOR ARGUMENTS (JAPANESE)

408) Predictable Case-assignment:

- a. If a K-less nominal is headed by an overt particle (e.g., *-mo*), it may be Case-assigned by the “Case-binder”;
- b. Otherwise, a K-less nominal may be Case-assigned via agreement with Fin of lower FinP or Top of TopP in lower/higher CP.

409) Non-predictable Case-assignment:

- a. If a K-less nominal is headed by an overt particle (e.g., *-mo*), it can be Case-assigned via agreement with S of SP in higher CP;
- b. Otherwise, a K-less nominal may be Case-assigned via agreement with Top of TopP in higher CP.

Given that we have no SP or TopP, the options of assignments that require these complementizers are not available. This means that we have one way to Case-assign K-less nominals that is predicted by the conventions, namely, via the Predictable Case-assignment by Fin of lower FinP, stated in part of (b) of (408). This Case-assignment allows a subject, an Accusative object, or a *NI*-PP complement to be realized K-less. Bare adjuncts are not Case-assigned by this convention and must be licensed in some other way if they occur.

The following two sets of examples support this analysis. In the first set, the Case-assignments of bare nominals are possible via the Predictable Case-assignment by Fin of lower FinP. These nominals can be analyzed as a subject, an Accusative object,

and a *NI* PP complement of the nominal modifyee. The verbal counterparts of the genitive constructions are also shown for comparison:

410)	ume-no kaori plum-GEN scent 'the sent of the plum'	c.f. ume-ga kaoru plum-NOM is.fragrant 'The plum is fragrant.'
411)	dooro-no oodan road-GEN crossing 'crossing of the road'	c.f. dooro-wo oodan suru road-ACC cross do 'to cross the road'
412)	hon-no syuppan book-GEN publication 'publication of a book'	c.f. hon-wo syuppan suru book-ACC publication do 'to publish a book'
413)	tosyokan-no hon library-GEN book 'books in the library'	c.f. hon-ga tosyokan-ni aru book-NOM library-DAT exist 'Books are in the library'
414)	Paris no tootyaku P.-GEN arrival 'arrival at Paris'	c.f. Paris ni tootyaku suru P.-DAT arrival do 'to arrive at Paris'

In the second set, bare nominals cannot be assigned by the same convention. Thus, nominal modifiers in this set require overt Case-assignments. These nominals can be analyzed as a *TO*-PP complement, a location adjunct, an instrumental adjunct, an accompaniment adjunct, and a starting-point adjunct. The verbal counterparts of the genitive constructions are also shown for comparison:

415)	kanozyo-*(to)-no deeto she-TO-GEN date 'a date with her'	c.f. kanozyo-*(to) deeto suru she-TO date do 'to date with her'

416) kooen-*(de)-no (o)asobi park-(DE)-GEN play 'playing in the park'	c.f. kooen-*(de) asobu park-(DE) play 'to play in the park'
417) hikooki-*(de)-no tootyaku ⁷⁵ airplane-(DE)-GEN arrival 'arrival by airplane'	c.f. hikooki-*(de) tootyaku suru airplane-(DE) arrival do 'to arrive by airplane'
418) kanozyo-*(to)-no skii she-TO-GEN ski 'ski with her'	c.f. kanozyo-*(to) skii suru she-TO ski do 'to ski with her'
419) tyoozyoo-*(kara)-no nagame summit-KARA-GEN view 'a view from the summit'	c.f. tyoozyoo-*(kara) nagameru summit-KARA view 'to view from the summit'

Note that there are cases where the presence or absence of a post-position appears to be optional. Consider the following case, in which location DE can be dropped:

420) kooen-(de)-no sanpo park-(DE)-GEN walk 'walk in the park'	c.f. kooen-*(de) sanpo suru park-(DE) walk do 'to walk in the park'

In (420), however, the expressions with and without *-de* are not synonymous, and there are two possible underlying structures. One has a location adjunct interpretation, and one has a traversal interpretation:

421) kooen-no sanpo park-GEN walk 'walk of the park'	c.f. kooen-wo sanpo suru park-ACC walk do 'to walk the park'

⁷⁵ We will discuss more about examples of this kind below.

Nominals, such as *(o)asobi* ‘play’ in (416), which cannot take a traversal object do not have the option of dropping *-de*.

A variant of this analysis is to incorporate the strategy applied in the derivation of “I-am-an-eel” sentences. This addition is motivated by the fact that argument relationships between two phrases expressed in this sort of sentences seem to survive in their inverted counterparts with *-no*. Let us examine the example again:

- 422) *Boku-wa unagi (da)* (Okutsu 1978; Kindaichi 1988, 151; Nakajima 1987, 182)
 I-TOP eel (COP.CNC)
 ‘I am an eel.’

The implied part of the sentence *Boku-wa unagi (da)* ‘I am an eel.’ can be understood as something like ‘[I] eat/order [an eel].’ The relationship between *Boku* and *unagi* is of the relationship between an agent and a theme. We can also say the following phrase to refer to a person who has ordered/eaten an eel:

- 423) *unagi-no hito/kyaku*
 eel-GEN person/customer
 ‘person/customer of eel’

Various relationships are possible with this construction. The following examples illustrate this point:

424) <i>Boku-wa Tokyo (da)</i> I-TOP Tokyo (COP) ‘I am Tokyo.’	(a) <i>Boku-wa Tokyo-ni iku</i> I-TOP Tokyo-DAT go ‘I go to Tokyo.’ (b) <i>Boku-wa Tokyo-ni (sunde)-iru</i> I-TOP Tokyo-DAT (live)-exist

‘I live/am in Tokyo.’

(c) Boku-wa Tokyo umare da

I-TOP Tokyo birth COP

‘I was born in/am from Tokyo.’

425) konsaato-wa Europe (da)
concert-TOP Europe (COP)
‘The concert is Europe.’

konsaato-wa Europe-de aru
concert-TOP Europe-DE exist
‘The concert takes place in Europe.’

426) oyatu-wa 3-zi (da)
snack-TOP 3-hour (COP)
‘The snack is 3 o’clock.’

3-zi-ni oyatu-ga aru
3-our-DAT snack-NOM exist
‘The snack is at 3 o’clock.’

427) tootyaku-wa 3-zi (da)
arrival-TOP 3-hour (COP)
‘The arrival is 3 o’clock.’

3-zi-ni tootyaku-suru
3-our-DAT arrival-do
‘to arrive at 3 o’clock.’

When the predicate of such a sentence is inverted across *-no*, the relationships expressed in the non-inverted counterparts are still available:

428) Tokyo-no hito
Tokyo-GEN person
(a) ‘the person who is going to Tokyo.’
(b) ‘people who live in Tokyo.’
(c) ‘people who are from Tokyo.’

429) Europe-no konsaato
Europe-GEN concert
‘concerts that are taking place in Europe.’

430) 3-zi-no oyatu
3-hour-GEN snack
‘the snack at 3 o’clock.’

- 431) 3-zi-no tootyaku
 3-hour-GEN arrival
 ‘arrival at 3 o’clock.’

Also note that with instrumental adjuncts, the “I-am-an-eel” construction seems to exhibit a kind of contrast reminiscent of the contrast between an unaccusative achievement predicate and some other predicate that we observed earlier:

432)	?* tootyaku-wa basu dat-ta arrival-TOP bus COP-PST ‘The arrival was a bus.’	basu-de tootyaku si-ta bus-DE arrival do-PST ‘[we] arrived by bus.’
433)	ryokoo-wa basu dat-ta travel-TOP bus COP-PST ‘The travel was a bus.’	basu-de ryokoo si-ta bus-DE travel do-PST ‘[we] traveled by bus.’

The topicalized verbal noun *tootyaku* ‘arrival’ in (432) denotes unaccusative achievement, while the topicalized verbal noun *ryokoo* ‘travel’ in (433) does not. The difference is reflected in the acceptability of the construction. This contrast is also reflected in their genitive constructions:

- 434) basu-no tootyaku
 bus-GEN arrival
 *? ‘the arrival by bus.’ (but it can mean ‘the arrival of the bus.’)
- 435) basu-no ryokoo
 bus-GEN travel
 ‘the travel by bus.’ (or ‘the travel of the bus.’)

The instrumental reading of *basu* ‘bus’ is impossible in (434) but possible in (435). Note that the instrumental reading is possible in both cases when *basu* is followed by *-de*:

- 436) basu-de-no tootyaku
 bus-DE-GEN arrival
 ‘the arrival by bus.’
- 437) basu-de-no ryokoo
 bus-DE-GEN travel
 ‘the travel buy bus.’

The contrast between (434) and (435) supports our point that part of the derivation involved in the “I-am-an-eel” construction is another source of the derivation of the genitive structure.

The strategy that I adopt from the derivation of the “I-am-an-eel” construction is the base-generation of a predicate nominal in Spec,vP accompanied by co-indexation of the nominal with a *pro* within the lower CP. The structure of these sentences prior to CP truncation is repeated below:

- 438) [CP₂ ... [TopP Subj Top⁰ [FinP₂ Fin⁰ [TP₂ [VP₂ unagi_i v⁰ [VP₂ V⁰_{COP} [CP₁ [SP ... *pro*_i ... [FinP₁ Fin⁰ [TP₁ ... V⁰ ...]]] C⁰ *t*_{SP}]]]]]]]

I incorporate the derivation of “I-am-an-eel” sentences up to the predicate vP (vP₂) to the derivation of genitive phrases. The derivation that incorporates this strategy is illustrated below. First, *unagi* ‘eel’ is base-generated in Spec,vP and co-indexed with a *pro* in the lower CP:

- 439) [FinP₂ [Fin [TP₂ [hito]₂ [T [vP₂ unagi_i [v [vP V [CP₁ ... *t*₂ ... *pro*_i ...]]]]]]]]]

The nominal to be modified moves to Spec,TP. Then the lower CP is truncated:

- 440) [FinP₂ [Fin [TP₂ [hito]₂ [T [vP₂ unagi_i [v [vP V [~~CP₁ ... *t*₂ ... *pro*_i ...]]]]]]]]]~~

After that, the predicate vP moves to Spec,FinP, performing Predicate Inversion:

441) [DP [QP [FinP2 [vP2 unagi_i [v [vP V [CP₊ ...]]]]]₃ [Fin [TP2 [hito]₂ [T *t*₃]]]]]]

To summarize, I have proposed an analysis that takes the genitive modifier as a predicate (or predicative clause). The derivation of the genitive structure in Japanese involves the two stacked clauses as in the case of ordinary clauses. It is derived through the movement of a Case-assigned modifier phrase, Predicate Inversion, and CP truncation. We identify the marker *-no* as located in Fin of FinP. This provides a syntactic ground for the historical transitions between *-ga* and *-no*. The structure provides space for the argument structure implied from the meaning of the entire phrase. The lower CP contains a verbal phrase, TP, and FinP. Support of this analysis comes from the application of the Case-assignment system proposed earlier. Under the assumption that the structure does not contain TopP or SP, Case-assignment options are more limited than a full fledged clause. The distribution of bare nominals in the inverted predicate vP is predicted partly by the analysis that applies a reduced version of Case-assignment conventions. Another set of bare nominal occurrences are derived from the “I-am-an-eel” construction. To accommodate this fact into the analysis, part of the derivation of the latter construction is incorporated into the derivation, as a variant of the proposed structure.

3. Antisymmetric Analyses of Relative Clauses

Chapter 3 focuses on headed restrictive relatives. The first half is a review of the structural analyses introduced in the past. The second half discusses my proposal on the antisymmetric structure of pre-nominal restrictive relatives in Japanese. It is crucial to apply the proposed structure in order to derive effects of the locality conditions.

3.1. *The Most Familiar Analysis of Relative Clauses*

3.1.1. Post-nominal Relatives

In the Generative framework, the construction of relative clauses has widely been assumed to involve adjunction of a clause (CP) to a noun phrase (NP/DP), as illustrated below:

442) [NP [NP] [CP]]

The structure (442) applies to *wh*-relatives, *that*-relatives, and relatives with no overt determiner or complementizer (zero relatives), as in (443), (444), and (445), respectively:

443) the boy *who* we saw in the park

444) the dog *that* we saw in the park

445) the dog we saw in the park

The adjunction analysis claims that the ‘head’ of a relative includes a determiner and the clause on the right of it is a relative clause. The clause may have an overt (*wh*-)relative

pronoun in its topmost specifier or be headed by an overt or null complementizer. The adjunction structure of a *wh*-relative is illustrated below:

446) [NP [NP the boy] [CP *who* C⁰ we saw in the park]]

When the clause is headed by an overt or null complementizer, a null operator is assumed to be present in the specifier:

447) [NP [NP the boy] [CP *Op that/ø* we saw in the park]]

It has also been claimed that the derivation of a restrictive relative clause involves movement of a relative pronoun or a null operator from within the clause to Spec,CP. Many languages exhibit locality effects, which have been taken to be the evidence for the operator movement analysis.

While the relationship between the operator and the gap is established by movement, the relationship between the operator and the ‘head’ of a relative is not claimed to be due to movement. The adjunction analysis claims that the ‘head’ is base-generated in that position. It has been assumed that the ‘head’ of a relative is related to the clause through predication, where the ‘head’ is the subject and the relative clause is predicated of the ‘head’. The adjunction analysis makes use of this relationship to achieve co-indexation between the ‘head’ and the operator. Browning (1987), for instance, constructs an agreement chain through applying the spec-head relationship between the operator and the head of CP, which in turn agrees with the ‘head’ via predication. Safir (1986), on the other hand, proposes a local binding mechanism (R-binding), which primarily applies to the binding of the ‘head’ of relatives and one or more operator within the specifier of CP.

3.1.2. Pre-nominal Relatives

The most widely adopted analysis for the construction of pre-nominal relatives is a mirror image of (442), while the clause may be analyzed as either CP or IP:

448) [NP [CP/IP] [NP]]

Pre-nominal relatives exhibit no overt relative pronoun that corresponds to *wh*-pronouns in English while they may have some marker at the end of the clause. This fact has been reported by Schwartz (1971), Downing (1978), and Keenan (1985):

PRE-NOMINAL RC: BASQUE:

449) gizon-a-k liburu-a eman dio-n emakume-a (Keenan 1985, 145)
 man-the-SUBJ book-the give has-REL woman-the
 ‘the woman that the man has given the book to’

PRE-NOMINAL RC: MANDARIN:

450) wo you maile shu-de pengyou. (Schwartz 1971, 144)
 I have bought book-DE friend
 ‘I have a friend who bought books.’

PRE-NOMINAL RC: TURKISH:

451) Bu Ankara’ya gid-en tren ol-muş. (Downing 1978, 394)
 this Ankara-to go-PART train be-suppositive
 ‘This must be the train that goes to Ankara.’

Regardless of the absence of an overt relative pronoun in pre-nominal relatives, it has often been assumed that a null operator is present in pre-nominal relatives, in a position analogous to Spec,CP in post-nominal relatives.

Unfortunately, adjunction structures of the sort illustrated in (442) and (448) are not permissible in the Antisymmetry theory; they are excluded by the LCA.

3.2. *Alternative Analyses*

3.2.1. The Art-S analysis

While the adjunction analysis appears to be most widespread, other analyses have been proposed in the past. One of the earlier analyses of generative grammar presents the relative clause as being base-generated as a sister to the determiner of the NP that it modifies. In the earlier literature, the analysis is referred to as the ‘Art-S analysis’.⁷⁶ The relevant part of the deep structure of relative clauses that the ‘Art S analysis’ postulates is the following (Stockwell, Schachter, and Partee 1973, 423):

452) ... [NP [D Art S] N] ...

Vergnaud (1974) postulates a similar structure (i.e., [NP [Spec Det S] ...]) for the deep structure of relatives, and develops the ‘raising (or promotion) analysis’ of relative constructions to account for phenomena of restrictive relative clauses in French. The main claim of the ‘raising analysis’ is that the derivation involves the promotion of an (nominal) element from a lower clause into a higher clause/phrase (Schachter 1973; Vergnaud 1974). According to Schachter (1973) and Vergnaud (1974), the idea of ‘raising’ was originally brought up by Brame (ms; 1968)⁷⁷, who presented argument

⁷⁶ Stockwell, Schachter, and Partee (1973, 423) refer to Smith (1964) for an earlier formulation of the Art-S analysis for the deep structure of restrictive relative clauses.

⁷⁷ The reference cited in Schachter (1973) is: Brame, Michael. MS. “A new analysis of the relative clause: evidence for an interpretive theory”. The reference cited in Stockwell, Schachter, and Partee, (1973) is: Brame, Michael. 1968. “On the nature of relative clauses”, MIT. Kayne (1994) refers to the book by the same author, i.e., Brame, M. K. 1976. *Conjectures and Refutations in Syntax and Semantics*. New York, North-Holland.

against the ‘matching analysis’ of relatives. In the ‘matching analysis’, the relative clause construction is derived not by raising but by deletion of a noun phrase in the relative clause under identity with the ‘head’ noun phrase.

One of the arguments of Brame’s that Schachter (1973) cites refers to the behavior of certain idioms such as *make headway*, *keep track*, etc. in English. The noun *headway* is normally restricted to occurrence as the object of *make* and it cannot occur as the subject with or without the definite article *the*. When *headway* is relativized and becomes the ‘head’ of the relative, however, the same restriction no longer applies. The following examples are cited in Schachter (1973, 31):

- 453) We made headway.
- 454) * (The) headway was satisfactory.
- 455) The headway that we made was satisfactory.

The difficulty that the ‘matching analysis’ would face is that it would have to generate *headway* as part of the subject while blocking its occurrence when it is not accompanied by a relative clause. Under the ‘raising analysis’, on the other hand, *headway* would not be generated as part of the subject but as the object of *made*. Thus, the same difficulty would not arise, but it is possible to maintain the occurrence restriction of nouns like *headway*.

Vergnaud (1974) observes parallel phenomena in similar idioms in French and argues against the ‘matching analysis’. He then formalizes the ‘raising analysis’ in the transformational framework. The idea in his analysis that is relevant for the current

discussion is that relatives like (456) derive from a base form like (457) (Vergnaud 1974, 93-97):

- 456) Les syndicalistes que Pinochet a jetés en prison.
 the trade.unionists that Pinochet have sent to jail
 ‘the trade unionists whom Pinochet sent to jail’

- 457) ... [_{Spec} DET Δ-WH [_S Pinochet a jetés [DET syndicalistes] en prison] ...] ...

And, the phrase represented as [DET syndicalistes] is moved into the complementizer position by *wh*-movement:⁷⁸

- 458) ... [_{Spec} DET [_S [_{Comp} [DET syndicalistes]-WH] [_S Pinochet a jetés [τ] en prison] ...]] ...

3.2.2. Kayne's Relative Clause Structures

3.2.2.1. *The D-CP Analysis*

Kayne (1994) reaches an analysis of the relative clause construction similar in essence to the one that is derived from the ‘raising analysis’ that Vergnaud (1974) has developed. In Kayne’s structure, the relative clause CP is generated as the complement

⁷⁸ Note that the ‘raising analysis’ is not always accompanied by the Art/Det-S analysis. Schachter (1973) pursues a version of the ‘raising analysis’ while postulating the relative clause as being adjoined to a ‘Nom’ phrase and both are dominated by another ‘Nom’ phrase which is in turn dominated by NP (Schachter 1973, 33):

- (i) [_{NP} Det [_{Nom} Nom S]]

In his analysis, a nominal phrase moves from within S to the ‘Nom’ position sister to S and it forms as the ‘head’ of the relative. Note that a structure that contains two sister phrases is excluded by the LCA.

of a determiner head, rather than as an adjunct on the right of a noun phrase (Kayne 1994, 87):

459) [DP D⁰ CP]

The structure (459) incorporates the DP hypothesis proposed by Abney (1987), which postulates a functional head D⁰ above a noun phrase.⁷⁹

Kayne's D-CP analysis provides an account for the co-occurrence of a definite article and a post-nominal possessor modified by a relative clause. In English, noun phrases with a post-nominal genitive possessor such as *(two) pictures of John's* or *pictures of his* cannot be preceded by a definite article in sentences like the following (Kayne 1994, 86):

460) *? I found the (two) pictures of John's/his.

In contrast, such noun phrases can occur with a definite article when they are modified by a relative clause (Kayne 1994, 86):

461) I found the (two) pictures of John's/his that you lent me.

Kayne takes English *the* to be uniquely a D⁰ and applies the D-CP analysis of relatives, concluding that *the (two) pictures of John's/his* in (461) is not a constituent but *(two) pictures of John's/his that you lent me* is:

462) ... [DP the [CP (two) pictures of John's/his that you lent me]]

⁷⁹ Note that the DP hypothesis does not necessitate D⁰ and CP to be sisters. The functional head D⁰ could be projected above an NP that contains a CP as an adjunct to an NP (as in (442)), although that would not be compatible with the LCA.

In this analysis, the external determiner *the* can take the CP as its complement, but not *(two) pictures of John's/his* alone.

Kayne derives the impossibility of *the* to take *(two) pictures of John's/his* as its complement by claiming that the latter forms a DP. He cites his earlier analysis (Kayne 1993), which argues that *John's two pictures* is generated as the complement of D^0 :

463) D^0 [John ['s [two pictures]]]

Kayne applies Szabolcsi's (1981; 1983; 1994) analysis of Hungarian possessors to English possessors, and draws a distinction between the definite and indefinite D^0 . While the definite D^0 plays a role in the Case licensing of the possessor *John*, the indefinite D^0 is not a Case licenser. In the latter case, the D^0 is realized as the preposition *of* and the phrase *two pictures* (NP/QP) raises to Spec,DP, which turns the D^0 into a Case assigner. As a result, *(two) pictures of John's/his* is derived:

464) $[_{DP} [_{(two) pictures}]_i [_D of] [John ['s [_e]_i]]]$

The ungrammaticality of (460) is explained under the assumption that *the* cannot take a DP complement and cannot be generated below 's.

3.2.2.2. *The 'Raising Analysis'*

Kayne (1994) applies a similar movement strategy to derive relative clauses. He argues that the 'head' noun phrase of a relative is generated within the clause, and it or a phrase containing it raises to Spec,CP. Kayne (1994, 87) proposes the following derivation for *that*-relatives:

THAT-RELATIVE:

465) [DP the [CP [(two) pictures of John's]₁ [CP *that* [IP Bill saw *e*₁]]]]

For zero-relatives, Kayne (1994, 92) follows the standard view that they differ from *that*-relatives in having a null C⁰:⁸⁰

ZERO RELATIVE:

466) [DP the [CP book₁ [CP C⁰ [IP John read *e*₁]]]]

For simple *wh*-relatives, Kayne proposes that relative pronouns originate as determiners (D⁰) and claims that the 'head' noun phrase is generated below the *wh*-relative pronoun D⁰. In English, but not in French and Italian, it moves to the specifier position of the DP, as illustrated below:

WH-RELATIVE:

467) [DP the [CP [DP picture₂ [DP *which* *e*₂]]₁ [CP C⁰ [IP Bill saw *e*₁]]]]

468) [DP the [CP [DP [DP man₂ [DP *who* *e*₂]]'s wife]₁ [CP C⁰ [IP you insulted *e*₁]]]]

In pied-piping cases of *wh*-relatives, the 'head' noun phrase moves to a higher position, to the specifier of the PP for pied-piping of a PP and to the specifier of the outer-most DP for pied-piping of a larger DP (Kayne 1994, Chapter 8):

WH-RELATIVE, PIED-PIPING:

469) [DP the [CP [PP hammer₂ [PP with [DP *which* *e*₂]]]₁ [CP C⁰ [IP he broke it *e*₁]]]]

⁸⁰ For the degraded acceptability of zero-relatives whose 'head' noun phrase contains a relative, he refers to the generalization that "in a number of cases, a phrase (with)in a specifier position cannot have an overt complement (of a certain sort)" (Kayne 1994, 92):

- (i) I just read the book about your ancestors ?(that) your son published last year.
- (ii) I just read the book that's about your ancestors *(that) your son gave me last year.

- 470) [DP the [CP [DP book₂ [DP the author of [DP *which* *e*₂]]]₁ [CP C⁰ [IP I know *e*₁ personally]]]]]

Kayne supports the ‘raising analysis’ by addressing its necessity under the approach to reconstruction developed by Chomsky (1993), which is referred to as a ‘copy theory’ of movement. Chomsky (1995, 202) claims, “the trace left behind is a copy of the moved element, deleted by a principle of the PF component in the case of overt movement. But at LF the copy remains, providing the materials for “reconstruction.”” This approach makes it possible to restrict the Binding conditions to application at LF, without imposing the significance of other levels for its application.

Kayne draws attention to the ambiguity in relatives with respect to the antecedent of a reflexive in the ‘head’ nominal, which parallels to the ambiguity in interrogatives:⁸¹

- 471) John_i bought the picture of himself_{i/j} that Bill_j saw. (Kayne 1994, 87)
 472) John_i wondered [which picture of himself_{i/j}] [Bill_j saw *t*] (Chomsky 1995, 206)

⁸¹ Den Dikken (personal communication) drew my attention to the fact that the same binding effects are found in *tough*-movement constructions and cleft constructions, while referring to the work by Chris Wilder. The following examples, from Den Dikken, illustrate the point:

- (i) Pictures of himself are tough for John to throw away.
 (ii) For pictures of himself to be the exhibition’s top attraction is hard for Bill to believe.

Since the verb *believe* does not take a *for-to* infinitive as its complement, it is impossible or very difficult to analyze the latter example in terms of copying.

The above data can be regarded as calling either for a non-copying approach to capture such apparently reconstruction effects or for a new approach to *tough*-movement constructions and cleft constructions to evade the selectional conflict between a verb like *believe* and a *for-to* infinitive. I leave this problem as an open issue.

Given that the subject of the relative clause can be the antecedent of *himself*, the content of the empty category (which includes the reflexive) in the clause must be available for that interpretation. For *wh*-questions, it has been the standard view that the *wh*-phrase raises. In (472), *which pictures of himself* raises from a position in the embedded clause c-commanded by the subject *Bill*. Since the trace is a copy of *which pictures of himself*, *himself* is represented in the original position at LF, at which the Binding conditions apply. The ‘raising analysis’ makes the same strategy directly applicable for the relative counterpart in (471).

3.2.2.3. *Island Effects in ‘Raising’*

Kayne (1994) demonstrates that the raising of a ‘head’ noun phrase exhibits island effects. While the pied-piping of a large DP as in (473) is possible (in English), the pied-piping of a larger phrase as in (474) seems difficult. The following examples are from Kayne (1994, 91):

473) the book the author of which I know personally

474) ?? the man the possibility of you marrying whom became a reality only yesterday

Kayne ascribes the marginal acceptability of (474) to the distance of movement of the ‘head’ noun phrase from the position posterior to *whom* to the specifier of the second *the* (which is followed by *possibility*). The relevant part of the structure of (474) is illustrated below:

475) ... [DP man₂ [DP the possibility of [you marrying [DP *whom* *e*₂]]]] ...

When the derivation involves relativization of a subject, the pied-piping of a similar phrase seems impossible, significantly more difficult than (474). The example (476) is from Kayne (1994, 91), and the relevant part of the structure is illustrated in (477):

476) * the man the possibility of who(m) marrying you became a reality only yesterday

477) ... [_{DP} man₂ [_{DP} the possibility of [[_{DP} who(m) e₂] marrying you]]] ...

For the unacceptability of (476), as opposed to the marginality of (474), Kayne characterizes it as a violation of the subject island condition, leaving its formulation unspecified.

Note that a similar contrast in acceptability is found in *wh*-questions with partially parallel structures:⁸²

478) Which book do you know the author of?

479) ?? Which man do you consider the possibility of her marrying?

480) * Which man do you consider the possibility of marrying her?

The *wh*-questions in (478), (479), and (480) involve movement of a *wh*-phrase from within the DP in (481), (482), and (483), respectively:

481) [Which book]_i ... [_{DP} the author of e_i]

482) [Which man]_i ... [_{DP} the possibility of [her marrying e_i]]

483) [Which man]_i ... [_{DP} the possibility of [e_i marrying her]]

⁸² The judgments on these sentences are of a native informant.

3.2.3. Bianchi's Structures

3.2.3.1. *Three Types of Relatives*

The past proposals of the structure of relative clauses present a unique complementizer projection, namely CP. Bianchi (1994/5) incorporates Rizzi's (1997) complementizer system into her analysis of relative clause constructions. She proposes a structural analysis for post-nominal relatives slightly different from Kayne's, while fully respecting the LCA and the 'raising analysis' as does Kayne (1994). Her proposal includes distinct derivations for *wh*-relatives, *that*-relatives, and zero relatives (Bianchi 1994/5, 195):

WH-RELATIVE:

484) [DP the [CP [NP boy] [CP C⁰ [TopP [DP *who* t_{NP}] [TopP Top⁰ [IP I met t_{DP}]]]]]]]

THAT-RELATIVE:

485) [DP the [CP [DP ∅ [NP book]] [CP *that* [IP I read t_{DP}]]]]]

ZERO RELATIVE:

486) [DP the [TopP [DP ∅ [NP book]] [TopP ∅ [IP I read t_{DP}]]]]]

Note that CP corresponds to ForceP in Rizzi's system.

The major difference between Bianchi's analysis, on one hand, and Kayne and Rizzi's analyses, on the other, lies in the postulation of two complementizer positions for simple *wh*-relatives (but not in pied-piping relatives), as illustrated in (484); CP is projected above TopP. In (484), Spec,TopP is the position to which the *wh*-phrase (DP) moves, and Spec,CP is the position to which the 'head' noun phrase (NP) moves from within the *wh*-phrase. In this analysis, the highest complementizer (C⁰) intervenes

between the ‘head’ noun phrase and a relative pronoun, rather than following them as in Kayne’s analysis and Rizzi’s analysis.

3.2.3.2. *Two-step Derivation in Wh-relatives*

Bianchi (1994/5) justifies the two-step derivation, first, by referring to relatives in Danish that are claimed to involve two distinct complementizers. She adopts Vikner’s (1991) idea that *der* is a complementizer, as opposed to an expletive subject pronoun:

TWO COMPLEMENTIZERS: DANISH:

487) Vi kender de lingvister₁ *som der* t₁ vil læse denne bog (Bianchi 1994/5, 189)
 we know the linguists C⁰ C⁰ will read this book

Bianchi assumes along with Vikner that *der* is only licensed when it is co-indexed with an A’-moved phrase in its spec, and concludes that the relativization of the subject takes place in two steps--movement of the subject to the specifier of *der*, followed by movement to the specifier of *som*.

Bianchi also shows that relative pronouns need not occur in the specifier of the highest complementizer projection of a relative. She cites examples from Bulgarian and Hungarian in which the ‘head’ noun phrase and the associated relative pronoun are separated by a topic (Bianchi 1994/5, 192):

‘HEAD’-TOPIC-WH: BULGARIAN:

488) Živee na ulicata, muzeja ku~deto se namira.
 lives on street.the museum.the where self-finds
 ‘She lives on the street where the museum is situated.’

‘HEAD’-TOPIC-WH: HUNGARIAN:

- 489) a könyv, János *amit* említett
 the book János which mentioned
 ‘the book which János mentioned’

An additional example is cited to show that a complementizer can occur between the ‘head’ nominal and the relative pronoun (Bianchi 1994/5, 192, from Kenesei 1994, 303):

‘HEAD’-C-WH: XVI CENTURY HUNGARIAN:

- 490) ... hogy a városba jönne a farkassal, *hogy ki* igen fene vala.
 that the town-to would.come the wolf-with, that who very wild was
 ‘... that he would come to town with the wolf which was very wild.’

For Bianchi, it is necessary to pursue the two-step derivation for English *wh*-relatives for she abandons the possibility of moving a ‘head’ noun phrase to the specifier of a relative pronoun, which Kayne (1994) pursues. Kayne’s structure of *wh*-relative is repeated below:

KAYNE’S WH-RELATIVE:

- 491) [DP the [CP [DP picture₂ [DP *which* e₂]]₁ [CP C⁰ [IP Bill saw e₁]]]] (*wh*-relative)

Bianchi (1994/5, 190) states:

... a relative D⁰ cannot host NP in its Spec, either in English or in Italian.
 This assumption is consistent with a hypothesis proposed by Szabolcsi (1994: 202-203) and adopted by Kayne (1994: 26-27), according to which Spec,DP is an operator position, and only an operator can move to it. This hypothesis was designed to exclude the raising of a non-quantificational possessive phrase to Spec,DP; however, it also excludes the raising of the NP “head” to Spec,DP, since the latter is not intrinsically quantified ...

Since Bianchi does not allow the raising of a ‘head’ noun phrase to Spec,DP, she needs a specifier position on the left of the DP to account for the case of simple *wh*-relatives in English. Her solution is to project TopP to which a relative DP moves, and to project CP above TopP. Bianchi’s structure of English *wh*-relatives is repeated below:

BIANCHI’S WH-RELATIVE: ENGLISH:

492) [DP the [CP [NP boy] [CP C⁰ [TopP [DP *who* t_{NP}] [TopP Top⁰ [IP I met t_{DP}]]]]]]]

Bianchi (1994, 195) ascribes the availability of Spec,TopP as a landing site of a relative DP in English to a typological equivalence between TopP and CP in this language. While she leaves a precise typology to be worked out, she assumes at least two types—one type that can be a target of relativization and one type that cannot be a target of relativization. She stipulates that both TopP and CP are the first type in English. In Italian, on the other hand, only CP can be a target of relativization; Spec,TopP is not available as a landing site of a relative DP in this language. From the unavailability of Spec,TopP for relativization, Bianchi reaches the impossibility of derivation of Italian counterparts of a simple *wh*-relative (491):

493) * il libro *il quale* ho letto (Bianchi 1994/5, 157)
‘the book which I read’

494) * la persona *cui* Bill ha visto (Kayne 1994, 88)
the person whom Bill has seen

In (494), for instance, *persona* is base-generated below *cui*, and the DP [*cui persona*] could have moved to Spec,CP:

495) [DP la [CP [DP *cui* [NP *persona*]] [CP C⁰ [IP ha visto t_{DP}]]]]]

However, there would be no Spec position on the left of *cui* (prior to the projection of the external DP) for *persona* to move to. CP is the highest complementizer projection and Spec,DP is not available according to the analysis that Bianchi presents.

Note that the pied-piping of PP does not share the same restriction; Spec,PP is available for a ‘head’ noun phrase to move to in Italian (and French), as in the case of English. Bianchi adopts Kayne’s structure of PP-pied-piping relatives for Italian (Bianchi 1994/5, 222):

BIANCHI’S PP-PIED-PIPING: ITALIAN:

496) [DP il [CP [PP [NP ragazzo] [PP con [DP *cui* t_{NP}]]] [CP C^0 [IP ho parlato t_{PP}]]]]

For English PP-pied-piping, she adopts a parallel structure except that she leaves the label of the complementizer projection (CP or TopP) undetermined.

3.2.3.3. *Null Relative Determiner in That/Zero-relatives*

Bianchi (1994/5) postulates a null relative determiner in her structure of *that*- and zero- relatives, as a null counterpart of an overt *wh*-determiner in *wh*-relatives. The category of the null relative determiner is D^0 , on a par with overt *wh*-determiners. The structures are repeated below (Bianchi 1994/5, 195):

THAT-RELATIVE:

497) [DP the [CP [DP $\emptyset$ [NP book]] [CP *that* [IP I read t_{DP}]]]]

ZERO RELATIVE:

498) [DP the [TopP [DP $\emptyset$ [NP book]] [TopP $\emptyset$ [IP I read t_{DP}]]]]

She hypothesizes that the null relative determiner is subject to an identification requirement whereby its phi-feature specification must be ‘locally’ licensed (Bianchi 1994/5, 171). Bianchi (1994/5, 171) states, “the external and the relative D^0 necessarily share the same phi-features, since they agree with the same NP “head””. According to her explanation, a null determiner ($\emptyset$) in relative structures like (497) and (498) is licensed through government by the external determiner (*the*) (Bianchi 1994/5, 171) or through incorporation of the null determiner into the external determiner (Bianchi 1994/5, 213).⁸³ What she means by ‘local’ is that there is no head intervening between the null determiner and the external determiner.

The locality is not met when there is a head that intervenes between them.

Bianchi attributes the ungrammaticality of pied-piping relatives without an overt *wh*-determiner to the non-local relationship between the null determiner and the external determiner. She cites examples from Kayne (1984, 65) (Bianchi 1994/5, 171):

499) * [DP the [CP [PP [NP man] [PP with [DP $\emptyset$ t_{NP}]]] [CP (that) [IP you are sure to have a good time t_{PP}]]]]

In (499), the external determiner (*the*) and the null relative determiner ($\emptyset$) are intervened by the prepositional head (*with*). Thus, the locality is not satisfied, and the identification of the null determiner fails. Obviously, overt *wh*-determiners are not subject to the same

⁸³ Bianchi (1994/5, 171) mentions an alternative way of licensing the phi-feature specification of a null relative determiner. That is to raise the ‘head’ noun phrase to the specifier of the null relative determiner. The null relative determiner would receive the phi-feature specification under Spec-head agreement with the noun phrase. This option is not pursued in her thesis.

identification requirement. In the presence of an overt *wh*-determiner, a ‘head’ noun phrase can move to Spec,PP, leaving the *wh*-determiner below the prepositional head:

500) [DP the [CP [PP [NP man] [PP with [DP *whom* *t*_{NP}]]] [CP C⁰ [IP you are sure to have a good time *t*_{PP}]]]]

The structure (500) differs from (499) only in the presence of an overt *wh*-determiner.

The sentence represented by (500) is grammatical, in contrast with the one represented by (499).

3.2.4. Den Dikken & Singhapreecha’s Predication Approach

3.2.4.1. *The linker *thii* in Thai*

Den Dikken and Singhapreecha (2002) propose another analysis of relative clause constructions. Their analysis represents a compilation of the Antisymmetric approach and the view that the relative clause is a predicate of the ‘head’ noun phrase. They develop the analysis from the examination of syntactic behavior of the linking/copular elements *thii* in Thai, *de* in French (as instantiated in *une pizza de chaude*), and *of* in English (as instantiated in *that idiot of a doctor*), which they call *linkers*.

According to Den Dikken and Singhapreecha (2002), the linker *thii* in Thai occurs between a nominal modifyee and a modifier, where the modifier may be an adjective, an adjective followed by a numeral modifier, or a relative clause (Den Dikken & Singhapreecha 2002, 1, 3):

501) khon thii kèng
person THII smart

‘the/a smart person’

- 502) rôm thîi sǎam khan jǎj nán
 umbrella THII three CLS big those
 ‘those three big (as opposed to small or medium-size) umbrellas’
- 503) rôm sǎam khan thîi John síi maa nán
 umbrella three CLS THII John bought VPRT those
 ‘those three umbrellas that John bought’

They first discuss the NP-linker-AP construction illustrated in the first two cases and argue that the construction comes about via Predicate Inversion within a DP, where the inversion being signaled by the presence of the linker. Roughly speaking, the derivation starts out with a small clause which contains an NP as the subject of a predicate AP, as illustrated in (a) of (504). Above the small clause, a functional projection FP is projected with a linker as its head. The predicate inverts with the subject by moving to Spec,FP, as illustrated in (b) of (504). Above FP, a Classifier Phrase is projected. The linker raises to the head of the Classifier Phrase and the subject NP moves to the specifier of the Classifier Phrase, resulting in the NP-linker-AP order, as illustrated in (c) of (504). Finally DP is projected above the Classifier Phrase; the head of DP may be realized as a demonstrative, as illustrated in (d) of (504):

- 504) a. [SC NP AP]
 b. [FP AP thîi [SC NP *t*_{AP}]]
 c. [ClFP NP thîi [FP AP *t*_{thîi} [SC *t*_{NP} *t*_{AP}]]]
 d. [DP [ClFP NP thîi [FP AP *t*_{thîi} [SC *t*_{NP} *t*_{AP}]]] (nán) *t*_{ClFP}]

Den Dikken and Singhapreecha (2002) take a parallel approach to the derivation of relatives in Thai, pursuing that *thîi* is a linker that signals Predicate Inversion. They

claim that a CP that contains a null operator originates as the predicate of a small clause, and it moves to Spec,FP. Then, the NP moves past the relative clause CP, deriving a post-nominal relative:

505) [DP [CIP NP *thii* [FP [RC *Op John sii maa*] *t_{thii}* [SC *t_{NP} t_{RC}*]]] (*nán*) *t_{CIP}*]

For them, a relative clause is an instance of a predicate, and its co-occurrence with the linker *thii* can be treated together with the typical cases of Predicate Inversion. Unlike the adjunction analysis to relatives, however, their analysis derives a predication structure of relatives in which the ‘head’ noun phrase and the relative clause is separated by a head; thus, it derives a phrase structure that conforms to the Antisymmetric approach. Their analysis also shares a view with the D-CP analysis that a determiner and the ‘head’ noun do not form a constituent, although the former does not project a relative clause as a complement of D.

3.2.4.2. *Linkers in noun-final languages*

Den Dikken and Singhapreecha (2002) go on to discuss the applicability of their linker approach to the functional element that appears between a pre-nominal modifier and a modifyee in a language like Chinese. Their analysis is primarily based upon a subset of the data discussed in Simpson (2001). The particle *de* in Chinese occurs in a variety of contexts, among which their interest is in its occurrence between a predicative phrase and a noun, as illustrated below:

506) *wo de shu*
I DE book
‘my book’

- 507) zai Beijing de ren
 in Beijing DE people
 ‘people in Beijing’
- 508) wo mai de shu
 I buy DE book
 ‘the book that I bought’

Den Dikken and Singhapreecha hypothesize that Chinese *de* is a linker, which is projected above the small clause that hosts a subject and a predicate. This hypothesis conforms to Simpson’s intuition that *de* has a function of introducing a kind of predication on a nominal. With this hypothesis, they claim that the Chinese word order, which is Predicate - DE - NP, reflects an intermediate step in the derivation of the Thai (and French) examples:

- 509) [DP D (...) [FP [PP P wo] [F (=de) [SC [NP shu] t_{PP}]]]]
- 510) [DP D (...) [FP [RC wo mai] [F (=de) [SC [NP shu] t_{RC}]]]]

Structure (509) is derived by Predicate Inversion of RC, without having the movement of the ‘head’ NP past RC. Similar derivations are proposed for adjective phrases and prepositional phrases.

Den Dikken and Singhapreecha hypothesize the linker approach for the marker *no* of Japanese. They observe, citing data from Simpson and Wu (2001), that Japanese *no* occurs not only between a possessor and a possessum (as illustrated in (511)), but also in the clause-final position in cleft-like constructions, pseudo-clefts, headless relatives, internally headed relatives, in children’s headed relatives (as illustrated in (512)), and in nominalizations (as illustrated in (513)):

- 511) Taroo no hon
 Taroo NO book
 ‘Taroo’s book’
- 512) ohana motteru no wanwa
 flower holding NO doggie
 ‘the doggie (which is) holding the flower’
- 513) Taroo-ga tsuita-no-wo shiranai
 Taroo-NOM arrived-NO-ACC not.know
 ‘I didn’t know that Taroo had arrived.’

For possessor constructions and children’s headed relatives, their structural analysis for Chinese cases can be applied straightforwardly. For nominalization, they assume that what inverts is a null nominal predicate, which originates as a complement of a phrase whose subject is CP.

3.2.5. A Brief Summary of Antisymmetric Approaches to Relatives

We have reviewed a various approaches to the derivation of relatives which conform to the central claims of the Antisymmetry Theory. There are many important observations that are embedded in these approaches, and it is important to enumerate key points which I consider for the derivation of pre-nominal relatives in Japanese.

Firstly, Kayne’s D-CP analysis, which stems from the old Art-S analysis, takes seriously the dependency between the occurrence of the definite article and the occurrence of relative clauses, and realizes the dependency as a head-complement relation. It follows that *the* and the ‘head’ of a relative do not form a constituent.

Secondly, the ‘raising’ analysis, which Kayne reinstates, (re-)opens up the possibility that the ‘head’ noun phrase of relatives moves from the complement position of a (*wh*-) relative pronoun to a higher specifier position. With this analysis, the derivation of relatives can involve movements of two sorts--movement of an operator phrase and movement of a ‘head’ noun phrase. It follows that there are two sources of locality effects. It is relatively easy to identify the source of locality effects in constructions that have overt relative pronouns. For constructions that lack overt relative pronouns, on the other hand, it is not immediately clear as to which movement is the source of locality effects. In other words, locality effects we observe in the latter constructions can be due to movement of either an operator phrase or a ‘head’ noun phrase, and the former is no longer the only movement that can bring out locality effects as traditionally believed.

Thirdly, Bianchi’s analysis of *wh*-relatives employs two complementizer projections to derive the ‘head’ - *wh* - clause order, where the *wh*-phrase lands in the specifier of the lower complementizer projection and the ‘head’ moves from within the *wh*-phrase to the specifier of the higher complementizer projection. This analysis provides the possibility that the ‘head’ of relatives moves beyond the operator phrase while moving away from the associated relative pronoun.

Fourthly, Den Dikken and Singhapreecha solidify the analysis of relative clauses as predicates of the ‘head’, while demonstrating a parallelism between relative clauses and more typical predicates that function as modifiers of nominals. Their analysis brings out the unification among constructions involving predicative modifiers through the

analysis of linkers. From this perspective, pre-nominal relative clauses are predicates of the ‘head’ just like post-nominal relative clauses, with the difference being that the former clauses surface as being inverted via Predicate Inversion.

3.3. *Derivation of Japanese Pre-nominal Relatives*

3.3.1. Rough Structure

The minimal structure of a phrase that is allowed in the Antisymmetry Theory and that contains a clause predicated of the ‘head’ noun phrase is something like (514):

514) $[_{\beta P} \text{ ‘head’ n.p. } [_{\beta} \alpha P]]$

Phrase βP in (514) has a ‘head’ noun phrase in the specifier position and a clausal phrase αP in the complement position. This is the basic configuration in which a ‘head’ noun phrase is licensed as the ‘subject’ of a relative clause (for headed relatives). For pre-nominal relatives, both Kayne, on one hand, and Den Dikken and Singhapreecha, on the other, claim that pre-nominal relatives are derived by the movement of the (predicative) clause past the ‘head’ noun phrase. Adopting this idea, we will have a structure like (515):

515) $[_{\chi P} \alpha P [_{\chi} [_{\beta P} \text{ ‘head’ n.p. } [_{\beta} t_{\alpha P}]]]]$

The obvious question is as to what χP , βP , and αP are. Regarding the labeling of the phrases involved in the derivation of relatives, Kayne, on one hand, and Den Dikken and Singhapreecha, on the other, make different claims. Pursuing the D-CP analysis,

Kayne argues that the ‘head’ noun phrase lands in Spec,CP as in post-nominal relatives, and the complement of (or a projection smaller than) CP (e.g., IP) moves to Spec,DP:

516) [DP IP [D [CP ‘head’ n.p. [C *t*_{IP}]]]]

Kayne’s empirical support comes from Amharic data in Gragg (1972); in this language, the relative clause precedes the definite article, which in turn precedes the ‘head’ noun phrase. Thus, the relative clause, the definite article, and the ‘head’ are mapped in the structure straightforwardly. Kayne also draws attention to some cross-linguistic facts, one of which is “N-final relatives lack relative pronouns”.⁸⁴ He attributes this fact to the derivational limitation that the clause in pre-nominal relatives cannot be a CP but an IP, with the assumption that a relative pronoun, which must land in Spec,CP, cannot do so within IP.

The structure that Den Dikken and Singhapreecha propose, on the other hand, has a CP-clause (with an operator in the initial position for Thai) on the left of the ‘head’ noun phrase right after Predicate Inversion:

517) ... [FP [RC *Op* John sǐi maa] thǐi [SC NP *t*_{RC}]]]

While this structural analysis may be well-suited for post-nominal relatives in languages like Thai, the lack of an overt relative pronoun (in the clause-initial position) in pre-nominal relatives does not immediately follow from their analysis alone.

⁸⁴ As the source of the observation, Kayne refers to Downing (1978, 392-394) and Keenan (1985, 149). It is consistent with Schwartz’ (1971) study, which indicates that no pre-nominal relatives are attested which accompany obligatory movement of an overt *wh*-pronoun to the clause-initial position.

However, this problem is not particular to their analysis. Once we allow multiple complementizer projections and grant the generation of the ‘head’ noun phrase apart from the position of a relative pronoun, there arises the possibility of raising the clause that contains the relative pronoun (in the initial position). For instance, Bianchi’s analysis makes use of two complementizer projections to derive *wh*-relatives, as discussed earlier. The structure is repeated below:

WH-RELATIVE:

518) [DP the [CP [NP boy] [CP C⁰ [TopP [DP *who* t_{NP}] [TopP Top⁰ [IP I met t_{DP}]]]]]]]

If pre-nominal relative clauses are derived by the movement of the clause past the ‘head’ nominal, why do they not have an overt relative pronoun in the initial position?

Given the possibility of placing the ‘head’ nominal and the relative pronoun in different projections, it becomes difficult to rely solely on the structural limitation that Kayne derives to account for the absence of pre-nominal relatives with an overt relative pronoun in the clause initial position. We at least need some general constraint on relative clause formation that predicts the absence of such pre-nominal relatives. The prediction that we are interested in is the following:

519) No relative clause has the inversion of a clause past the ‘head’ and at the same time the operator-movement within the clause (in narrow syntax).

Note that (519) takes the position that what is incompatible with the inversion of a clause past the ‘head’ is not the overt morphological realization of a relative pronoun but the syntactic process that fronts a (null or overt) relative operator.⁸⁵

Generally speaking, the formation of (headed finite) relative clauses involves relationships among at least three elements: the (indefinite) ‘head’ nominal, an open/predicative clause, and arguably an operator. In *wh*-relatives, the relative pronoun, thus the relative operator, appears somewhere between the ‘head’ and the rest of the clause:

520) ... [_{βP} ‘head’ n.p. [β [_{αP} [_{DP} *Op* ...] [α [_{TP} ... *t*_{DP}]]]]]

A structure that is excluded by the above prediction is the following:

521) * ... [_{χP} [_{αP} [_{DP} *Op* ...] [α [_{TP} ... *t*_{DP}]]] [χ [_{βP} ‘head’ n.p. [β *t*_{αP}]]]]

⁸⁵ The prediction is conceptually similar to one of the predictions on *wh*-questions that Cheng (1991, 37) makes:

- (i) No language has yes-no particle (and thus *wh*-particle) and also syntactic *wh*-movement.

The prediction comes from her Clause Typing Hypothesis (1991, 30):

- (ii) Every clause needs to be typed. In the case of typing a *wh*-question, either a *wh*-particle in *C*⁰ is used or else fronting of a *wh*-word to the Spec of *C*⁰ is used, thereby typing a clause through *C*⁰ by Spec-head agreement.

The impossibility of having both yes-no/*wh*-particle and *wh*-movement is derived from the Principle of Economy of Derivation (Chomsky 1989). While being subject to the “last resort” and “least effort”, syntactic *wh*-movement cannot apply when there is a *wh*-particle to type a clause.

One difference between (644) and (521) is that the ‘head’ does not c-command the operator in the latter.

For pre-nominal relatives, there is no overt morpheme that indicates the exact position of the operator. Nonetheless, many researchers have claimed or assumed that the formation of pre-nominal relatives involves a null operator-movement (in syntax or LF) or an operation that serves the same (syntactic or semantic) function. The principal motivation seems to be to derive an LF structure parallel to the structure that is derived by the movement of an overt operator:

522) ... [Op_i [... vbl_i ...]]

As a result of the null operator movement, it takes scope over the rest of the clause. This analysis makes perfect sense under the assumption that the operator originates in a position comparable to the position of an overt relative pronoun within the clause.

From a Minimalist perspective, movements must be triggered and cannot be voluntary. Thus, if a movement is not demanded, it cannot take place. Or, a movement does not take place unless it is demanded. Cheng’s approach employs this logic to derive the incompatibility between the occurrence of a clause-typing (*wh*-)particle and the *wh*-movement in *wh*-questions. The same logic can apply to the case of relatives; the absence of operator-movement can be viewed as the absence of its demand. One reason for the lack of the demand of an operator-movement is that the operator is already generated in a (complementizer) position high enough to take scope over the rest of the clause. Consider the following structure:

523) ... [_{βP} *Op* [_{αP} α ...]]

If pre-nominal relatives are formed by having the operator above the clause, then their structure will be either one of the following:

524) ... [_{χP} [_{αP} α ...] [χ [_{βP} 'head' n.p. [*Op* *t*_{αP}]]]]

525) ... [_{χP} [_{αP} α ...] [*Op*-χ [_{βP} 'head' n.p. [*t*_{Op} *t*_{αP}]]]]

Now let us compare the good post-nominal structure (644) and pre-nominal structure (524) or (525), on the one hand, and the bad structure (521), on the other. One difference between them is that the operator in the bad structure is c-commanded neither by the 'head' nor the open/predicative clause (αP). If this structural analysis is correct, then a general syntactic constraint on the formation of relatives which gives the prediction in (519) can be formulated as follows:

526) The relative operator must either be c-commanded by the 'head' or the open/predicative clause.

The general constraint (526) excludes the structure of relative clauses like (521). The latter structure violates this constraint; the operator is in the specifier of the open/predicative clause which lands in the specifier position higher than the 'head'.

The constraint (526) alone does not exclude the structure of a pre-nominal relative in which the 'head' could have been derived by the movement of the phrase containing the (null) relative operator to Spec,βP:

527) ... [_{χP} [_{αP} α ... *t*_{DP} ...] [χ [_{βP} [_{DP} *Op* 'head' n.p.] [β *t*_{αP}]]]]

If we leave this structural analysis as a possibility, we would expect to find a pre-nominal relative that has an overt relative operator around the ‘head’ (on the left or right of the ‘head’). Unfortunately, such pre-nominal relatives have not been attested. According to Schwartz (1971), pre-nominal relatives often present a relative marker between the clause and the ‘head’; however, he verifies that these markers are not relative pronouns, showing no case-relation relevant to the clause that precedes them.⁸⁶ For this reason, it is best to generate the null relative operator not within the clause so that it is not obliged to reflect the case property of a relative DP generated in the clause.

Also note that the constraint also excludes a post-nominal relative whose ‘head’ nominal is preceded by a relative pronoun/operator:

528) * ... [_{χP} Op-χ [_{βP} ‘head’ n.p. [_{tOp} [_{αP} α ...]]]]

Once the operator raises past the ‘head’, the open/predicative clause must raise past the operator, deriving a pre-nominal relative, as in (525).

The constraint (526) substantially delimits structural possibilities of the so-called ‘head’-internal relatives. Since the ‘head’ nominal occurs within the relative clause, the

⁸⁶ I also have not found a pre-nominal relative that shows pied-piping of materials around the ‘head’, which would be expected if the operator phrase reaches to the position by the same operator-movement that fronts overt relative pronouns.

A potential counter-example to this claim is the relativization of a certain class of post-positional phrases in Basque. According to de Rijk (1972), in general, relativization deletes whatever post-position the relative clause may have had. In addition, relativization of a phrase with a post-position like *-rekin* ‘with’ is usually not possible. However it becomes possible when this post-position underlies in both the main clause and the relative clause.

operator (assuming its presence) must either be on the right of the ‘head’ nominal within the clause or on the right of the clause:

529) ... [_{αP} ... ‘head’ n.p. *Op* ...]

530) ... [_{χP} [_{αP} ... ‘head’ n.p. ...] ... [*Op* *t*_{αP}]]

On the other hand, the following structures are excluded:

531) * ... [_{αP} ... *Op* ‘head’ n.p. ...]

532) * ... [_{χP} ... *Op* ... [_{αP} ... ‘head’ n.p. ...]]

According to Keenan (1985), the ‘head’ of ‘head’-internal relatives is not in general distinctively marked and there is no obligatory fronting of the ‘head’ either; thus, it is hard to tell the position of a relative operator. The only exception seems to be the case of Bambara, which exhibits a special marker *min* within the clause (but the *min* phrase is not obligatorily fronted) (Schwartz 1971, Downing 1978, Keenan 1985):

533) *tye ye [ne ye so min ye] san* (Keenan 1985, 162)

man PST I PST horse REL see buy

‘The man bought the horse which I saw.’

Min appears on the right of the ‘head’ nominal, and not on the left. Schwartz leaves open the possibility of *min* being analyzed as a relative pronoun. If it is in fact a relative pronoun, it conforms to our prediction; ‘head’-internal relatives of Bambara will represent the structure (529) above. On the other hand, I have found no evidence for the structure (531), which is excluded by the constraint.

Schwartz (1971), Downing (1978), and Keenan (1985) find no ‘head’-internal relative examples which have an obligatory element in the clause-initial position. However, they do find some markers of relatives at the end of the clause in some languages. The structure (530) is similar to the structure of pre-nominal relatives (525). Both involve the inversion of a clause around the operator; thus there is some room for elements to occur on the right of the clause. Interestingly, languages like Japanese, Navajo, Quechua, and Tibetan present both ‘head’-internal relatives and pre-nominal relatives, as noted in Keenan (1985). Moreover, Navajo, for instance, employs the same relative marker for both types of relatives. The examples are originally from Platero (1974):

- 534) Yádoołtìh [tì' éédáá' ashkii ałháá' -áá]
 FUT-3-speak last night boy IMPERF-3-snore-REL
 ‘The boy who was snoring last night will speak.’
- 535) Yádoołtìh [tì' éédáá' ałháá' -áá] ashkii
 FUT-3-speak last night IMPERF-3-snore-REL boy

These facts indicate that a close relationship holds between ‘head’-internal and pre-nominal relatives. Our analysis relates the two types of relatives by the application of clause inversion, as depicted in ‘head’-internal structure (530) and pre-nominal structure (525). This operation possibly sets them apart from the other ‘head’-internal structure (529), which may not involve the operation.⁸⁷ We have conjectured that the latter structure may represent the case of Bambara, as mentioned above. Whether or not it is co-incident, this language lacks a pre-nominal counterpart.

⁸⁷ The clause-inversion is at least not required by the constraint, because the operator is c-commanded by the ‘head’ within the clause.

The constraint also excludes the so-called “headless” or free relatives that contain a relative operator in the initial position not being c-commanded by the ‘head’. In English, some *wh*-pronouns can be in the initial position of a clause but others are not (Downing 1978, 397):

536) What John said annoyed her.

537) * Which John said annoyed her.

What we can say about ungrammatical (537) is that it represents a relative without the ‘head’, which violates our general constraint:

538) * ... [_{αP} [_{DP} *Op* ...] [α [_{TP} ... *t*_{DP}]]]

In contrast, when an element which constitutes the ‘head’ is added, the sentence becomes grammatical:

539) That which John said annoyed her. (Downing 1978, 397)

We analyze *that* in (539) as the ‘head’ of the relative, and analyze the example to represent the following structure, which does not violate the general constraint:

540) ... [_{βP} ‘head’ n.p. [β [_{αP} [_{DP} *Op* ...] [α [_{TP} ... *t*_{DP}]]]]]

How about (536)? If our analysis is correct, its structure should at least have the ‘head’ preceding the operator like (540), and not like (538). It is possible to analyze the *wh*-pronoun as the ‘head’ of the relative instead of the operator, and postulate a null operator independently:

541) ... [_{βP} What [β [_{αP} [_{DP} *Op* ...] [α [_{TP} John said *t*_{DP}]]]]]

The analysis of a *wh*-pronoun as the ‘head’ of a free relative is not new. Bresnan and Grimshaw (1978) argue that in free relatives, the *wh*-phrase is analyzed as the ‘head’ of the relatives, instead of being generated as an operator. Although their analysis differs from ours in that they do not postulate the operator, it still supports the analysis above that what in (541) constitutes the ‘head’ of the relative. As long as this analysis holds, the general constraint (526) also holds for free relatives. I leave aside the question of whether the ‘head’ as well as the operator should be base-generated in free relatives as they claim.⁸⁸

Let us go back to the original question of what χP , βP , and αP are in the structure of pre-nominal relatives (515), repeated below:

542) $[_{\chi P} \alpha P [_{\chi} [_{\beta P} \text{‘head’ n.p.} [_{\beta} t_{\alpha P}]]]]$

We have hypothesized that the head of βP is the relative operator, and from there, it takes scope over the rest of the clause. Thus, its generation in that position performs the function that the operator movement does in a post-nominal relative. Postulating the operator in the position of β , there are two plausible analyses. One is to analyze βP as the highest complementizer projection, CP, which will be reminiscent of Kayne’s structure discussed earlier:

543) $[_{\chi P} \alpha P [_{\chi} [_{CP} \text{‘head’ n.p.} [_{Op} t_{\alpha P}]]]]$

χP will be DP if we follow Kayne’s analysis, or some other projection of nominal. If it is DP, then a determiner-like element is expected between the clause and the ‘head’.

⁸⁸ Left unexamined are cases of the so-called correlatives.

Another possibility is to take χP to be CP. In Bianchi's structure of *wh*-relatives, the phrase that hosts the relative operator is a complementizer projection projected below the top-most complementizer projection (i.e., CP/ForceP). Her claim is that it is TopP. Unfortunately, the characteristics of this projection do not fit those of an operator, particularly in its nature of being quantificational. We can leave this projection as βP , and hypothesize that it is projected as the complement of CP/ForceP, partially modeling Bianchi's analysis of post-nominal relatives:

544) $[_{CP} \alpha P [C [_{\beta P} \text{'head'} \text{ n.p. } [Op \ t_{\alpha P}]]]]$

Unlike (543), structure (544) leaves open the possibility of projecting a determiner phrase or the like above the entire phrase.

Either (543) or (544) seems plausible. For Japanese, however, I argue for the latter. Unlike the case of Amharic, Japanese does not show a determiner-like element between the clause and the 'head'; instead, it is possible to have a noun-modifying demonstrative on the left of the pre-nominal clause. This will be impossible if the clause occupies Spec,DP, which is the left edge of the nominal phrase. I will return to this matter below in more detail.

As for αP , I take that to be whatever that can be projected below CP in the language in question. For Japanese, αP may be FinP, TopP, FocP, or SP, depending upon the sentence in question.

We have abandoned the operator movement for the derivation of pre-nominal relatives. Instead, we will apply the 'raising' analysis. It is not true that there is no

movement in the formation of pre-nominal relatives. If there weren't, we would expect them to behave something like the so-called *such-that* relatives in English, allowing relativization into islands. Pre-nominal relatives do not always allow relativization into complex NPs. Navajo and Basque pre-nominal relatives, for instance, exhibit effects of the complex NP constraint (Platero 1974, Hoshi 1995). Japanese pre-nominal relatives also show such effects as described in chapter one.

In the 'raising' analysis that Kayne (1994) explores, the 'head' nominal of a relative starts out as the complement of a relative DP. Since the operator is not generated in D of the relative DP, the 'head' nominal raises directly to Spec, β P, as illustrated below:

545) [CP [C [β P ['head' n.p.]]_I [Op [α P ... [DP D t_1] ...]]]]

As discussed, this operation creates a predication relation between the 'head' nominal and the clause (α P) that is the complement of β P. I assume that this movement is needed for licensing the 'head' nominal as the subject of the predicate clause. Subsequently, α P moves past the 'head', mimicking predicate inversion. The following is the resultant structure:

546) [CP [α P ... [DP D t_1] ...] [C [β P ['head' n.p.]]_I [Op $t_{\alpha P}$]]]

The structure of a simple relative clause example of Japanese like (547) will be sketched as (548):

547) [Yoko-ga tsurete-i-ta] inu
 Y.-NOM bring.along-I-PST dog
 '(the/a) dog that Yoko was bringing along'

548) ... [CP [_{αP} Yoko-ga ... [DP D *t*₁] ...] [C [_{βP} [inu]₁ [Op *t*_{αP}]]]]

In the following discussion, I take this structural analysis as a threshold to derive Japanese pre-nominal relatives and fill necessary details to complement the analysis.

3.3.2. Above the Pre-nominal Clause

What is in CP in (548) is not a complete nominal phrase. It can further be modified by a demonstrative, including an indefinite demonstrative *dono* ‘which’, which occurs with the quantificational particle *-mo* to form a phrase meaning *every X*:

549) *Dono* [[Yoko-ga tsurete-i-ta] inu]-mo akai kubiwa-wo site-i-ta
 which Y.-NOM bring.along-I-PST dog-MO red collar-ACC do-I-PST
 ‘Every dog that Yoko was bringing along was wearing a red collar.’

In chapter 2, we have adopted Watanabe’s (1992) idea that quantificational particles like *-mo* in *dare-mo* ‘everyone’ is D^0 and incorporated it to the Antisymmetric analysis. The structure of a phrase like *dare-mo* ‘everyone’ that we have reached is the following:

550) [DP [QP dare] [DP [D mo] *t*_{NP}]]

Watanabe also claims that phrases like *dare* ‘who’ and *dono hito* ‘which person’ form QPs. Incorporating this idea, we have the following representations for *dare-mo* ‘everyone’ and *dono hito-mo* ‘every person’:

551) [DP [QP dare] [DP [D mo] *t*_{QP}]]

552) [DP [QP dono hito] [DP [D mo] *t*_{QP}]]

If we apply this structural analysis of quantificational phrases to the case containing a relative clause, we will have the following structure for (549):

- 553) [DP [QP Dono [CP [_{αP} Yoko-ga tsurete-i- ta] [C [_{βP} [inu]_i [Op t_{αP}]]]]] [DP [D mo]
t_{QP}]] ...
which Y.-NOM bring.along-I-PST dog -MO
'Every dog that Yoko was bringing along ...'

The structural analysis in (553) shows that two phrases can be projected above CP; i.e., QP is/can be projected above CP and DP is projected above QP. The following is the skeletal structure:

- 554) [DP [QP dono [CP [_{αP} ... [DP D t₁] ...] [C [_{βP} [n.p.]_i [Op t_{αP}]]]]]_{QP2} [DP [D mo]
t_{QP2}]] ...

3.3.3. The Category of the 'Head'

What is the category of the 'head' noun phrase? It is the phrase in which the indefinite demonstrative can appear. The indefinite demonstrative can occur within the 'head' noun phrase to form a quantificational phrase:

- 555) [[Yoko-ga tsurete-i-ta] dono inu]-mo akai kubiwa-wo site-i-ta
Y.-NOM bring.along-I-PST which dog-MO red collar-ACC do-I-PST
'Every dog that Yoko was bringing along was wearing a red collar.'

If *dono inu* is QP in *dono inu-mo* 'every dog', it should also be QP in the above relative.

Structure (555) is derived if *dono* is part of the 'head' noun phrase and the phrase containing *dono inu* raises:

- 556) ... [_{αP} Yoko-ga tsurete-i-ta [DP D [QP dono inu]]]

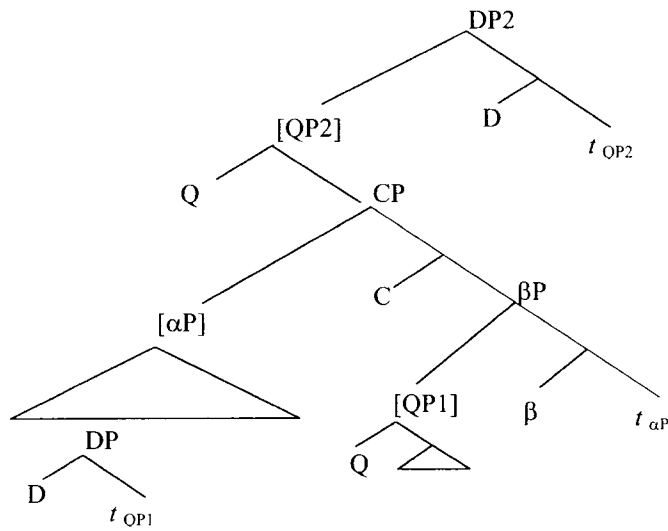
557) ... [β_P [Q_P dono inu]_I] [Op [α_P Yoko-ga tsurete-i-ta [DP D t_{QP1}]]]]

558) ... [CP [α_P Yoko-ga tsurete-i- ta [DP D t_{QP1}]] [C [β_P [Q_P dono inu]_I] [Op t_{α_P}]]]

559) ... [DP [Q_P Q^0 [CP [α_P Yoko-ga tsurete-i- ta [DP D t_{QP1}]] [C [β_P [Q_P dono inu]_I] [Op t_{α_P}]]]]] [DP [D mo] t_{QP}]]

I conclude that the ‘head’ noun phrase in Japanese pre-nominal relatives forms a QP:

560) [DP [Q_{P2} dono [CP [α_P ... [DP D t_{QP1}] ...] [C [β_P [Q_P]_I] [Op t_{α_P}]]]]] [DP [D mo] t_{QP2}]] ...



We have seen that *dono* can appear in one of two places in a simple relative. In a stacked relative, it can appear in one of three places: on the left of the larger relative clause, between the two relative clauses, and on the right of the smaller relative clause.⁸⁹

561) [*Dono* [Yoko-ga tsurete-i-ta] [[akai kubiwa-wo site-i-ta] inu]]-mo hoete-i-ta.
 which Y.-NOM bring-along-I-PST red collar-ACC do-I-PST dog-MO bark-I-PST
 ‘Every dog that was wearing a red collar that Yoko was bringing along was barking.’

562) [[Yoko-ga tsurete-i-ta] [*dono* [akai kubiwa-wo site-i-ta] inu]]-mo hoete-i-ta.
 Y.-NOM bring-along-I-PST which red collar-ACC do-I-PST dog-MO bark-I-PST

563) [[Yoko-ga tsurete-i-ta] [[akai kubiwa-wo site-i-ta] *dono* inu]]-mo hoete-i-ta.
 Y.-NOM bring-along-I-PST red collar-ACC do-I-PST which dog-MO bark-I-PST

The occurrence of *dono* in (562) is not surprising from the point of view that a QP can be projected above the phrase that hosts the pre-nominal clause and the QP can be the ‘head’ noun phrase of the higher relative clause. In the current analysis, the ‘head’ noun phrase of the higher relative clause is the QP [*dono* [akai kubiwa-wo site-i-ta] inu]]. It is formed by the relativization of the DP containing *inu*, and subsequently by the fronting of the clause and the projection of QP with *dono*:

⁸⁹ Not surprisingly, the same options are available in *wh*-questions:

- (i) [Dono [Yoko-ga tsurete-i-ta] [[akai kubiwa-wo site-i-ta] inu]]-ga hoete-i-ta-no?
 which Y.-NOM bring-along-I-PST red collar-ACC do-I-PST dog-NOM bark-I-PST-
 QUES
 ‘Which dog that Yoko was bringing along that was wearing a red collar was barking?’
- (ii) [[Yoko-ga tsurete-i-ta] [*dono* [akai kubiwa-wo site-i-ta] inu]]-ga hoete-i-ta-no?
 Y.-NOM bring.along-I-PST which red collar-ACC do-I-PST dog-NOM bark-I-PST-
 QUES
- (iii) [[Yoko-ga tsure-i-ta] [[akai kubiwa-wo si-i-ta] *dono* inu]]-ga hoe-i-ta-no?
 Y.-NOM bring.along-I-PST red collar-ACC do-I-PST which dog-NOM bark-I-PST-
 QUES

- 564) ... [_{αP} [_{DP} D [_{QP1} inu]] akai kubiwa-wo site-i-ta]
- 565) ... [_{βP} [_{QP1} inu] [*Op* [_{αP} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta]]]
- 566) ... [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]]
- 567) ... [_{QP} dono [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]]]

Above the QP, a DP is projected. Then, the higher clause is projected, and the QP raises to higher Spec,βP:

- 568) ... [_{DP} D [_{QP} dono [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]]]
- 569) ... [_{αP} Yoko-ga tsurete-i-ta [_{DP} D [_{QP} dono [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]]]]
- 570) ... [_{βP} [_{QP2} dono [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]] [*Op* [_{αP} Yoko-ga tsurete-i-ta [_{DP} D *t*_{QP2}]]]]

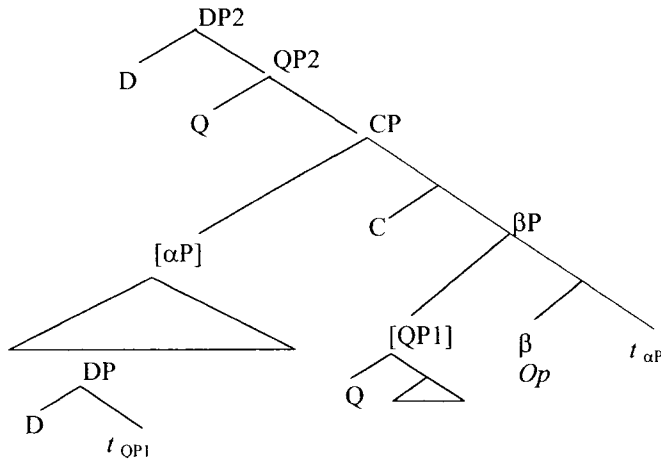
A CP is projected above the newly projected βP, and the αP in the complement of βP moves to its spec. Above the CP, a QP and a DP are projected. The DP is headed by the quantificational particle *-mo*, and the QP moves to the highest Spec,DP:

- 571) ... [_{CP} C [_{βP} [_{QP2} dono [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]] [*Op* [_{αP} Yoko-ga tsurete-i-ta [_{DP} D *t*_{QP2}]]]]]
- 572) ... [_{CP} [_{αP2} Yoko-ga tsurete-i-ta [_{DP} D *t*_{QP2}]] [C [_{βP} [_{QP2} dono [_{CP} [_{αP1} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [_{QP1} inu] [*Op* *t*_{αP1}]]]] [*Op* *t*_{αP2}]]]]
- 573) ... [_{DP} [_D mo] [_{QP} Q [_{CP} [_{αP} Yoko-ga tsurete-i-ta [_{DP} D *t*_{QP2}]]₂ [_{CP} C [_{βP} [_{QP2} dono [_{CP} [_{αP} [_{DP} D *t*_{QP1}] akai kubiwa-wo site-i-ta]_{αP1} [_{CP} C [_{βP} [_{QP} inu]_{QP1} [*Op* *t*_{αP1}]]]] [*Op* *t*_{αP2}]]]]]

- 574) ... [DP [QP3 Q [CP [_{αP2} Yoko-ga tsuretei- ta [DP D t_{QP2}]] [C [_{βP} [QP2 dono [CP [_{αP1} [DP D t_{QP1}] akai kubiwa-wo site-i-ta] [C [_{βP} [QP1 inu] [Op t_{αP1}]]]] [Op t_{αP2}]]]] [DP [D mo] t_{QP3}]]

To conclude, a simple pre-nominal relative like (547) in Japanese is derived from the basic structure like (575). The raising of the ‘head’ QP takes place, as in (576), and the clause inversion follows, as in (577). Finally, QP and DP are projected above CP, resulting (708):

- 575) ... [_{βP} Op [_{αP} ... [DP1 D [QP1]] ...]]
- 576) ... [CP C [_{βP} [QP1] [Op [_{αP} ... [DP1 D t_{QP1}] ...]]]]
- 577) ... [CP [_{αP} ... [DP1 D t_{QP1}] ...] [C [_{βP} [QP1] [Op t_{αP}]]]]
- 578) [DP2 D [QP2 Q [CP [_{αP} ... [DP1 D t_{QP1}] ...] [C [_{βP} [QP1] [Op t_{αP}]]]]]]



4. Minimalist Approach to Locality

In this chapter I lay out locality conditions which are formulated in terms of the Minimalist framework. These conditions will be applied to derive locality effects in agreements and movements in English and Japanese.

4.1. *Chomsky's Proposals*

4.1.1. Basic Mechanism

In the Minimalist framework proposed and developed by Chomsky (1995, 2000, 2001), movement is implemented by virtue of the presence of “uninterpretable features”. The underlying idea is that a movement is legitimate only if it is necessary for convergence (the Last Resort principle). To reach convergence, an interface representation should include only interpretable features (the principle of Full Interpretation). In other words, it is necessary to delete uninterpretable features, if any, in narrow syntax.

Interpretable and uninterpretable features are introduced into the computation along with elements. For the Case/agreement systems, for instance, interpretable features include ϕ -features of nominal elements. Uninterpretable features include ϕ -features of the head T and the structural Case of a nominal (Chomsky 2001, 3, 6). Interpretable features are carried over to the LF interface. On the other hand, uninterpretable features

must be deleted from the computation of LF for a derivation to converge; they cause derivations to crash (Chomsky 2001, 3).

In “Minimalist Inquiry” (Chomsky 2000) and “Derivation by Phase” (Chomsky 2001), the deletion of uninterpretable features takes place under the agreement operation, called Agree. Agree takes place between a probe and a goal. A probe has an uninterpretable feature, which may or may not be accompanied by an EPP feature, which is also uninterpretable, and the probe seeks a goal. If a probe finds a goal that has a matching (interpretable) feature, it proceeds to Agree. In this respect, Agree is driven by uninterpretable features of the probe. So is the Movement operation (Move). Move is a complex operation that combines Agree, Merge, and selection of a phrase to move. An element K is moved to a position that the probe offers upon agreement between K and the probe. The probe offers the position when it has an EPP feature. Agree and Move are legitimate if they are motivated by the need to delete uninterpretable features (other than the EPP feature).

It is important to note that the presence of an EPP feature depends upon the presence of an uninterpretable feature. Pesetsky and Torrego (2001) make it explicit that EPP is a property of a feature of a head, not a property of the head itself, and that it is possible to have a head that bears two uninterpretable features only one of which is associated with EPP.

In Case-assignment and nominal feature agreement, for instance, T may have a set of uninterpretable ϕ -features that defines it as the probe and seeks some category K. T

has the EPP-feature, the presence of which indicates that the probe offers a position for movement. A nominal has the uninterpretable structural Case, and because of the presence of the latter feature, the nominal becomes a candidate to be moved. The nominal also has a set of interpretable ϕ -features, corresponding to the set of uninterpretable ones that T has. The relation Agree is established between the nominal and T, and under this relation, the set of uninterpretable ϕ -features of T as well as the uninterpretable structural Case of the nominal are deleted. Finally, the nominal moves to T.

Agree is led by Match. Match is a relation that holds between two elements that have features of the same sort. For instance, Match holds between a nominal that has the interpretable ϕ -features *number*, *gender*, and *person* and T that has the uninterpretable ϕ -features *number*, *gender*, and *person*. A probe that has uninterpretable features seeks an element that has matching features (and it activates Agree). The latter element is called a matching 'goal' (Chomsky 2001, 5).

A probe and a goal match independently of the values of their features. When a nominal has a set of interpretable ϕ -features like *number*, *gender*, and *person*, the value of the number feature may be singular or plural, the value of the gender feature may be feminine or masculine, and the value of the person feature may be the first, second, or third person. Uninterpretable features, on the other hand, enter the derivation without values, and their values are determined by Agree. In the Case/agreement systems, features have values for the goal but not for the probe. Chomsky (2001, 6) explains that if ϕ -features were valued for the probe, it would be inactive and could drive no operation;

if they were unvalued for the goal, they would receive no values from the (unvalued) matching features of the probe.

Matching of (relevant subparts of) a probe and a goal induces Agree if they are rendered active by the presence of uninterpretable features (Chomsky 2001, 4). A probe and a goal are active as long as they have uninterpretable features. For the Case/agreement systems, for instance, the uninterpretable features are the ϕ -features of T and structural Case of the nominal. The nominal is active only while it has the uninterpretable Case feature unvalued. Once Agree is established and the Case valued is determined, the Case feature of the nominal is deleted and the nominal becomes inactive (Chomsky 2001, 6). Valuation of the uninterpretable feature(s) of a goal has the effect that the goal becomes inactive and can no longer enter into agreement relations. Similarly, valuation of the uninterpretable features of a probe has the effect that they can no longer drive an operation.

After Agree, the valued uninterpretable features are deleted (by Agree). However, the deleted features will not be removed from the syntactic objects until the operation Spell-Out (Chomsky 2001, 5, 12). Until then, the deleted features will still remain in a syntactic object even when the object becomes inactive by virtue of having no other uninterpretable features to be valued. The inactive object may render an intervention effect in Agree between a probe and an active object if the probe matches the inactive object and if the inactive object is “closer” to the probe than the active object is (Chomsky 2001, 4).

Chomsky (2000, 128) takes the *Wh*-Island Constraint to be an instance of a defective intervention effect. For the derivation of an embedded *wh*-question like *Kate wonders where Mary took him*, for example, the *wh*-phrase has an uninterpretable *wh*-feature [WH] and an interpretable feature [Q]. The latter feature matches the uninterpretable feature of the interrogative complementizer, which accompanies an EPP-feature to trigger *wh*-movement:

- 579) ... [_{CP} C Mary took him where]
- | | |
|-----|------|
| EPP | |
| [Q] | +[Q] |
| | [WH] |

The *wh*-phrase reaches Spec,CP as the *wh*-phrase establishes agreement with the interrogative C and their uninterpretable feature are deleted:

- 580) ... [_{CP} where_i [C Mary took him t_i]]
- | | |
|------|------------------|
| | ~~EPP~~ |
| +[Q] | [~~Q~~] |
| [WH] | |

After the deletion of its uninterpretable *wh*-feature [WH], the *wh*-phrase is no longer active and loses the ability to check the uninterpretable feature [Q] of another interrogative complementizer (if any). While a *wh*-phrase becomes inactive after the deletion of [WH], however, its interpretable feature +[Q] blocks agreement. Consider an ungrammatical sentence like **Who does Kate wonder where Mary took?:*

- 581) [_{CP} does Kate wonder [_{CP} where_i [C Mary took Who t_i]]]
- | | | | |
|-----|------|------------------|------|
| EPP | | EPP | |
| [Q] | +[Q] | [~~Q~~] | +[Q] |
| | [WH] | | [WH] |

Chomsky (2000, 123) obtains this effect by the Defective Intervention Constraint:

582) Given the three elements α , β , γ , the α - γ match fails to induce A agree if

- a. α c-commands β , and β c-commands γ ,
- b. both β and γ match α , and
- c. β is inactive.

4.1.2. “Derivation by Phase”

Chomsky (2000, 2001) claims that Spell-Out takes place cyclically, at “strong phases”. Strong phases are CPs with a Force indicator and transitive vPs (v*Ps), which have external arguments. Spell-Out searches uninterpretable features that have been assigned values and deleted. It “removes” these features from the narrow syntax, which is necessary for convergence at LF. At the same time, the syntactic object is transferred to the phonology. The idea is to create a mechanism that limits the space for search of valued uninterpretable features by Spell-Out. If earlier phases need not be inspected, the computational burden will be reduced. Chomsky proposes the Phase-Impenetrability Condition (PIC) as in (583), referring to the structure in (584):

PHASE-IMPENETRABILITY CONDITION (PIC):

583) The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.

584) $[_{ZP} Z \dots [_{HP} \alpha [H YP]]]$

In (583), “the domain of H” refers to the complement of H (i.e., YP), and “its edge” refers to the specifier/adjunct of H (i.e., α). In (584), ZP and HP are strong phases. The PIC, Chomsky claims, yields “a strong form of Subjacency”.

One effect of the PIC is that an element cannot move directly from within v^*P to Spec,CP. Consider the derivation of a *wh*-question like *Who did Mary see?*. The object *wh*-phrase starts out from within v^*P and reach Spec,CP. The PIC makes the material in the complement of v^*P inaccessible to C; thus, the *wh*-phrase inside the complement of v^*P is inaccessible to the interrogative C in (585):

585) ... [_{CP(S,Ph)} did Mary [_{v^*P (S,Ph)} see Who]]

Meaning that the *wh*-phrase must first move to the edge of v^*P (or higher). Chomsky (2000, 110) claims that the movement of the *wh*-phrase to the edge of v^*P is motivated by Object Shift. In that case, the *wh*-phrase will raise and become accessible to C for further movement.

A *wh*-phrase can be farther away from the original position, as in *Who do you think that Mary saw?*. In this case, neither higher v^*P nor higher C can access the *wh*-phrase even if the latter has moved to the edge of lower v^*P by Object Shift:

586) [_{CP(S,Ph)} do you [_{v^*P (S,Ph)} think [_{CP(S,Ph)} that Mary [_{v^*P (S,Ph)} Who₁ saw *t*₁]]]]

Although lower C can access the *wh*-phrase at the edge of lower v^*P , its movement to lower Spec,CP is not triggered. Lower C, which is a declarative complementizer, does not have an uninterpretable feature to agree the *wh*-element.⁹⁰ Given that an EPP feature has to be accompanied by an uninterpretable feature, it cannot be present in lower C to trigger *wh*-movement.

⁹⁰ The point is the same for the non-interrogative complementizer, as pointed out by Contreras (2003).

Chomsky's solution to this problem is to implement a mechanism that assigns EPP-features to heads of phases during the course of the derivation. These EPP features do not depend upon the presence of an uninterpretable feature on a given head. He states the following (Chomsky 2000, 109):

587) (24) The head H of phase Ph may be assigned an EPP-feature.

Once Ph is completed, exhausting the lexical subarray from which it is derived, (24) may optionally apply, assigning an EPP-feature to H.

Chomsky calls an EPP-feature assigned by this mechanism a *P(eriphery)-feature*, distinguishing it from the ordinary EPP-feature. By virtue of this mechanism, P-features are assigned to heads of intermediate phases--lower C and lower v^* in (586), and the *wh*-phrase moves from a phase to another:

588) ... [_{CP(S.Ph)} that Mary [_{$v^*P(S.Ph)$} Who₁ saw t_1]]

P

589) ... [_{$v^*P(S.Ph)$} v^* think [_{CP(S.Ph)} Who₁ [that Mary [_{$v^*P(S.Ph)$} t'_1 saw t_1]]]]

P

P

590) ... [_{CP(S.Ph)} do you [_{$v^*P(S.Ph)$} Who₁ [v^* think [_{CP(S.Ph)} t''_1 [that Mary [_{$v^*P(S.Ph)$} t'_1 saw t_1]]]]]]

EPP

P

P

In short, the PIC demands short movements in successive phrases and P-features drive them. Chomsky calls movements of this kind Indirect Feature-Driven Movement (IFM), movements which take place without feature agreement.

4.2. *Derivation without the PIC*

4.2.1. Problems with the PIC

Contreras (2003) addresses problems regarding the implementation of the PIC in the Minimalist Program. First, the assignment of P-features violates the Inclusiveness Condition. It states, “No new features are introduced by C_{HL} [computational component] (Chomsky 2000, 113)”. On the contrary to the condition, P-features are acquired during the course of derivation. Second, P-features can attract non-matching elements. This weakens the central theme of feature-driven movement. Nonetheless, P-features are necessary to drive intermediate steps, which are in turn demanded by the PIC. Third, intermediate traces are not interpretable elements and they must be deleted to prevent a violation of the Principle of Full Interpretation. Contreras argues that there are no intermediate traces or copies of *wh*-movement on the grounds that their existence, which requires unmotivated technical devices, is an anomaly in the Minimalist Program. He suggests that the PIC as well as the IFM should be abandoned.

4.2.2. Limitation of Intervention Constraints

I agree with Contreras on the above points. However, we still need a locality condition that produces Subjacency effects, particularly effects of the Complex NP Condition. The Minimal Link Condition (MLC) (or Shortest Move) is intended primarily to capture effects of super-raising, *wh*-islands, and the head-movement constraint. The condition is basically a recast of the idea expressed in Relativized Minimality (Rizzi 1990). The idea is to force movement to the closest potential landing site. Refinements

have been proposed and the idea has been reformulated (e.g., Ferguson 1996, Frampton et al. 2000).

Frampton et al. (2000, 7) introduce a definition that incorporates the notion of phases introduced in “Minimalist Inquiry” and “Derivation by Phase”. They interpret the MLC as a locality condition on probing, and call it the Intervention Condition:

INTERVENTION CONDITION:

591) Goal₁ blocks Probe/Goal₂ ϕ -agreement if (and only if):

- a) Goal₁ has full ϕ -features; and
- b) Goal₂ is in a lower [strong] phase than Goal₁.

If we extend the condition to be applicable to *wh*-movement (e.g., by generalizing the agreement to cover operator-feature agreement), for instance, the condition will rule out the agreement of higher C with the second *wh*-phrase in structure (593) for an unacceptable sentence (592):

592) ?* What do you wonder where Mary bought?

593) [_{CP} [_C do] you [_{v*P} wonder [_{CP} *where*₁ C Mary [_{v*P} bought *what* *t*₁]]]]

EPP

[Q]

EPP

+ [Q] [Q]

[WH]

+ [Q]

[WH]

In (593), higher C will be the probe and *where*₁ will constitute Goal₁. *Where*₁ will block the agreement between higher C and *what* since the latter is in lower v*P, which is a phase lower than *where*₁.

The Intervention Condition (591) fails to exclude *wh*-movement out of a complex NP while allowing *wh*-movement out of an embedded declarative. A sentence with a complex NP like the following obviously does not contain an operator or *wh*-phrase that intervenes between higher C and a *wh*-phrase inside the complex NP:

594) * What did you make the claim that Mary bought?

595) [_{CP} [_C did] you [_{v*P} make [the claim [_{CP} [_C that] Mary [_{v*P} bought *what*]]]]]

EPP

[Q]

+ [Q]
[WH]

Given this feature distribution, the condition would not exclude agreement between higher C and *what*.

One might wonder whether the non-interrogative complementizer *that* should have a feature such as -[Q] that could prevent higher C from agreeing *what*, as illustrated in (596):

596) [_{CP} [_C did] you [_{v*P} make [the claim [_{CP} [_C that] Mary [_{v*P} bought *what*]]]]]

EPP

[Q]

-[Q]

+ [Q]
[WH]

This option, however, prevents us from eliminating intermediate steps. The complementizer *that* occurs also in embedded declaratives, and they do not block movements. If we postulate -[Q] for *that*, the Intervention Condition would rule out not only (594) but also a grammatical sentence like (597):

597) What do you think that Mary bought?

598) [CP [C do] you [_{v*P} think [CP [C that] Mary [_{v*P} bought *what*]]]]

EPP

[Q]

-[Q]

+[Q]

[WH]

The point here is that it is difficult, if not impossible, to obtain the expected results from the Intervention Condition alone (or with the MLC). It is clear that we need a condition that captures effects of the old Complex NP Constraint that are not captured by the Intervention Condition.

4.3. *Locality Conditions*

4.3.1. Types of Locality Conditions

Let us step back a little. In Chomsky (2000, 2001), the derivation by phases is viewed as a means to reduce computational burdens. The idea seems to be along the line of a general thought like, the smaller the space of inspection is, the more economical the derivation becomes. A crash occurs when something that is sought happens to be outside the space defined by the system.

Considering what we have discussed above, I can think of three conditions to achieve derivational economy. One condition is on Agree. It is to determine the point of termination of the search of a goal by the probe by referring to the presence of some element in a certain position. It applies as the search proceeds in a top-down fashion.

The function of this condition is expressed in the Intervention Condition and the Defective Intervention Constraint.

The second condition we need is on Move. It is to determine the area that becomes inaccessible to operations from some point and above by referring to some syntactic boundaries. It applies in a bottom-up fashion as derivation proceeds. The function of this condition is expressed by Subjacency, which has developed into the PIC. The condition should not be a mere recapitulation of these conditions. It should not force intermediate steps while capturing Complex NP constraint effects.

The third condition should be a condition that covers ECP effects. If we think of representative cases like subject island effects, *that*-trace effects and effects of adjunct extraction, this condition should be about licensing of traces. A generalization that one can draw is that occurrences of traces/copies in a given position are excluded under certain contexts, for instance, under the occurrence of an overt morpheme and in the presence of another trace in a certain position. Such factors are obstacles to making syntactically dependent relationships between moved elements and their traces/copies. When such relationships are not established, the derivation fails.

The following summarizes the three types of locality conditions:

599)

- a. There is a condition that determines the area inaccessible to Move.
- b. There is a condition that determines the point of termination of search for Agree.

- c. There is a condition that determines the context in which dependent relationships between elements and traces fail.

In the following sections, I will first propose a small modification of the Intervention Condition. This condition constitutes a condition of the type (b) of (599). This is needed because there are some phenomena that should be explained by the interplay between this condition and the first condition. Then, I will propose a condition of the type described in (a) of (599). The condition does not force intermediate steps but excludes some cases of movements out of a complex NP. This condition will be called the Opacity Condition. These two conditions provide the basis to answer the first part of the question--why do relativization of a subject out of a subject and that of an object out of an object contrast in Japanese. I will leave unresolved the problems that are alluded to by a condition of the third type, i.e., (c) of (599).

4.3.2. Some Assumptions

It is important to discuss the assumptions that have not been made explicit that underlie the following discussion of the locality conditions. Firstly, I assume the basic mechanism of movement in the Minimalist approach described in section 4.1.1. For instance, Move takes place upon Agree when the probe has an uninterpretable feature that is accompanied by an EPP feature. A typical case of feature allocations for movement is understood to be something like the following:

600) ... [CP C Mary took him where]
[X]^{EPP} +[X]
[Y]

As illustrated in (600), the probe has at least one uninterpretable feature X with EPP and the object to be moved has at least one uninterpretable feature Y and an interpretable feature X which is needed to value X of the probe. I assume that if there is a movement, then there are features allocated in the manner represented above; however, it may be difficult to identify and name every feature involved in every movement operation that we propose.

I do not, however, assume that the set of features assigned to every head is to be exactly the same across languages. One language may have X and Y features on one head and Z feature on another; another language may have an X feature on one head and Y and Z features on another. Or, one feature in one language can be realized in two or more features spread over different heads in another language. The idea seems to be that various languages share an inventory of features for deriving constructions of similar kinds. I attempt to pursue this with limited scope.

Secondly, I assume that in the structure of transitive v^*P , v^* agrees with the object DP in the VP complement. I assume the agreement to be for Case and nominal ϕ -features. The distinction between gender, number, and person is not very important for our purposes, and I will collapse these features into one in our representations:

601) $[_{v^*P} \text{ SUBJ } [\text{ } v^* \text{ } [_{VP} \text{ V OBJ }]]]$
 $\begin{array}{cc} [\phi N] & \alpha[\phi N] \\ & [\text{CASE}] \end{array}$

For clausal complements of verbs like *say*, *think*, etc., the feature allocation may or may not be exactly the same, especially for the Case feature if we consider Stowell's (1981)

Case Resistance Principle. Nonetheless, I assume, without arguments, that some kind of agreement holds between v^* and a complement clause, perhaps to check types of clauses. I assign an uninterpretable Force feature to v^* and an interpretable Force feature and an uninterpretable feature $[F]$ to the clause; the latter feature is to be determined. The analysis of features in this construction will be refined in a later section:

$$602) \quad \begin{array}{ccc} [_{v^*P} \text{ SUBJ } [& v^* & [_{VP} V \text{ Clause }]]] \\ & [\alpha\text{FORCE}] & +[\alpha\text{FORCE}] \\ & & [F] \end{array}$$

Thirdly, I assume that there are strong phases that mark some points in the derivation, although I do not assume that they are Spelled-Out in the way that the PIC states. I adopt Chomsky's criteria of strong phases, namely, strong phases are CPs with Force features and transitive v^* P_s, which contain an external argument in the specifier. Among multiple complementizer projections, the complementizer projections that carry a Force feature will constitute strong phases but not other complementizer projections. I also assume that the order of derivation of strong phases is available to the system. It is also important to mention that the status of a category as a strong phase does not change or shift to another nearby category as syntactic operations take place in and around the category. Once it is projected as a strong phase, it stays that way regardless of head movement or feature checking or movement within or around the projection.

Fourthly, it is important to note that an uninterpretable feature with EPP may not induce agreement with a matching feature of more than one head. For instance, suppose there are two *wh*-phrases in an embedded clause and one probe in that clause and another probe in the matrix clause, as illustrated below:

- 603) [Probe₂ ... [Probe₁ ... Wh ... Wh ...]]
 [X]^{EPP} [X]^{EPP} +[X] +[X]
 [Y] [Y]

In (603) Probe₁ agrees with one of the *wh*-phrases with respect to feature X and the uninterpretable feature Y of that *wh*-phrase is deleted. If at the same time, this probe agrees with the other *wh*-phrase, then the uninterpretable feature Y of the latter phrase is also deleted. Then, the uninterpretable feature X of Probe₂ would never be checked. If this were the case, all the questions of the following type should be excluded equally:

- 604) Which car do you wonder how to fix?
 605) Which car do you wonder how we should fix?
 606) How do you wonder which car to fix?
 607) To whom do you wonder what to give?

These sentences exhibit varying degrees of acceptability, which indicates that they are not all equally excluded. It follows that the system should allow one of the *wh*-phrases in (603) to remain unchecked by Probe₁ at that cycle although their features match. In short, an uninterpretable feature with EPP may not agree with a matching feature of more than one head.

4.3.3. Revised Intervention Condition

4.3.3.1. *Definition*

Frampton et al. (2000) demonstrate the effects of the Intervention Condition on agreement relationships between A-positions. The purpose of my revision of this

condition is to generalize the condition to apply to *wh*-movement, and to define “lower phase” more explicitly to obtain desirable effects. The revised condition is (608):

REVISED INTERVENTION CONDITION:

608) In the structure [PROBE ... X ... [_{PH} ... Y ...]], PROBE may not α -agree with Y in the complement domain of PH if:

- a. PROBE has uninterpretable α -feature(s);
- b. X has the full set of interpretable α -feature(s) matching with PROBE;
- c. X is inactive;
- d. PH is a strong phase that excludes X; and
- e. PH is c-commanded by the maximal projection of X or by the head X.

Before we discuss key examples, it is necessary to identify the complementizer projections that constitute strong phases and those which host *wh*-phrases in a given construction of a language in question.

According to Rizzi (1997), *wh*-phrases land in Spec,FocP. This is a place for a focus phrase and this place can host other quantificational phrases as well in both English and Italian. In Italian, a *wh*-phrase competes with a focus phrase and thus they cannot co-occur in a simple clause at least. I assume that a *wh*-phrase lands in Spec,FocP in finite clauses in English and Italian. For non-finite complement clauses, I assume differently. The projection of FocP implies that other projections, such as TopP, may be able to accompany. In English, however, non-finite embedded clauses, when they have a fronted *wh*-phrase, cannot have a topic. This indicates that there may be only one specifier position available in such clauses. The hypothesis for non-finite embedded clauses in

English is that the highest complementizer projection is FinP, and a fronted *wh*-phrase lands in Spec,FinP. To summarize, I assume the following structures for *wh*-questions:

609) I wonder [_{FocP} how_I [_{Foc} [_{FinP} Fin [_{TP} John could [_{v*P} solve the problem *t*₁]]]]]

610) I wonder [_{FinP} how_I [_{Fin} [_{TP} to [_{v*P} solve the problem *t*₁]]]]]

A complementizer that has a Force feature may constitute the head of a strong phase, according to Chomsky (2000, 2001). Following Rizzi (1997), we assume Force features to be features that reflect properties such as declarative, question, relative, etc. For Rizzi, a Force feature is located at the Force head. Force head is the highest complementizer projection, which contrasts with the Finiteness head, which is the lowest complementizer projection. Although Rizzi argues that both are necessary projections in most finite clauses, both projections may not always be necessary. In fact, he claims that English not only allows but also obligates Force and Finiteness to occur in a single head in an embedded declarative when it has no element on the left of the subject position (on the basis of his analysis of *that-t* effects). If Finiteness has a Force feature, then it projects a strong phase.

This must be the case for non-finite embedded clauses. There are many ways to express a Force feature. I argue that a Force feature is realized as an interpretable feature of a complementizer projection and not of an operator, contrary to what Chomsky (1995, 2000) claims. *Wh*-elements do not intrinsically have an interrogative force since they (or some of them) can also appear in relatives. They do function as operators in both questions and relatives. Thus, what they have intrinsically is an interpretable operator feature. Since they move, they have an uninterpretable feature. In questions, they have

an uninterpretable interrogative feature; in relatives, they have an uninterpretable relative feature. What attracts *wh*-movement is an uninterpretable operator feature, and it is in a complementizer projection. If we think of multiple *wh*-questions, not all the *wh*-elements but just one may move in languages like English. However, all are interpreted as quantificational elements. We want all the *wh*-elements to have an interpretable operator feature, and only the one that moves to have an uninterpretable interrogative feature.

Thus, I propose the following feature allocation for non-finite *wh*-questions:

$$\begin{array}{lcl}
 611) \quad \dots [\text{FinP} [\text{Fin} [\text{TP to } [_{v^*P} \text{ solve the problem how}_1]]]] & & \\
 & \begin{array}{l} [\text{OP}]^{\text{EPP}} \\ +[\text{QUES}] \end{array} & \begin{array}{l} +[\text{OP}] \\ [\text{QUES}] \end{array}
 \end{array}$$

In (611), *how* is active because it has an uninterpretable feature [QUES]. [QUES] of *how* agrees with +[QUES] of Fin. [OP] of Fin agrees with +[OP] of *how*. This agreement is not blocked by the Intervention Condition (608) because there is no other *wh*-phrase. By virtue of the EPP feature of [OP] of Fin, *how* moves to Spec,FinP, resulting in the following structure:

$$\begin{array}{lcl}
 612) \quad \text{I wonder } [\text{FinP how}_1 [\text{Fin} [\text{TP to } [_{v^*P} \text{ solve the problem } t_1]]]] & & \\
 & \begin{array}{l} +[\text{OP}] \quad [\text{OP}]^{\text{EPP}} \\ [\text{QUES}] \quad +[\text{QUES}] \end{array} &
 \end{array}$$

Finite *wh*-questions have a *wh*-phrase in Spec,FocP, as discussed. This means that Foc has an uninterpretable operator feature with EPP. If we hypothesize that the interpretable interrogative feature also is in Fin in English, it constitutes a strong phase, as in non-finite cases. In that case, we need another uninterpretable feature on the *wh*-element--an uninterpretable Focus feature which can be checked by Foc, for instance:

- 618) ... [Foc [FinP do you [v*P wonder [FocP how_i [Foc [FinP Fin John
[OP]^{EPP} +[OP] [ØP]^{EPP}
+[QUES] [FØE] +[QUES]
could [v*P solve [Which problem] t₁]]]]]]]
+[OP]
[FOC]

In both (617) and (618), *which problem* is below lower v*P, which is a strong phase. It excludes intervening *how*, which matches the higher probe Foc in the operator feature.

(617) and (618) differ, however. In (617), there is no other strong phase that induces a violation. FinP of the embedded clause is the strong phase next to v*P but it does not exclude the intervening *wh*-phrase *how*, because *how* is in Spec,FinP. In (618), on the other hand, embedded FinP is another strong phase that excludes *how*. *how* is in Spec,FocP, which is projected above embedded FinP. Thus, higher Foc is prevented from agreeing with the *wh*-phrase below FinP. As a result, (618) violates the Intervention Condition by virtue of having two strong phases that block agreement between the higher probe and the *wh*-phrase in the embedded clause.⁹¹ The same explanation holds for other examples like (619) and (620).⁹²

- 619) [To whom]₂ did you wonder [what₁ [to give *t*₁ *t*₂]]?
- 620) *? [To whom]₂ did you wonder [what₁ [they gave *t*₁ *t*₂]]?
- (Cinque 1990, 52; Chomsky 1986, 36-39)

⁹¹ One implication is that even if we invoke Object Shift of the *wh*-phrase to a pre-v*P position in the embedded clause, (618) still violates the Intervention Condition.

⁹² (620) seems slightly worse than (616). This may be related to the fact that two objects are moved.

strong phase that excludes it but includes the *wh*-phrase. In (624), however, there is another strong phase that does the same, namely FinP. Thus, the situation of this pair is parallel to that of the finite/non-finite pair discussed above.

4.3.4. Opacity Condition

4.3.4.1. *Definition*

My proposal of the Opacity Condition has its primary goal in laying out a condition in a Minimalist manner, to cover phenomena predicted by the Complex NP Constraint. Unlike the PIC or the Subjacency condition, this condition does not obligate a phrase to stop by at the left edge of every clause or phase. It allows a phrase to move directly from a position within an embedded clause to the matrix position. But it disallows some of the movements that cross complex NP projections. We will discuss a few different syntactic constructions to illustrate how they violate or escape from the Opacity Condition.⁹⁴

The Opacity Condition makes reference to the derivational history of strong phases. It is important to know whether the projection of a given strong phase follows the projection of some strong phase and precedes the projection of another strong phase. The condition refers to a structure in which two sequentially built strong phases occur in a specified environment. When a given structure meets the specification, it claims that

⁹⁴ However, it is not our current goal to account for all the differences in degrees of acceptability across different syntactic constructions. This is reasonable under the assumption that other syntactic and/or semantic conditions may interplay with the proposed condition, which will not be discussed in this thesis.

some specified constituent becomes unavailable for future movement operations; i.e., this category and the categories within it can no longer be candidates to be moved. This prohibits some categories to be selected for movement; however it does not prohibit agreement. Thus, when alternative constructions are available which do not obligate movement, the same agreement may hold and the condition does not apply. The condition applies derivationally as phases are projected. Let us go over the condition:

OPACITY CONDITION:

- 625) An opaque category may not be moved.
- 626) At PH^n , a category Y in PH^{n-1} in $[_{PH^n} PROBE [\dots [_{XP} \dots [_{PH^{n-1}} \dots Y \dots]]]]$ becomes opaque iff:
- a. PH^n and PH^{n-1} are strong phases and PH^{n-1} is the previous strong phase;
 - b. no strong phases intervene between PH^n and PH^{n-1} ;
 - c. PROBE is the head of PH^n ;
 - d. PROBE c-commands and agrees with an offending category XP , where XP is not the complement of PH^n ; and
 - e. XP includes PH^{n-1} and XP is not PH^{n-1} .

The condition basically states that a category becomes opaque to movement when it is contained in two consecutively built strong phrases that are separated by an offending category, where an offending category refers to a category that the head of the higher strong phase c-commands and agrees with and is neither the complement of the head nor the lower strong phase.

“Two consecutively built strong phrases” means that the head of one strong phase is generated and the head of the other one is generated later. Two strong phrases are not

said to be consecutively built when one strong phase (or a projection containing one strong phase) is merged in the specifier of another strong phase (or a projection that contains another strong phase). They are not consecutively generated but they are generated in different lines of a projection. Their heads must be projected separately prior to the merge. One example of not consecutively built strong phases is the case in which a DP that contains a strong phase, say FP, merges to the specifier of v^*P , which is another strong phase. Each of the two strong phases can be the strong phase previous to another strong phase that is generated later. For instance, when a strong phase CP is projected above TP that contains the v^*P , CP_2 and v^*P form two consecutively built strong phases. CP and FP, which is contained in the DP that merged to the specifier of v^*P , also form two consecutively built strong phases.

To demonstrate the effects of the Opacity Condition, we will examine examples of embedded declaratives, noun-complement constructions, *wh*-questions, and relative clauses in English. We first need to determine which complementizer projection constitutes a strong phase in the three constructions in English. To be short, it is FinP in all these constructions, which means that interpretable Force features are in FinP regardless of the presence or absence of other complementizer projections above it. Following Rizzi (1997), I hypothesize that the declarative complementizer *that* can appear either as Fin when the clause has no (overt) phrase in pre-subject position, or as Force (C) when the clause has some (overt) phrase in that position. For *that*-relatives and noun-complement constructions, I assume the same. In *wh*-relatives, the *wh*-phrase lands in Spec, βP as discussed earlier.

634) ... [TopP next year [Top [FinP Fin Joe will [_v*P win [Which prize]]]]]
+ [OP]
+ [DECL] [FOC]

As in the case of (628), the embedded clause has two strong phases--FinP and v*P, where v*P is the previous strong phase. FinP is not a probe, thus nothing becomes opaque at this phase. TopP is projected and hosts the adjunct in the specifier.

Above TopP, CP, VP, and another v*P are projected:

635) [_{v*P} v* [_{VP} think [_{CP} that [_{TopP} next year [_{Top} [_{FinP} Fin Joe will [_{v*P} win [_{Which ...}

+[OP]

[DECL] +[DECL] [FOC]

[F]

We have said that v^* of think agrees with the complement clause. For the agreement, the head of the clause needs an uninterpretable feature [F]. But the interpretable declarative feature is in Fin. How can the agreement be successful?

This situation is similar to preposition pied-piping. In a PP *wh*-phrase like *to whom*, the operator feature originates in DP, and optionally the PP undergoes *wh*-movement. Webelhuth (1992) argues that such a PP must be turned into an operator before pied-piping, and proposes a mechanism in which an operator feature percolates to P. Let us adopt this idea and percolate the declarative feature to *that*-C. Then, we have the following structure:

636) [_{v*P} v* [_{VP} think [_{CP} that [_{TopP} next year [_{Top} [_{FinP} Fin Joe will [_{v*P} win [Which ...
[DECL] +[DECL]-----[] +[OP]
[F] [FOC]

In short, the derivations of both (615) and (616) violate the Intervention Condition, but only the latter violates the Opacity Condition. The same explanation holds for the finite/non-finite pair (621) and (622) with *whether*.

4.3.4.4. *Out of Noun-Complement Islands*

We have not discussed the structure of noun-complement constructions. The standard analysis is that a nominal phrase is projected above CP. Thus, the structure of the example like *the claim that Joe could solve the problem* is something like the following:

640) ... [_{DP} the claim [_{CP} that Joe could solve the problem]]

Important in this section is that above the clause, there is a nominal projection which holds Case feature and nominal ϕ features. The structure could be substantially more complicated, as instantiated in the analysis by Den Dikken and Sighapreecha (2002). In our current discussion, however, a simple structure and feature distribution like (641) will be sufficient to make a basic point:⁹⁵

641) ... [_{V*P} v* [_{VP} make [_{DP} the claim [_{FinP} that Joe could [_{V*P} solve the problem]]]]]
 [ϕ N] α [ϕ N] +[DECL]
 [CASE]

Let us examine an example of *wh*-movement crossing a noun-complement island:

⁹⁵ It is not crucial for this discussion whether the nominal *claim* is outside the clause or inside it. Important is that the nominal features ends up in a head above FinP, by virtue of some operation like head movement or feature percolation.

642) * Which problem did you make the claim that Joe could solve?

643) [_{v*P} v* [_{VP} make [_{DP} the claim [_{FinP} that Joe could [_{v*P} solve [Which problem]]]]]]

			+ [OP]
[ϕ N]	α [ϕ N]	+ [DECL]	[FOC]
	[CASE]		

In (643), FinP is a strong phase, but Fin is not a probe. At FinP, nothing becomes opaque. The next strong phase is the matrix v*P. Head v* is a probe, and it agrees with DP in nominal features. Under this agreement, the Case feature of DP is deleted. DP is in an agreement relationship with the probe v*, it is not the complement of v*, and it includes the previous strong phase FinP. At this phase, categories in FinP become opaque. Consequently, the movement of *which problem* beyond matrix v*P violates the Opacity Condition.

4.3.4.5. Out of Relative-Clause Islands

The structure of post-nominal relative constructions is similar to that of noun-complement constructions in that there is a nominal projection above a clause. The derivation of post-nominal clauses can be more complicated if it involves operator movement. One example is *the student who could solve the problem*. We have discussed in the previous chapter that the derivation of *wh*-relatives involves movement of the *wh*-phrase to some complementizer projection, and from within the *wh*-phrase, the ‘head’ noun phrase raises, as illustrated below:

644) ... [_{βP} ‘head’ n.p. [β [_{αP} [_{DP} Op ...] [α [_{TP} ... *t*_{DP}]]]]

We would like to determine which complementizer projection the *wh*-phrase may land in. It is reasonable to conjecture that it lands in Spec,FocP in English *wh*-relatives, taking

- 647) ... [_{CP} [student]₂] [_C [_{FocP} [who t₂]_i] [_{Foc} [_{FinP} Fin t₁ could [_{v*P} solve the problem]]]]]
- [DEF] [~~DEF~~]^{EPP} +[OP] [~~OP~~]^{EPP}
- +[REL]
- [F] [FOC]

Finally, DP is projected above CP:

- 648) $[_{DP} \text{the } [_{CP} [\text{student}]_2 [\text{C } [_{FOCP} [\text{who } t_2]_1 [\text{Foc } [_{FinP} \text{Fin } t_1 \text{ could } [_{v*P} \text{solve}$
 $\dots]]]]]]]]$
 $\alpha[\phi N]$ $-[\text{DEF}]$ $[\text{DEF}]^{EPP}$ $+[\text{OP}]$ $[\text{OP}]^{EPP}$ $+[\text{REL}]$
 $[\text{CASE}]$ $[\text{F}]$ $[\text{FOC}]$

We take the above structure to be the basic structure of a DP derived by the relative clause formation. Let us examine the case of *wh*-movement that crosses a relative clause island. The following sentence is a typical example that violates the Complex NP constraint:

- 649) * Which problem do you know the student who could solve?

Partially derived, after the construction of DP, is the following:

- 650) ... [_{v*p} v* [_{VP} know [_{DP} the [_{CP} [student]₂] [_C [_{FocP} [who t₂]₁] [_{Foc} [_{FinP} Fin t₁
-[DEF] [~~DEF~~]^{EPP} +[OP] [~~OP~~]^{EPP}
[φN] α[φN]
[CASE] [F] [FOC]
could [_{v*p} solve [Which problem]]]]]]]]
+[OP]
[FOC]

Matrix v^*P is a strong phase, and its head v^* is a probe. v^* agrees with DP in the nominal features. v^* assigns Case to DP. DP is not the complement of v^* , and it includes the previous strong phase FinP. Thus, the categories in FinP become opaque,

English and the like. It does not however rule out movements crossing multiple clauses of certain feature configurations. This is one advantage over the PIC or old Subjacency conditions. Another advantage, which we have not discussed, is that it does not constrain movements across relative clause islands of pre-nominal relatives under certain configurations. This will be discussed in the next chapter.

5. Movements in Japanese Relativization

In this chapter, I will demonstrate effects of the two locality conditions on movements involved in Japanese relativization. The preliminaries in the first section discuss feature allocations and their reasons. I will then discuss locality effects in various constructions.

5.1. Background

5.1.1. Review of Data

As discussed in Chapter 1, the relativization of an argument out of a clause contained in a noun phrase exhibits different degrees of acceptability depending upon whether the argument is a subject or not and whether it is contained in a subject or not:

OBJECT OUT OF OBJECT:

- 653) ?* [[keikan-ga [[e_2 e_1 yuukai-si-ta] otoko₂]-wo naguri.taosi-ta] syoozyo₁]
 officer-NOM kidnap-do-PST man-ACC knock.down-PST girl
 ‘the/a girl who a police officer knocked down the man who kidnapped her’
- 654) ?* [[noraneko-ga [[e_2 e_1 katte-i-ta] syoonen₂]-wo oikake.mawasi-ta] inu₁]
 stray.cat-NOM own-I-PST boy ACC follow.around-PST dog
 ‘the/a dog that a stray cat followed around the boy who owned it’

SUBJECT OUT OF OBJECT:

- 655) ?? [[keikan-ga [[e_2 e_1 yuukai-si-ta] syoozyo₁]-wo naguri.taosi-ta] otoko₂]
 officer-NOM kidnap-do-PST girl-ACC knock.down-PST man
 ‘the/a man who a police officer knocked down the girl who he kidnapped’

- 656) ?? [[noraneko-ga [[e_2 e_1 katte-i-ta] inu₁]-wo oikake.mawasi-ta] syoonen₂]
 stray.cat-NOM own-I-PST dog ACC follow.around-PST boy
 ‘the/a boy that a stray cat followed around the dog that he owned’

OBJECT OUT OF SUBJECT:

- 657) ?? [[[[e_2 e_1 yuukai-si-ta] otoko₂]-ga keikan-wo naguri.taosi-ta] syoozyo₁]
 kidnap-do-PST man-NOM officer-ACC knock.down-PST girl
 ‘the/a girl who the man who kidnapped her knocked a police officer down’
- 658) ?? [[[[e_2 e_1 katte-i-ta] syoonen₂]-ga noraneko-wo oikake.mawasi-ta] inu₁]
 own-I-PST boy-NOM stray.cat ACC follow.around-PST dog
 ‘the/a dog that the boy who owned followed around a stray cat’

SUBJECT OUT OF SUBJECT:

- 659) [[[[e_2 e_1 yuukai-si-ta] syoozyo₁]-ga keikan wo naguri.taosi-ta] otoko₂]
 kidnap-do-PST girl-NOM officer-ACC knock.down-PST man
 ‘the/a man who the girl who he kidnapped knocked a police officer down’
- 660) [[[[e_2 e_1 katte-i-ta] inu₁]-ga noraneko-wo oikake.mawasi-ta] syoonen₂]
 own-I-PST dog-NOM stray.cat ACC follow.around-PST boy
 ‘the/a boy who the dog that he owned followed around a stray cat’

These examples illustrate that Japanese sentences that involve relativization of an object out of an object relative clause are not acceptable, while sentences that involve relativization of a subject out of a subject relative clause are perfectly acceptable. The acceptability of sentences involving relativization of a subject out of an object and relativization of an object out of a subject are somewhere between them.

Relativization of a genitive phrase patterns similarly to the relativization of a subject. Sentences involving relativization out of a subject are acceptable while sentences involving relativization out of an object are less than perfect.

GENITIVE OUT OF OBJECT:

- 661) ?? [[doroboo-ga [[e_2] musume₁]-wo naguri.taosi-ta] keikan₂]
 burglar-NOM daughter-ACC knock.down-PST officer
 ‘the/a police officer whose daughter a burglar knocked down’
- 662) ?? [[noraneko-ga [[e_2] kai.inu₁]-wo oikake.mawasi-ta] syoonen₂]
 stray.cat-NOM pet.dog-ACC follow.around-PST boy
 ‘the/a boy whose pet dog a stray cat followed around’

GENITIVE OUT OF SUBJECT:

- 663) [[[[e_2] musume₁]-ga doroboo-wo naguri.taosi-ta] keikan₂]
 daughter-NOM burglar-ACC knock.down-PST officer
 ‘the/a police officer whose daughter knocked a burglar adown’
- 664) [[[[e_2 kai.inu₁]-ga noraneko-wo oikake.mawasi-ta] syoonen₂]
 pet.dog-NOM stray.cat-ACC follow.around-PST boy
 ‘the/a boy whose pet dog followed around a stray cat’

In the Government-Binding framework, movement crossing a relative clause is considered as a Subjacency violation, whether or not the clause is a subject or object relative clause. The exceptional behavior of Japanese relative clauses has been observed by many researchers most notably Kuno (1973), Hasegawa (1984/5), and others. Several analyses have been proposed to account for the acceptability of the relativization of a subject out of a subject, centering on the question of whether operator-movement takes place in the derivation of Japanese relatives analogous to *wh*-movement in English or the like. Among many approaches, there are two movement approaches that argue for movement of a null operator and attribute the unacceptability (or awkwardness) of relativization out of a relative clause to Subjacency effects. In order to account for the exceptional acceptability of relativization of a subject out of a subject, Hasegawa (1984/5) and Kameshima (1989) present the possibility of a null pronominal (PRO in

Hasegawa (1984/5) and *pro* in Kameshima (1989)) in Japanese for the empty category in a subject position. Sakai (1990) and Ishii (1991), on the other hand, relate the acceptability of relativization of a subject out of a subject to the availability of the so-called “major subject” construction in Japanese (proposed by Sakai (1990)), whose derivation precedes operator movement. The derivation of the “major subject” leads to move a subject inside a subject nominal to a position outside the nominal. The derived position is an adjunct position to the highest clause, and from that position relativization of a subject takes place.

5.1.2. Sakai and Ishii’s Approach

One of Ishii’s arguments for a movement approach is based on the observation by Chao and Sells (1983) that resumptive pronouns in English do not allow interpretation as bound variables, and cannot take non-existential quantificational expressions like *everyone* and *no one*. For Japanese relatives, Ishii cites Oka’s (1988) observation that the ‘head’ of a relative can be a non-existential quantificational expression in short distance relativization and relativization crossing complement clauses:

- 665) [Bill-ga [John-ga e_1 nagut-ta-to] omotte-iru] dono onna₁-mo ...
 B.-NOM J.-NOM hit-PST-DECL think-I which woman-MO
 ‘every woman who Bill thinks that John hit ...’
 (Oka’s 1988, cited in Ishii 1991, 46)

On the other hand, this is not the case in relativization of an object out of a relative clause:

- 666) * [Bill-ga [[e_2 e_1 nagut-ta] otoko₂-wo] ketobasi-ta] dono onna₁-mo ...
 B.-NOM hit-PST man-ACC kick-PST which woman-MO
 ‘every woman who Bill kicked the man who hit ...’
 (Oka’s 1988, cited in Ishii 1991, 46)

Ishii (1991) finds, however, that relativization of a subject out of a subject allows the ‘head’ of the relative to be a non-existential quantificational expression:

- 667) [[[e_2 e_1 kite iru] yoohuku₂-ga] yogorete-iru] dono sinshi₁-mo ...
 wear-I suit-NOM dirty-I which man-MO
 ‘every man who the suit that he is wearing is dirty ...’
 (Ishii 1991, 80)

Ishii concludes that relativization of a subject out of a subject does not involve a resumptive pronoun and it is an instance of short-distance movement from a “major subject” position.

Ishii (1991) adopts Sakai’s (1990) analysis on the derivation of a “major subject”.

Sakai (1994) argues that relativization of a subject out of a subject is constructed by relativizing the “major subject”, which is an additional subject in the highest relative clause. Sakai (1994, 183) cites the following example of the “major subject”, quoting Kuno (1973) for the original observation:

- 668) Mary-ga (saisyō-ni) tukatte-i-ta computer-ga kowarete-simat-ta
 M.-NOM (first-DAT) use-I-PST computer-NOM break-finish-PST
 ‘It is Mary that the computer that she was using has broken first.’

Sakai claims that “major subjects” are derived by the Case-conversion operations which he claims to be instances of A-movements. *Mary-(ga)* in (668) moves from the subject of

the relative clause to the “major subject” position of the matrix clause by two Case-conversion operations: Ga-No conversion and Subjectivization. These movement operations are illustrated below (Sakai 1994, 190):

- 669) (saisyō-ni) [_{NP} [_S Mary-ga tukatte-i-ta] computer-ga] kowarete-simat-ta
 (first-DAT) M.-NOM use-I-PST computer-NOM break-finish-PST

GA-NO CONVERSION:

- 670) (saisyō-ni) [_{NP} Mary-no_i [_S *t*_i tukatte-i-ta] computer-ga] kowarete-simat-ta
 (first-DAT) M.-GEN use-I-PST computer-NOM break-finish-PST

SUBJECTIVIZATION:

- 671) Mary-ga_i (saisyō-ni) [_{NP} *t*_i [_S *t*_i tukatte-i-ta] computer-ga] kowarete-simat-ta
 M.-NOM (first-DAT) use-I-PST computer-NOM break-finish-PST

In (670), the Ga-No conversion moves *Mary* to the genitive position of the noun phrase whose ‘head’ is *computer*. In (671), the Subjectivization moves *Mary* to the “major subject” position of the matrix clause. Each of these operations produces a grammatical sentence. If relativization takes place from the “major subject” position, then Subadjacency will not be violated. Sakai attributes the absence of Subadjacency effects in relativization of a subject/genitive out of a subject in Japanese to the possibility of Case-conversion operations.

Contrary to what Sakai claims, however, there are cases of relativization of a subject/genitive out of a deeply embedded subject which are acceptable but whose intermediate Case-conversions produce unacceptable results. The following relative is acceptable, which forms relativization of a subject out of three subjects:

- 672) [_{DP} [_{TP} [_{DP} [_{TP} [_{DP} [_{TP} [_{DP} [_{TP} *e*₁ *e*₂ tukiatte_i- ta] zyosei_{i2}]-ga *e*₄ hihan-si-ta] seizika₄]
 date-I-PST woman-NOM criticize-do-PST politician

-ga e_6 yatotte-i-ta] kaseihu₆]-ga huhoo.izyuu-de tukamat-ta] otoko₁]
 -NOM employ-I-PST maid-NOM illegal.immigration-with be.caught-PST man
 ‘the man who was dating a woman who criticized a politician who has hired a
 maid who was caught for her illegal immigration’

Under Sakai’s analysis, the first Ga-No conversion and the first Subjectivization will produce the following sentence:

- 673) [TP otoko₁-ga [DP t'_1 [TP t_1 e_2 tukiatte-i- ta] zyosei₂]-ga seizika₄-wo hihan-si-ta]
 man-NOM date-I-PST woman-NOM politician-ACC criticize-do-PST
 ‘The man_i is such that he_i was dating a woman who criticized a politician.’

The next step is to relativize the object *seizika* ‘politician’. However, this relativization produces an unacceptable nominal phrase:

- 674) * [DP [TP otoko₁-ga [DP t'_1 [TP t_1 e_2 tukiatte-i-ta] zyosei₂]-ga e_4 hihan-si-ta] seizika₄]
 man-NOM date-I-PST woman-NOM criticize-do-PST politician
 ‘the/a politician who the man_i is such that he_i was dating a woman who criticized.’

The relativization of an object of a clause that contains a “major subject” does not seem to be allowed. The subsequent Ga-No conversion also produces an unacceptable nominal phrase:

- 675) * [DP otoko₁-no [TP t''_1 [DP t'_1 [TP t_1 e_2 tukiatte-i- ta] zyosei₂]-ga e_4 hihan-si-ta]
 man-GEN date-I-PST woman-NOM criticize-do-PST
 seizika₄]
 politician

The unacceptability of the intermediate steps makes it difficult to rely on the Case-conversion operations for the absence of island effects. The data indicate that relativization out of a clause below a “major subject” is not possible. This means that the

object *seizika* ‘politician’ in (672) must be relativized from a clause that does not contain a “major subject”, and that the subject *otoko* ‘man’ must either be relativized or Case-converted from a lower position than predicted.

5.1.3. Connectivity

Reflexives like *kare-zisin* ‘himself’ exhibit local binding (Katada 1991). When these reflexives occur in a non-subject position of the (lowest) embedded clause, it cannot take the subject of the matrix clause or the subject of the higher embedded clause as its antecedent:

- 676) *keikan_k-wa [Joe_j-ga [*kare-zisin* *_{k/j}-ni tuite-no kizi wo] kai-ta-to] omot-ta.*
 officer-TOP Joe-NOM himself-DAT about-GEN article-ACC write-PST think-PST
 ‘The police officer thought that Joe wrote an article about himself*_{k/j}.’

When the object that contains *kare-zisin* is scrambled to the left of the highest subject as illustrated below, it can take either the subject of (or an indirect object if present) the most deeply embedded clause or the subject of the highest clause:

SCRAMBLED:

- 677) [*kare-zisin* _{k/j}-ni tuite-no kizi wo]₁ *keikan_k-wa [Joe_j-ga t₁ kai-ta-to] omot-ta.*
 himself-DAT about-GEN article-ACC officer-TOP Joe-NOM write-PST think-PST
 ‘The police officer thought that Joe wrote an article about himself_{k/j}.’

I find that a reflexive in the ‘head’ of a relative clause exhibits a similar binding pattern. When *kare-zisin* appears inside the ‘head’ of a relative, it can take as its antecedent either the subject (or an indirect object if present) or the subject of the highest clause of the relative clause:

RELATIVIZED:

- 678) [[keikan_k-ga [Joe_j-ga *t*₁ kai-ta-to] omot-ta] [kare-zisin_{kj}-ni tuite-no kizi]₁]
 officer-NOM Joe-NOM write-PST think-PST himself-DAT about-GEN article
 ‘the article about himself_{kj} that the police officer thought that Joe wrote.’

I take the binding behavior of a reflexive in a relative ‘head’ parallel to that of a reflexive in a scrambled phrase as a sign that relativization involves movement.

5.2. Preliminaries

5.2.1. Subject Positions in Japanese

We have discussed that a clause in Japanese is composed of two CPs, one of which is a complement of a null V, as illustrated below:

S(O)V:

- 679) ... [FinP₂ Subj₁ Fin [TP₂ T [VP₂ [CP₁ [SP ... Obj₂ S ... [FinP₁ Fin [TP₁ [VP₁ *t*₁ [VP₁ V *t*₂]]
 T *t*_{VP1}]]] C *t*_{SP}] V [VP₂ V_{ATT} *t*_{CP}]]]] ...

OSV:

- 680) ... [FinP₂ Fin [TP₂ T [VP₂ [CP₁ [SP ... Obj₂ S ... [FinP₁ Subj₁ Fin [TP₁ [VP₁ *t*₁ [VP₁ V *t*₂]]
 T *t*_{VP1}]]] C *t*_{SP}] V [VP₂ V_{ATT} *t*_{CP}]]]] ...

In relative clauses and nominalized clauses, the null V above lower CP is the (null) Attributive ending in a relative clause (in Modern Japanese). Also recall that the transitive object lands in one of the complementizer projections in lower CP, and that a *ga*-marked subject may appear in the higher or lower Spec,FinP.

As we will discuss below, successful movement out of a relative clause island depends upon the availability of higher Spec,FinP. Suppose that the following two CPs

are consecutively built strong phases, and A and B are positions from which movement may take place:

681) [_{CP2} ... A ... [_{CP1} ... B ...] ...]

Suppose that CP2 is a probe and there is an offending category XP somewhere between CP2 and CP1. Then, B becomes opaque to movement. Suppose further that a DP is projected above CP2 and this DP is merged to Spec,v*P, the specifier of another strong phase:

682) [_{v*P} [_{DP} ... [_{CP2} ... A ... [_{CP1} ... B ...] ...]] [v* ...]]

v*P and CP2 will not form consecutively built strong phases since they are projected separately. At this stage, nothing in Spec,v*P newly becomes opaque. More projections are built including another strong phase CP3:

683) [_{FinP} Fin ... [_{CP3} ... [_{v*P} [_{DP} ... [_{CP2} ... A ... [_{CP1} ... B ...] ...]] [v* ...]]]]

Suppose that CP3 does not contain an offending category XP, and therefore its projection does not result in opacity of elements. Then, DP moves to Spec,FinP:

684) [_{FinP} [_{DP} ... [_{CP2} ... A ... [_{CP1} ... B ...] ...]] [Fin ... [_{CP3} ... [_{v*P} *t*_{DP} [v* ...]]]]]

More projections are built and there is a probe with EPP that seeks a target in A or B:

685) [PROBE ... [_{FinP} [_{DP} ... [_{CP2} ... A ... [_{CP1} ... B ...] ...]] [Fin ... [_{CP3} ... [_{v*P} *t*_{DP} [v* ...]]]]]]

While the probe may find a target in B, it is opaque to movement. Thus the movement will violate the Opacity Condition. Movement from A is not ruled out by the condition since A is not opaque.

More projections are built including another strong phase CP4:

686) $[_{CP4} \dots [\dots [_{FinP} [_{DP} \dots [_{CP2} \dots A \dots [_{CP1} \dots B \dots] \dots]] [_{Fin} \dots [_{CP3} \dots [_{v^*P} t_{DP} [_{v^*} \dots]]]]]]]]$

Suppose that CP4 is a probe and there is an offending category XP somewhere between CP4 and FinP. CP4 and CP3 form consecutively built strong phases. Thus, categories under CP3 become opaque. Looking into Spec,FinP, on the other hand, CP4 and CP2 do not form consecutively built strong phases; the strong phase previous to CP4 is CP3 and CP2 is the strong phase previous to CP3. Thus, no category inside CP2 newly becomes opaque. This means that A is still visible to movement at this point while B has become opaque since the projection of CP2. This configuration is basically a model structure involved in relativization out of a subject relative clause island. In the model, A corresponds to the subject of the relative clause and B an object.

Let us turn to possible derivations under CP3. First, a DP may be projected under v*P, a strong phase. The DP may be just like the one introduced, in which categories in CP1 (e.g., F) have become opaque to movement since the projection of CP2:

687) $[_{v^*P} t_{DP} [_{v^*} \dots [_{DP} \dots [_{CP2} \dots E \dots [_{CP1} \dots F \dots] \dots]]]]$

v*P and CP2 form consecutively built strong phases. Suppose that v*P is a probe and there is an offending category XP somewhere between v*P and CP2. Then, categories under CP2 become opaque to movement; that is both E and F become opaque. Since F has already become opaque once, this is the second time that it becomes opaque.

688) $[_{v^*P} t_{DP} [_{v^*} \dots [_{DP} \dots [_{CP2} \dots E \dots [_{CP1} \dots F \dots] \dots]]]]$

More projections are built including CP3:

689) [FinP Fin ... [CP3 ... [v*P t_{DP} [v* ... [DP ... [CP2 ... E ... [CP1 ... F ...] ...]]]]]]

As in the case of (683), suppose that CP3 is does not contain an offending category XP, and therefore its projection does not result in opacity of elements. Finally, a probe with EPP is projected which seeks a target in E or F:

690) [PROBE ... [FinP Fin ... [CP3 ... [v*P t_{DP} [v* ... [DP ... [CP2 ... E ... [CP1 ... F ...] ...]]]]]]

While the probe may find a target in E or F, they are opaque to movement. E became opaque at the projection of v*P, and F became opaque at the projection of CP2 and at the projection of v*P. This configuration is basically a model structure involved in relativization out of an object relative clause island. In the model, E corresponds to the subject of the relative clause and F an object.

5.2.2. Basic Allocation of Features

We first would like to discuss what features might drive these clause internal derivations, focusing on those features that interact with derivational steps particular to relativization. First of all, we have two movements of predicates: movement of vP/v*P to Spec,TP, and movement of CP to Spec,vP. These movements are basic processes to form verbal morphology, and they are driven by some verbal feature checking. While identifying such features is important for a complete description of the derivation, these features do not, under my analysis, directly interfere with the determination of

relativizability of some elements. For this reason, we only acknowledge their existence and abstract away from their representations.

5.2.2.1. *Case Features*

We have discussed in Chapter 2 that overt nominal phrases may be DP, KP, or PP. We introduced the KP approach to Case-assignment for Japanese. We proposed that there are three roles involved in Case-assignment, as in (691):

- 691) For overt DPs, their Case-assignments involve three roles: (i) a Case-assigner (e.g., K, an overt realization of Case), (ii) a target DP of Case-assignment, and (iii) a “Case-binder”.

We now must define their relationships in more detail. We will employ roughly the same core mechanism, namely the agreement mechanism, as discussed for English.

In our KP system, an overt non -predicative DP, which is subject to Case-assignment, has two relationships. One is with a “Case-binder” and one is with a Case-assigner (K or C). I assume that these relationships are expressed via agreement in overt syntax. A “Case-binder” checks the uninterpretable (abstract) Case feature [CASE] of a D of DP upon agreement with the D with respect to the nominal features. (This relationship corresponds to that of Case-assignment in English). On the other hand, a Case-assigner is a (overt or null) morphological reflection of the abstract Case. It has a morphological Case feature +[KASE]. A D has the uninterpretable morphological Case feature [KASE], in addition to the uninterpretable (abstract) Case feature [CASE]. The uninterpretable morphological Case feature [KASE] of a D is checked by the Case-assigner upon

agreement. The agreement is established when they agree with respect to the nominal features (or other features in DP such as a Definite feature). When a head serves as a “Case-binder” as well as a Case-assigner, it has both the ability to check the abstract Case feature [CASE] and the morphological Case feature [KASE] of a D.

The feature distribution of a target DP is illustrated in the following:

$$\begin{array}{l}
 692) \quad [_{DP} D \quad QP \quad] \\
 \quad \quad \quad \alpha[\phi N] \\
 \quad \quad \quad \pm[DEF] \\
 \quad \quad [KASE] \\
 \quad \quad [CASE]
 \end{array}$$

Adopting the standard assumption, the nominal features are generated in the nominal head, which is below QP and the uninterpretable Case features are generated in D.

We maintain, as in the standard analysis, that the movement of a subject DP in Japanese is mediated by nominal feature agreement. The agreement, however, is with Fin. The clausal structures involved in their agreement are illustrated below:

S(O)V:

$$\begin{array}{l}
 693) \quad [_{FinP2} Fin [_{TP2} T [_{VP2} [_{CP1} \dots (Obj) \dots [_{FinP1} Fin [_{TP1} [_{VP1} Subj [_{VP1} V \ t_2]] T \ t_{VP1}]]]] \\
 \quad \quad \quad [\phi N]^{EPP} \quad \quad \quad \alpha[\phi N] \\
 \quad \quad \quad \quad \quad \quad \quad \pm[DEF] \\
 \quad \quad \quad \quad \quad \quad \quad [CASE] \\
 \quad \quad \quad \quad \quad \quad \quad [KASE] \\
 \quad \quad \quad +[KASE] \\
 \quad \quad \quad +[FIN] \\
 \quad \quad C \ t_{SP}]]]]
 \end{array}$$

OSV:

$$\begin{array}{l}
 694) \quad [\text{FinP} \text{ Fin } [\text{TP}_1 [\text{vP}_1 \text{ Subj } [\text{VP}_1 \text{ V } t_2]] \text{ T } t_{\text{vP}_1}]]] \\
 \quad \quad \quad [\phi\text{N}]^{\text{EPP}} \quad \quad \quad \alpha[\phi\text{N}] \\
 \quad \quad \quad \quad \quad \quad \pm[\text{DEF}] \\
 \quad \quad \quad \quad \quad \quad [\text{CASE}] \\
 \quad \quad \quad +[\text{KASE}] \quad \quad [\text{KASE}] \\
 \quad \quad \quad +[\text{FIN}]
 \end{array}$$

The Case-assignment of a subject involves agreement with Fin with a +[Fin] feature, followed by movement to Spec,FinP, as discussed in Chapter 2. Fin with a +[Fin] feature is the “Case-binder” and Case-assigner of a subject. I assume that the uninterpretable nominal features of the Fin accompany an EPP feature:

$$\begin{array}{l}
 695) \quad [\text{FinP} \text{ Fin-}ga \dots [\text{v}^*\text{P} \dots [\text{DP} \text{ D} \quad \text{QP}] \dots]] \\
 \quad \quad \quad [\phi\text{N}]^{\text{EPP}} \quad \quad \quad \alpha[\phi\text{N}] \\
 \quad \quad \quad \quad \quad \quad \pm[\text{DEF}] \\
 \quad \quad \quad \quad \quad \quad [\text{CASE}] \\
 \quad \quad \quad +[\text{KASE}] \quad \quad [\text{KASE}] \\
 \quad \quad \quad +[\text{FIN}]
 \end{array}$$

I hypothesize that when the uninterpretable nominal features accompany an EPP feature, their agreeing interpretable features must be in D (or a head) that has an uninterpretable [CASE] feature. The Case-assigning Fin, which has uninterpretable nominal ϕ features with EPP, looks for a category that has these features. The underlining belief is that a category can be selected to be moved if the head of the category has the (interpretable) feature(s) that match(es) the uninterpretable feature of the probe. This hypothesis forces the interpretable nominal features in QP to percolate up to D prior to agreement:

$$\begin{array}{l}
 696) \quad [\text{FinP} \text{ Fin-}ga \dots [\text{v}^*\text{P} \dots [\text{DP} \text{ D} \quad \text{QP}] \dots]] \\
 \quad \quad \quad [\phi\text{N}]^{\text{EPP}} \quad \quad \quad \alpha[\phi\text{N}] \text{-----} [] \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \pm[\text{DEF}] \\
 \quad \quad \quad \quad \quad \quad [\text{CASE}] \\
 \quad \quad \quad +[\text{KASE}] \quad \quad [\text{KASE}] \\
 \quad \quad \quad +[\text{FIN}]
 \end{array}$$

Upon agreement, the two Case features of D and the nominal features of Fin are deleted, and the subject DP moves to Spec,FinP:

$$\begin{array}{lcl}
 697) & [\text{FinP } [\text{DP } D & \text{QP}] & [\text{Fin-}ga \dots [\text{v*P } \dots t_{\text{DP}} \dots]]] \\
 & \alpha[\phi\text{N}]-----[] & & [\phi\text{N}]^{\text{EPP}} \\
 & & \pm[\text{DEF}] & \\
 & [\text{CASE}] & & \\
 & [\text{KASE}] & & +[\text{KASE}] \\
 & & & +[\text{FIN}]
 \end{array}$$

I assume the same mechanism for the case in which Fin is null but the subject DP moves to Spec,FinP. For topicalization of the subject, on the other hand, the uninterpretable nominal features of Fin may lack an EPP although the agreement itself may take place. In this case, Top (realized as *-wa*) may have an EPP feature on some uninterpretable feature and the morphological Case feature $+[\text{KASE}]$.

An overt Accusative object KP headed by- *wo* will involve the following agreement relationships. The K has the uninterpretable nominal features accompanied by an EPP feature:

$$\begin{array}{lcl}
 698) & [\text{KP } K\text{-}wo & [\text{DP } D & \text{QP}]] \\
 & [\phi\text{N}]^{\text{EPP}} & & \alpha[\phi\text{N}] \\
 & & & \pm[\text{DEF}] \\
 & & [\text{CASE}] & \\
 & +[\text{KASE}] & [\text{KASE}] &
 \end{array}$$

The K and the D agrees and DP moves to Spec,KP, and the uninterpretable nominal features of K and the uninterpretable $[\text{KASE}]$ feature of D is deleted:

$$\begin{array}{lcl}
 699) & [\text{KP } [\text{DP } D & \text{QP}] & [\text{K-}wo \ t_{\text{DP}}]] \\
 & \alpha[\phi\text{N}]-----[] & & [\phi\text{N}]^{\text{EPP}} \\
 & & \pm[\text{DEF}] & \\
 & [\text{CASE}] & & \\
 & [\text{KASE}] & & +[\text{KASE}]
 \end{array}$$

Above KP, transitive VP and v*P are projected. v* of v*P is the “Case-binder” and has the uninterpretable nominal features:

$$\begin{array}{lcl}
 700) & [_{v^*P} \text{ SUBJ } [\text{ v}^* & [_{VP} \text{ V } [_{KP} [_{DP} \text{ D } \quad \text{ QP }] \text{ [K-wo } t_{DP}]]]]] \\
 & [\phi N] & \alpha[\phi N] \text{-----} [] \quad [\phi N]^{EPP} \\
 & & \pm[\text{DEF}] \\
 & & [\text{CASE}] \\
 & & [\text{KASE}] \quad \quad \quad +[\text{KASE}]
 \end{array}$$

The head v* agrees with the D of the object with respect to the nominal ϕ -features. Then, the nominal features of v* and the uninterpretable [CASE] features of the D are deleted:

$$\begin{array}{lcl}
 701) & [_{v^*P} \text{ SUBJ } [\text{ v}^* & [_{VP} \text{ V } [_{KP} [_{DP} \text{ D } \quad \text{ QP }] \text{ [K-wo } t_{DP}]]]]] \\
 & [\phi N] & \alpha[\phi N] \text{-----} [] \quad [\phi N]^{EPP} \\
 & & \pm[\text{DEF}] \\
 & & [\text{CASE}] \\
 & & [\text{KASE}] \quad \quad \quad +[\text{KASE}]
 \end{array}$$

An object DP may lack K, as we discussed, in which case a complementizer S of SP or Top of TopP serves as a Case-assigner for the object. In this case, the complementizer has a +[KASE] feature and checks the uninterpretable [KASE] feature of D. Top of TopP may have the uninterpretable Definiteness feature [DEF], and S of SP may have the same feature or an uninterpretable feature to check a quantificational D:

$$\begin{array}{lcl}
 702) & [\text{ Top/S } \dots \dots [_{v^*P} \text{ SUBJ } [\text{ v}^* & [_{VP} \text{ V } [_{DP} \text{ D } \quad \text{ QP }]]]]] \\
 & & [\phi N] \quad \quad \quad \alpha[\phi N] \\
 & [\text{DEF}]/[\text{X}]^{EPP} & \quad \quad \quad \pm[\text{DEF}] \\
 & & [\text{CASE}] \\
 & +[\text{KASE}] & [\text{KASE}]
 \end{array}$$

Upon agreement between the D and Top/S, the uninterpretable [KASE] feature of D is deleted.

5.2.2.2. *Features in Complementizers*

For verbs that take a clausal complement, we maintain roughly the same assumption as discussed for English. Its light verb v^* checks the Force feature of the clause:

$$703) \quad \begin{array}{ccc} [_{v^*P} \text{ SUBJ } [& v^* & [_{VP} V \text{ Clause }]]] \\ & [\alpha\text{FORCE}] & +[\alpha\text{FORCE}] \\ & & [F] \end{array}$$

The choice of Force features depends upon the selectional properties of verbs.

As for the movement of an object KP, it is not clear what triggers it. If accusative Case is already licensed by v^* within v^*P , what other features will trigger the movement to a pre-verbal position? In Japanese, overt arguments and adjuncts cannot occur post-verbally in embedded clauses. In main clauses, this is possible but only in right-dislocation constructions. Thus, this issue has much wider scope than what we can deal with at this point. We assume that there are some features that drive movements of overt objects and that these features may or may not be distinct from those features that are involved in Case agreements. We will tentatively assign an uninterpretable feature $[K]$ to the heads of overt objects to be moved, which can be checked by functional heads that induce topicalization or scrambling. To be more concrete, we understand movements of Case-assigned overt objects to operate on a feature configuration something like the following:

$$704) \quad \begin{array}{ccc} [_{SP} S & [& \dots \quad [_{XP} X \dots] \quad \dots \quad]] \\ & [X]^{EPP} & \pm[X] \\ & & [K] \end{array}$$

We take the content of the feature $[X]$ to be variable depending upon the inventory of the features that XP contains. There could be a number of possibilities. For scrambling or topicalization of nominal phrases, the feature could be a nominal ϕ feature, a definiteness feature, or the like.

Movements of a complementizer projection below CP to Spec,CP are basically driven by the need of checking finiteness or non-finiteness. This movement seems to occur in all embedded clauses. Take the declarative complementizer- *to*, for instance. It can occur with either the *ga*-marked subject or the accusative marked subject in adjectival predicate constructions. For ECM to work, *-to* needs to ‘know’ whether it is finite (*ga*-marking) or non-finite (the absence of *ga*-marking), so that it can ‘transmit’ accusative Case checking to the subject in the clause. If the finiteness specification is in Fin, C of CP will have the uninterpretable Finiteness feature with EPP:

$$\begin{array}{ll} 705) & [_{CP} C \quad [_{FinP} Fin \dots]] \\ & [FIN]^{EPP} \quad \pm[FIN] \end{array}$$

But we also need more features for the category that moves. It is reasonable to hypothesize that C has a Force feature in Japanese. Overt complementizers encode specifications of Force. Questions are marked by *-ka* and declaratives are marked by *-to*. Thus, the category to be moved may have an uninterpretable feature of Force. The following is the most straightforward case:

$$\begin{array}{ll} 706) & [_{CP} C \quad [_{FinP} Fin \dots]] \\ & [FIN]^{EPP} \quad \pm[FIN] \\ & +[\alpha FORCE] \quad [\alpha FORCE] \end{array}$$

Postulating a Force feature in C implies that CP will constitute a strong phase. Let us hypothesize that the highest complementizer is a strong phase in all types of clauses in Japanese. CP is the strong phase in the presence of both CP and FinP, and FinP is the strong phase in the absence of CP above it.

It is not, however, always the case that FinP moves to Spec,CP. TopP or SP projected above FinP may move to Spec,CP. We discussed a similar case in English earlier, and we have adopted the idea of percolation to mediate agreements. We will adopt the same mechanism for this case. If the category to be moved is α P, its head α will have an uninterpretable feature. The interpretable Finiteness feature of Fin percolates up to α :

$$\begin{array}{lcl}
 707) & [_{CP} C & [_{\alpha P} \alpha \dots \dots [_{FinP} Fin \dots]]] \\
 & \begin{array}{cc}
 [FIN]^{EPP} & \pm[FIN]-----[] \\
 +[\alpha FORCE] & [\alpha FORCE]
 \end{array}
 \end{array}$$

Then, C and α P agrees, and α P moves to Spec,CP.

5.2.2.3. *Relative Clauses*

In the previous chapter, we concluded that the derivation of pre-nominal relatives in Japanese involves movement of the ‘head’ QP to the specifier of a complementizer projection headed by an operator head, just below CP. After the ‘head’ QP-raising, the rest of the clause moves to Spec,CP. Above CP, QP and DP are projected. The resultant structure is the following:

$$708) \quad [_{DP2} D [_{QP2} Q [_{CP} [_{\alpha P} \dots [_{DP1} D \iota_{QP1}] \dots] [C [_{\beta P} [_{QP1}] [Op \iota_{\alpha P}]]]]]]$$

The internal make-up of αP in (708) is something like (679) or (680). The ‘head’ QP-movement takes place from within one of these structures .

As in English *wh*-relatives, movement of the ‘head’ of a relative is triggered by the uninterpretable definiteness feature. In Japanese, this feature is on the operator head.

The structure prior to the ‘head’ QP-raising is the following:

$$\begin{array}{lcl}
 709) & [\beta P \ \beta\text{-Op} & [\alpha P \ \dots [\text{DP} \ D \ [\text{QP}]] \ \dots]] \\
 & \begin{array}{l} +[\text{OP}] \\ [\text{DEF}]^{\text{EPP}} \end{array} & \begin{array}{l} [\text{OP}] \\ -[\text{DEF}] \end{array}
 \end{array}$$

The operator head has an uninterpretable definite feature $[\text{DEF}]$ with EPP to trigger agreement and movement of QP. The ‘head’ QP, on the other hand, has an interpretable indefinite feature $-[\text{DEF}]$ and an uninterpretable operator feature $[\text{OP}]$.⁹⁷

5.2.2.4. *Relative DPs*

Under the ‘raising’ analysis of relatives, the set of nominal ϕ features in a relative DP has two functions. One is to specify the person, number, and gender of the DP within the relative clause. Another is to specify the person, number, and gender of the larger DP

⁹⁷ The feature distribution and structure are analogous to those of *wh*-questions that we will introduce in the next chapter, although in the complementizer that agrees with the interrogative phrase is the question does not have an EPP feature:

$$\begin{array}{lcl}
 (i) & [\text{CP} \ C\text{-ka} & [\alpha P \ \dots [\text{DP} \ D \ [\text{QP} \ dare]] \ \dots]] \\
 & \begin{array}{l} +[\text{OP}] \\ [\text{WH}] \end{array} & \begin{array}{l} [\text{OP}] \\ +[\text{WH}] \end{array}
 \end{array}$$

I am following Nishigauchi (1990) and Cheng (1991) for the idea that in this language, it is the complementizer *-ka* that has the quantificational force while the *wh*-phrase is an indefinite. The postulation of a relative operator in the position of a complementizer is an extension of this idea.

that is created by the relative clause formation. In the Minimalist framework, these features are necessary to license Case features. Moreover, once the set of nominal ϕ features of a DP values the uninterpretable features of some head and Case is assigned to the DP, the set is no longer ‘active’ and cannot enter into an operation to receive another Case. If this Case assignment applies to a relative DP within a relative clause, something must be done to allow relative DPs to be associated with the two instances of Case licensing.

The most straightforward approach to this problem is to postulate two sets of nominal ϕ features within a relative DP: one set is used for Case licensing within the relative clause and the other for the larger DP. I propose the following feature distribution for Japanese pre-nominal relatives:

710)	[_{DP} D	[_{QP} Q NP]]]
	$\alpha[\phi N]$	$\alpha[\phi N]$
	[CASE]	[KASE]
		[OP]
		-[DEF]

In (710), the nominal ϕ features on D participate in agreement with the uninterpretable nominal ϕ features of a “Case binder” within a relative clause. The nominal ϕ features in QP, on the other hand, participate in “Case binding” of a larger DP after raising the QP. The [CASE] feature is in D as in an ordinary DP. The [KASE] feature, on the other hand, is postulated in Q in a relative DP.

Relative DPs headed by a relative pronoun in English will be slightly different, though they have two sets of the nominal ϕ features:

711)	[_{DP} D	[_{QP} Q NP]]]
	$\alpha[\phi N]$	$\alpha[\phi N]$
	[CASE]	
	+ [OP]	[F]
	[FOC]	-[DEF]

The difference between the two relative DPs is that the one in (710) is not an operator and the one in (711) is an operator. The difference is represented in their features.

We also hypothesize that in Japanese, definiteness/indefiniteness features originate in Q. The definite/indefinite distinction is not intrinsic to D but resides in Q (in this language). We assume this is the case not only in relative DPs but in all DPs. Thus, when a probe has an uninterpretable definiteness feature and seeks a matching feature, as illustrated below, an intervening DP may not be a potential blocking factor for agreement:

712)	Probe ... [DP ₁ D [QP ₁]] ... [PH ... [DP ₂ D [QP ₂]]]
	+ [OP] [OP]
	[DEF] ± [DEF] - [DEF]

In (712), the probe can agree with QP₂ because QP₁, which has a matching feature, does not c-command the strong phase PH. We do, however, consider percolation of features as a possibility. If the definiteness feature percolates up to D, then the D, and not the Q, will be the target of agreement with the probe.

5.2.2.5. *Absence of Overt K/P in Relative Clauses*

We hypothesized in Chapter 2 that there is no null counterpart of an overt K and P. This hypothesis is supported by the fact that the distribution of phrases marked by overt Ks and Ps is different from that of K-less and P-less phrases. We also observed that

the acceptability of relatives corresponds to that of pseudo -clefts that have K/P-less nominals outside the clauses. Also recall that the condition of occurrences of P-less adjunct phrases differ in pseudo-clefts from that of simple clauses. In particular, no non-time adjuncts can occur without an overt P in simple clauses; in pseudo-clefts, on the other hand, a subset of the non-time adjuncts can occur without an overt P. For instance, accompaniment can be expressed without the post-position *-to* when the clause contains an overt expression like *issyo* ‘together’ in the predicate position of a pseudo-cleft sentence. Instrumental adjuncts can occur in that position without the post-position *-de* when the verb phrase does not denote unaccusative achievement. From these facts, we concluded that the P-less nominal phrase that is extraposed to outside the cleft clause is “Case-bound” by a (functional) head that carries the relevant feature. Since this phenomenon is found only in pseudo-clefts and relatives, we have conjectured that it is Case-assigned by the nominalizing complementizer, and not by S or Top.

Let us review the data of relatives briefly. First, a phrase that expresses accompaniment occurs with the post-position *-to* ‘with’. However, the relativization of phrases of this type is not always well-formed. With verbs like *tukiau* ‘to date, to meet’, the phrase with *-to* can be relativized; on the other hand, with verbs like *benkyoo suru* ‘to study’, it is impossible:

- 713) Joe-ga Yoko-to tukiatte-i-ta.
 J.-NOM Y.-with date-I-PST
 ‘Joe was studying with Yoko at the library.’
- 714) [[Joe-ga *e* tukiattei- ta] hito]
 J.-NOM date-I-PST person
 ‘the person that Joe was dating’

- 715) tosyokan-de Joe-ga Yoko-to benkyoo site-i-ta.
 library-in J.-NOM Y.-with study do-I-PST
 ‘Joe was studying with Yoko at the library.’
- 716) * [[tosyokan-de Joe-ga *e* benkyoo site-i-ta] hito]
 library-in J.-NOM study do-I-PST person
 ‘the person that Joe was studying at the library’

With *benkyoo suru* ‘to study’, however, it is possible to relativize the phrase when an adverbial expression of accompaniment *issyo ni* ‘together’ accompanies:

- 717) [[tosyokan-de Joe-ga issyo-ni *e* benkyoo site-i-ta] hito]
 library-in J.-NOM together study do-I-PST person
 ‘the person that Joe was studying together at the library’

If post-position *-to* were syntactically present with no overt realization, there should be no discrepancies among these relatives.

Second, relativization of an instrumental adjunct is possible when the predicate does not denote unaccusative achievement predicates. When it does, the relativization is impossible:

- 718) [Joe-ga *e*₁ Paris-wo tat-ta] *hikooki*₁
 J.-NOM P.-ACC leave-PST airplane
 ‘the airplane by which Joe left Paris.’
- 719) [Joe-ga *e*₁ doa-wo ake-ta] *kagi*₁
 J.-NOM door-ACC open-PST key
 ‘the key with which Joe opened the door.’
- 720) ?* [Joe-ga *e*₁ Paris ni tui-ta] *hikooki*₁
 J.-NOM P.-DAT arrive-PST airplane
 ‘the airplane by which Joe arrived at Paris.’

- 721) * [Doa-ga e_1 ai-ta] *kagi*₁
 door-NOM open-PST key
 ‘the key with which the door opened.’

The contrast shows adjuncts’ sensitivity to the semantic property of the predicate when the overt P is absent.

Third, the denotation of post-position *-kara* ‘from’ is inaccessible in relatives. Verbs like *nigeru* ‘to escape’ may accompany a phrase followed by *-kara*, which is interpreted as the starting location of the action:

- 722) Joe-ga sono machi-kara nige-ta.
 J.-NOM that town from escape-PST
 ‘Joe escaped from the prison.’
- 723) [[Joe-ga e_1 nige-ta] *machi*₁]
 J.-NOM escape-PST town
 * ‘the town from which Joe escaped.’
 ‘the town toward (or ?passing through) which Joe escaped.’

On the other hand, it is possible to obtain the intended interpretation by using a compound verb like *nigedasu*, which literally means to escape out (of):

- 724) [[Joe-ga e_1 nige.dasi-ta] *machi*₁]
 J.-NOM escape.out-PST town
 ‘the town that Joe escaped from.’

However, the origin of the relativization is not necessarily the *-kara* phrase. The compound verb *nigedasu* can take an accusative marked object to express a point of departure, but the verb *nigeru* may not:

- 725) Joe-ga sono machi-kara/wo nige.dasi-ta.
 J.-NOM that town from/ACC escape.out-PST
 ‘Joe escaped from that town.’
- 726) ?* Joe-ga sono machi-wo nige-ta.
 J.-NOM that town from escape-PST
 ‘Joe escaped from that town’

Thus, the relativizability of phrases of this type depends upon the availability of an Accusative object. In short, post-position *-kara* is not syntactically represented in relativization of phrases of this type.⁹⁸

Based on the observation of these phenomena, we maintain that relative DPs are not generated with null counterparts of an overt K or P that Case-assign them. For those that allow relativization, we assume that the nominalizing complementizer serves as a Case-assigner, as in the case of pseudo-cleft sentences.

We incorporate this hypothesis to our feature agreement mechanism. Specifically, “Case-binding” and Case-assignment takes place under feature agreement. The nominalizing complementizer which serves as a Case-assigner has an interpretable +[KASE] feature. It should also have an uninterpretable feature. Let us say that the nominalizing complementizer has uninterpretable nominal features. A relative DP has an

⁹⁸ Also impossible is relativization of agent phrases in passives. In non-relative sentences, they are marked by the post-position *-ni*.

- (i) Joe-ga keikan-ni nagur-are-ta.
 J.-NOM officer-by strike-PSS-PST
 ‘Joe was struck by a police officer.’
- (ii) [[Joe-ga *e*₁ nagur-are-ta] *keikan*₁]
 J.-NOM strike-PSS-PST officer
 ‘the police officer whom Joe was struck by.’

uninterpretable Case features [CASE], and the ‘head’ QP has an uninterpretable [KASE] feature. If it is an object, then it is projected in a transitive VP, above which v*P is projected:

$$\begin{array}{lcl}
 727) & [_{v^*P} \text{ SUBJ } [& v^* [_{VP} V [_{DP} D \quad [QP]]]]] \\
 & [\phi N] & \alpha[\phi N] \quad \alpha[\phi N] \\
 & & [CASE] \quad [KASE] \\
 & & [OP] \\
 & & -[DEF]
 \end{array}$$

The v* is the “Case-binder” of the object. It agrees with the relative D, and the uninterpretable [CASE] of the D and the uninterpretable nominal features of the v* are deleted:

$$\begin{array}{lcl}
 728) & [_{v^*P} \text{ SUBJ } [& v^* [_{VP} V [_{DP} D \quad [QP]]]]] \\
 & [\phi N] & \alpha[\phi N] \quad \alpha[\phi N] \\
 & & [CASE] \quad [KASE] \\
 & & [OP] \\
 & & -[DEF]
 \end{array}$$

Then, the QP moves to Spec,βP, carrying [KASE] along, and above it a relative complementizer C is projected:

$$\begin{array}{lcl}
 729) & [_{CP} C \quad [_{\beta P} [QP] [\beta \quad [_{\alpha P} \dots [_{v^*P} \text{ SUBJ } [& v^* [_{VP} V [_{DP} D \quad t_{QP}]]]]]]]] \\
 & [\phi N] \quad \alpha[\phi N] & [\phi N] \quad \alpha[\phi N] \\
 & +[KASE] \quad [KASE] & [CASE] \\
 & & [OP] \quad +[OP] \\
 & & -[DEF] \quad -[DEF] \\
 & +[REL] &
 \end{array}$$

In (729), the relative C agrees with the head of the ‘head’ QP, and its uninterpretable nominal features and the uninterpretable [KASE] feature in the Q are deleted:⁹⁹

- 730) $[_{CP} C \ [_{\beta P} [QP] \ [\ \beta \ [_{\alpha P} \dots [_{v^*P} SUBJ \ [\ v^* \ [_{VP} V \ [_{DP} D \ t_{QP}]]]]]]]]]$
- $\begin{array}{ccc} [\phi N] & \alpha[\phi N] & [\phi N] \\ +[KASE] & [\cancel{KASE}] & \alpha[\phi N] \\ & & [\cancel{CASE}] \end{array}$
- $\begin{array}{cc} [\Theta P] & +[OP] \\ -[DEF] & [\cancel{DEF}] \end{array}$
- +[REL]

In Japanese, post-positions and Case-markers that may be present with overt nominal phrases are never present in relative clauses. In the above analysis of relative clauses, in which the relative complementizer functions as a Case-assigner, the presence of an overt K or a Case-assigning P would result in having two Case assigners. Let us consider the derivation in which a relative object is projected with KP. First, the [KASE] feature percolates up to D.

- 731) $[_{KP} [_{DP} D \ \ \ \ \ \ QP \] \ [K-wo \ t_{DP}]]$
- $\begin{array}{ccc} \alpha[\phi N] & \alpha[\phi N] & [\phi N]^{EPP} \\ & \pm[DEF] & \\ [CASE] & & \\ [\cancel{KASE}]-----[] & +[KASE] & \end{array}$

In (731), the relative D agrees with K with respect to the nominal features and the [KASE] feature, and upon agreement, the uninterpretable [KASE] feature of the relative D is deleted. The uninterpretable [CASE] feature in the relative D will also be deleted when v^*P is projected and it agrees with the transitive v^* :

⁹⁹ The raised QP in Spec, βP has nominal features and it is closer to relative C than relative D. The QP, however, would not block the nominal feature agreement between the C and the D unless the nominal features, which originate in NP or somewhere below QP, percolate up to the Q. See the structure of a relative DP in (710) above.

$$\begin{array}{l}
 732) \quad [{}_{v^*P} \text{SUBJ} [\text{v}^* [{}_{VP} V [{}_{KP} [{}_{DP} D \quad QP] [K-wo \quad t_{DP}]]]]] \\
 \quad \quad \quad [\phi N] \quad \quad \quad \alpha[\phi N] \quad \alpha[\phi N] \quad \quad [\phi N]^{EPP} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \pm[DEF] \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad [CASE] \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad [\cancel{KASE}] \quad +[KASE]
 \end{array}$$

At this point, the relative D becomes inactive because the uninterpretable [CASE] feature is checked and deleted, and in this distribution, the D has no remaining uninterpretable feature, which would have left the D active. Then, βP is projected and the QP moves to Spec, βP . When a relative complementizer is projected carrying the uninterpretable nominal features and a +[KASE] feature, the C will not agree with the relative D since the latter is already inactive:

$$\begin{array}{l}
 733) \quad [{}_{CP} C [{}_{\beta P} [QP] [\beta [{}_{\alpha P} \dots [{}_{v^*P} \text{SUBJ} [\text{v}^* [{}_{VP} V [{}_{KP} [{}_{DP} D \quad t_{QP}] [K-wo \\
 \quad \quad \quad [\phi N] \quad \alpha[\phi N] \quad \quad \quad [\phi N] \quad \quad \quad \alpha[\phi N] \quad \quad \quad [\phi N]^{EPP} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad [CASE] \\
 \quad \quad \quad +[KASE] \quad [\cancel{KASE}] \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad +[KASE] \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad [\phi P] \quad +[OP] \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad -[DEF] \quad [\cancel{DEF}] \\
 \quad \quad \quad +[REL] \\
 \quad \quad \quad t_{DP}]]]]]]]]]
 \end{array}$$

In (733), the C's uninterpretable nominal features remain unvalued and not deleted, and the derivation crashes.

This analysis implies that in subject relativization, the subject relative DP must not be Case-assigned by Fin with a +[Fin] feature, although it must be "Case-bound" by it. This means that the Fin does not have a +[KASE] feature in subject relativization. The derivation should be something like the following:

$$\begin{array}{l}
 734) \quad [\text{FinP} [\text{DP } D \quad \text{QP}] \quad [\text{Fin-}\emptyset \dots [\text{v*P} \dots t_{\text{DP}} \dots]]] \\
 \quad \quad \alpha[\phi\text{N}] \quad \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \\
 \quad \quad \quad \pm[\text{DEF}] \\
 \quad \quad \quad [\text{KASE}] \\
 \quad \quad [\text{CASE}]
 \end{array}$$

In (734), the Fin is a “Case-binder”, and it agrees with the subject relative D with respect to the nominal features. Under the assumption that the Fin has an EPP feature, the relative DP moves to SpecFinP. Since the Fin does not have a +[KASE] feature, the uninterpretable [KASE] feature of the Q remains unvalued. Then βP is projected and the ‘head’ QP raises to the specifier. When the relative complementizer is projected, which has a +[KASE] feature, the uninterpretable [KASE] feature of the Q is valued:

$$\begin{array}{l}
 735) \quad [\text{CP } C \quad [\beta\text{P} [\text{QP}] \quad [\beta \quad \dots [\text{FinP} [\text{DP } D \quad t_{\text{QP}}] \quad [\text{Fin-}\emptyset \dots [\text{v*P} \dots t_{\text{DP}} \dots]]]]]] \\
 \quad \quad [\phi\text{N}] \quad \alpha[\phi\text{N}] \quad \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \\
 \quad \quad +[\text{KASE}] \quad [\text{KASE}] \quad \quad \quad [\text{CASE}] \\
 \quad \quad \quad [\Theta\text{P}] \quad +[\text{OP}] \\
 \quad \quad \quad -[\text{DEF}] \quad [\text{DEF}] \\
 \quad \quad +[\text{REL}]
 \end{array}$$

In (735), the relative C agrees with the ‘head’ QP; the ‘head’ is still active having the uninterpretable [KASE] feature. Upon agreement, this [KASE] feature and the uninterpretable nominal features of the relative C are deleted.

The above analysis of the absence of overt Case-markers and Case-assigning post-positions in relative clauses in Japanese is contingent upon the fact that in a gapped relative, the relative C is always a Case-assigner carrying a +[KASE] feature and the uninterpretable nominal features so as to establish an agreement relationship with a relative D. In other words, a non-Case-assigning relative C is not available in gapped

pre-nominal relatives of this language.¹⁰⁰ In this view, languages that allow KP/PP-relativization or K/P-stranding in gapped relative clauses must have a non-Case-assigning relative C. The analysis implies that the set of features of a relative C that facilitates KP/PP-relativization and K/P-stranding differ from that of a relative C that does not allow them.

One obvious question is how this analysis can be extended to the cases of pseudo-cleft constructions. As discussed, pseudo-cleft constructions in Japanese allow nominals followed by an overt Case-marker or post-position to appear in the predicate position:

PSEUDO-CLEFT: *TO*-PP COMPLEMENT:

736) [Kanozyo-ga *e*₁ deeto si-ta no-wa] *Joe-no tomodachi*₁ da
 she-NOM date do-PST that-TOP Joe-GEN friend-(DAT) COP
 ‘It is a friend of Joe that she dated with.’

737) [Kanozyo-ga *e*₁ deeto si-ta no-wa] *Joe-no tomodachi-to*₁ da
 she-NOM date do-PST that-TOP Joe-GEN friend-(DAT) COP
 ‘It is a friend of Joe that she dated with.’

For the case in (736), in which the overt marker *-to* does not appear, we can analyze it analogously to the case of relatives, hypothesizing that the nominalizing complementizer of the pseudo-cleft is a Case-assigner carrying a +[KASE] feature and the uninterpretable nominal features. Recall that the “Case-binder” of the PP-complement is a null P, and that in the absence of the overt marker *-to*, KP is not projected below P. The following is a simplified structure:

¹⁰⁰ A non-Case-assigning relative C should be available in relatives with overt resumptive pronouns.

$$\begin{array}{lcl}
 738) & [_{CP} C & [\dots [_{v^*P} SUBJ \dots [_{PP} P-\emptyset [_{DP} D \quad QP]]]]] \\
 & [\phi N] & [\phi N] \quad \alpha[\phi N] \\
 & +[KASE] & \quad \quad -[DEF] \\
 & & \quad \quad [KASE] \\
 & & \quad \quad [CASE]
 \end{array}$$

Since the null P is the “Case-binder”, it has the uninterpretable nominal features just like the transitive v^* for an Accusative object. It agrees with the D of DP that is to be moved to the predicate position. After the agreement, the uninterpretable nominal features of the null P and the uninterpretable [CASE] feature of the D are deleted. The uninterpretable [KASE] feature in the DP is deleted when it agrees with the nominalizing complementizer.

The possibility of a *TO*-marked phrase appearing in the predicate position in (737) indicates that the nominalizing complementizer of the cleft clause in this case is not a Case-assigner, lacking a +[KASE] feature and the uninterpretable nominal features. Otherwise the derivation would crash as in the case of (733). What relationship should the nominalizing complementizer have with the KP? If we hypothesize that the nominalizing complementizer must have an agreement relationship with the KP to be moved out, it should have an uninterpretable feature. Suppose that the nominalizing complementizer of this structure has an uninterpretable [KASE] (instead of the uninterpretable nominal features). Then it will match with the K of the *TO*-marked phrase:

$$\begin{array}{lcl}
 739) & [_{CP} C & [\dots [_{v^*P} SUBJ \dots [_{PP} P-\emptyset [_{KP} [_{DP} D \quad QP] [K-to \quad t_{DP}]]]]] \\
 & [KASE] & [\phi N] \quad \alpha[\phi N] \text{-----} [] \quad [\phi N]^{EPP} \\
 & & \quad \quad [KASE] \quad \quad \quad +[KASE] \\
 & & \quad \quad [CASE]
 \end{array}$$

The feature distribution of (739) is not complete, however. In particular, the K needs an uninterpretable feature so that it will be active and agree with the nominalizing complementizer with an uninterpretable [KASE] feature. If the K has an uninterpretable feature, it will agree with the C and the uninterpretable [KASE] feature of the C will be deleted.

Apart from the issue of the identification of the uninterpretable feature, an advantage of assuming the feature distribution in (739) is that it does not allow K-stranding, leaving the K inside the clause. The C will agree with the K but it does not agree with the D. The DP is inactive after the two Case-features are checked by the K and the null P. Thus, the nominalizing complementizer would not agree with DP or the QP in the DP. Under the assumption that a phrase must agree with the C in order to move out of the clause, the DP does not satisfy this requirement.

To summarize, two types of the nominalizing complementizer are postulated for pseudo-cleft constructions in Japanese to derive two types of predicates: one with an overt Case-marker or Case-assigning post-position, and one without it. The nominalizing complementizer of the former type has an uninterpretable [KASE] feature and agrees with a KP, while that of the latter type has a +[KASE] feature and uninterpretable nominal features, and it agrees with a DP/QP. In gapped relative clauses of Japanese, only the latter type is available. The language does not allow KP/PP-relativization or K/P-stranding in relative clauses because the presence of a Case-marker or Case-assigning post-position blocks the agreement necessary for the deletion of the uninterpretable nominal features of the nominalizing complementizer.

5.2.3. Derivations of Simple Clauses

Let us first examine the derivation of simple clauses with a transitive verb like the following. We have discussed two word orders, SOV and OSV

S(O)V:

740) keikan-ga syoozyo-wo yuukai si-ta
 officer-NOM girl-ACC kidnap do-PST
 ‘A police officer kidnapped a girl.’

OSV:

741) syoozyo-wo keikan-ga yuukai si-ta
 girl-ACC officer-NOM kidnap do-PST
 ‘A police officer kidnapped a girl.’

In both cases, the subject and the object originate within v^*P , as in the case of English.

Above it, TP and complementizers are projected:

742) ... [_{FinP} Fin [_{TP} [_{VP} [_{v^*P} [keikan] [v^* [_{vP} yuukai si [syoozyo-wo]]]]] v [_{VP} -ta
 $t_{v^*P_1}$]]]]

The vP that intervenes between TP_1 and v^*P_1 is a light verb phrase for the past auxiliary -*ta*. It is not a strong phase since the auxiliary is not a transitive verb. This projection will not be elaborated in representations that follow.

Recall that the landing sites of the subject in SOV order and OSV order differ. In both structures, there are two instances of FinP. In SOV order, the subject lands in the higher Spec,FinP, and in OSV order it lands in the lower Spec,FinP. In either case, the subject may further move to a higher projection via topicalization. In both cases, the

object first lands in a complementizer position in the lower CP, which is below the higher FinP. From that position, it may move up via topicalization or scrambling.

First, we will review the structures of the non-relative subject and the object in (742). Both phrases start out with a DP like the following:

$$\begin{array}{lcl}
 743) & [\text{DP} & \text{D} \quad [\text{QP} \dots \dots]] \\
 & & \begin{array}{l} [\text{KASE}] \\ [\text{CASE}] \end{array} \\
 & & \begin{array}{l} \alpha[\phi\text{N}] \\ \pm[\text{DEF}] \end{array}
 \end{array}$$

As discussed above, the subject DP agrees with Fin, which has an uninterpretable $[\phi\text{N}]$. The latter feature has an EPP feature, which obligates the movement of DP to Spec,FinP. Our hypothesis is that interpretable $\alpha[\phi\text{N}]$ in the subject DP percolates up to D so that the DP is selected as the category to be moved. The subject DP has the following configuration prior to movement:

$$\begin{array}{lcl}
 744) & [\text{DP} & \text{D} \quad [\text{QP} \text{ keikan }]] \\
 & & \begin{array}{l} [\text{KASE}] \\ [\text{CASE}] \end{array} \\
 & & \begin{array}{l} \alpha[\phi\text{N}] \text{-----} [] \\ \pm[\text{DEF}] \end{array}
 \end{array}$$

The interpretable $\alpha[\phi\text{N}]$ of the object also percolate up to D, since the Accusative K has an EPP feature. The DP moves to Spec,KP:

$$\begin{array}{lcl}
 745) & [\text{KP} [\text{DP} \text{ D} \quad \text{QP}] & [\text{K-wo } t_{\text{DP}}]] \\
 & \begin{array}{l} \alpha[\phi\text{N}] \text{-----} [] \\ \pm[\text{DEF}] \end{array} & [\phi\text{N}]^{\text{EPP}} \\
 & \begin{array}{l} [\text{CASE}] \\ [\text{KASE}] \end{array} & +[\text{KASE}]
 \end{array}$$

The following representations will not include features that are not in the top-most phrase of non-relative subjects and objects.

The derivations for SOV and OSV orders do not violate the Intervention Condition or the Opacity Condition. Let us first examine the derivation of SOV. Fin of FinP₁ does not have uninterpretable [ϕ N]. Thus, it does not trigger agreement or movement. After the derivation of FinP₁, SP is projected to host the object:

746) [FinP₁ Fin [TP₁ [[v*P₁ [keikan] [v* [yuukai si [syoozyo-wo]]]]-ta]]]

747) [SP S [FinP₁ Fin [TP₁ [[v*P₁ [keikan] [v* [yuukai si [syoozyo-wo]]]]-ta]]]]]

α [ϕ N]	[ϕ N]	[ϕ N] ^{EPP}
[CASE]		[K]
[KASE]		+ [KASE]

The object moves to Spec,SP:

748) [SP [syoozyo-wo]₁ [S [FinP₁ Fin [TP₁ [[v*P₁ [keikan] [v* [yuukai si *t*₁]]]]-ta]]]]]

[ϕ N] ^{EPP}	α [ϕ N]	[ϕ N]
[K]	[CASE]	
+ [KASE]	[KASE]	

Above SP, CP is projected. SP, that is the complement of CP, moves to Spec,CP.¹⁰¹ The null copula is projected and subsequently the associated light verb, TP, and FinP are projected:

749) [FinP₂ Fin [TP₂ T [vP₂ [CP₁ [SP [syoozyo-wo]₁ [S [FinP₁ Fin [TP₁ [[v*P₁ [keikan] [v* [ϕ N]^{EPP} [ϕ N]^{EPP} [ϕ N] [CASE] + [KASE] [KASE] + [KASE] [KASE] [yuukai si *t*₁]]]]-ta]]]]] [C *t*_{SP}] v [vP₂ V *t*_{CP1}]]]]]

¹⁰¹ This CP does not make any phrase opaque. It agrees with its complement and the complement of a strong phase is not an offending category.

Fin of FinP₂ has an uninterpretable [ϕ N] with EPP and agrees with the subject in Spec,v*P₁. The agreement is not blocked by the object phrase. The object phrase is not headed by the matching interpretable nominal features. Therefore this is not a context of intervention. At last, the subject moves to Spec,FinP₂, deriving SOV order.

$$\begin{array}{l}
 750) \quad [\text{FinP}_2 [\text{keikan}]_2 [\text{Fin} [\text{TP}_2 \text{ T } [\text{VP}_2 [\text{CP}_1 [\text{SP} [\text{syoozyo-wo}]_1 [\text{S} [\text{FinP}_1 \text{ Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{ } t_2 \\
 \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \quad [\phi\text{N}]^{\text{EPP}} \\
 [\text{CASE}] \quad [\text{K}] \\
 [\text{KASE}] \quad +[\text{KASE}] \quad +[\text{KASE}] \\
 [\text{v}^* [\text{yuukai si } t_1]]]\text{-ta}]]]]] [\text{C } t_{\text{SP}}] \vee [\text{VP}_2 \text{ V } t_{\text{CP}_1}]]]]]
 \end{array}$$

Let us turn to the derivation of OSV. First, the subject agrees with Fin of FinP₁:

$$\begin{array}{l}
 751) \quad [\text{FinP}_1 \text{ Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 [\text{keikan}] [\text{v}^* [\text{yuukai si } [\text{syoozyo-wo}]]]]\text{-ta}]]] \\
 [\phi\text{N}]^{\text{EPP}} \quad \alpha[\phi\text{N}] \quad [\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \\
 [\text{CASE}] \quad [\text{K}] \\
 +[\text{KASE}] \quad +[\text{KASE}]
 \end{array}$$

The subject moves to Spec,FinP₁, and SP is projected to host the object:

$$\begin{array}{l}
 752) \quad [\text{SP S} \quad [\text{FinP}_1 [\text{keikan}]_2 [\text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{ } t_2 [\text{v}^* [\text{yuukai si } [\text{syoozyo-wo}]]]]\text{-ta}]]]]] \\
 \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \quad [\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \\
 [\text{CASE}] \quad [\text{K}] \\
 [\text{KASE}] \quad +[\text{KASE}] \quad +[\text{KASE}]
 \end{array}$$

The object moves to Spec,SP. The derivation proceeds further as in the previous case.

Finally FinP₂ is projected. This Fin does not have uninterpretable [ϕ N].

$$\begin{array}{l}
 753) \quad [\text{FinP}_2 \text{ Fin} [\text{TP}_2 \text{ T } [\text{VP}_2 [\text{CP}_1 [\text{SP} [\text{syoozyo-wo}]_1 [\text{S} \quad [\text{FinP}_1 [\text{keikan}]_2 [\text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{ } t_2 \\
 [\phi\text{N}]^{\text{EPP}} \quad \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \\
 [\text{K}] \quad [\text{CASE}] \\
 +[\text{KASE}] \quad [\text{KASE}] \quad +[\text{KASE}] \\
 [\text{v}^* [\text{yuukai si } t_1]]]\text{-ta}]]]]] [\text{C } t_{\text{SP}}] \vee [\text{VP}_2 \text{ V } t_{\text{CP}_1}]]]]]
 \end{array}$$

5.3. Relativization

5.3.1. Out of Single Clauses

In this section, we will walk through derivations of pre-nominal relatives. We will evaluate them based on the Intervention Condition and the Opacity Condition, and discover what paths are possible and impossible.

5.3.1.1. Subject Relativization

We begin with the derivation of subject relativization likein (754):

RELATIVIZATION OF SUBJECT:

- 754) [[*e*₂ syoozyo-wo yuukai si-ta] keikan₂]
 girl-ACC kidnap do-PST officer
 ‘the/a police officer who kidnapped a girl’

We will limit representations below to include only the features relevant for the derivations in question.

There are two possible derivations, SOV-order-based and OSV-order based ones.

Both start from a structure like the following:

- 755) [TP_I [[v*P_I [D_P D [Q_P keikan]] [v* [yuukai si [syoozyo-wo]]]]-ta]]
- | | | | |
|------------------|------------------|------------|------------------|
| $\alpha[\phi N]$ | $\alpha[\phi N]$ | $[\phi N]$ | $[\phi N]^{EPP}$ |
| [CASE] | | | [K] |
| | [KASE] | | + [KASE] |
| | [OP] | | |
| | -[DEF] | | |

As illustrated, the feature composition of the relative DP differs from that of ordinary DPs. D is assigned both interpretable $\alpha[\phi N]$ and uninterpretable $[KASE]$ and $[CASE]$. These features are checked within the relative clause for “Case-binding” and Case assignment. QP, which will be raised later, also has interpretable $\alpha[\phi N]$. They are for the resultant DP. QP also has interpretable $-[DEF]$ and uninterpretable $[OP]$.

Let us examine the SOV-order-based derivation first. First, $FinP_1$ and SP are projected above TP_1 . SP is projected to host the object. Then, the object moves to Spec,SP.

$$\begin{array}{l}
 756) \quad [_{SP} [syoozyo-wo]_1 [S \quad [_{FinP1} \quad Fin \quad [_{TP1} [[_{v*P1} [_{DP} \quad D \quad [_{QP} \quad keikan]] \quad [v^* \\
 \quad \quad \quad [\phi N]^{EPP} \quad \quad \quad \alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N] \\
 \quad \quad \quad [\kappa] \quad \quad \quad [CASE] \\
 \quad \quad \quad +[KASE] \quad \quad \quad [KASE] \\
 \quad \quad \quad \quad \quad \quad [OP] \\
 \quad \quad \quad \quad \quad \quad -[DEF] \\
 \quad \quad \quad [yuukai \quad si \quad t_1]]]-ta]]]]
 \end{array}$$

The derivation proceeds for further projections up to the projection of $FinP_2$. These processes are the same as in (749). Except that Fin lacks an interpretable feature $+[KASE]$ and has an uninterpretable relative Force feature $[REL]$, which will be checked later.

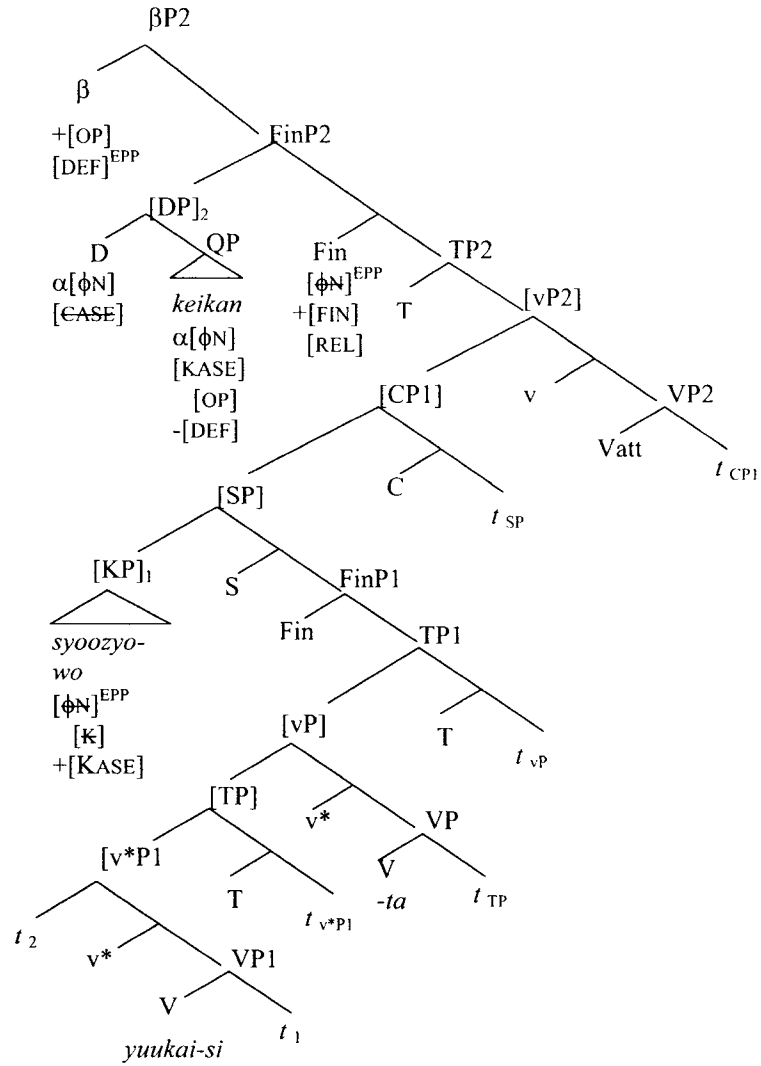
$$\begin{array}{l}
 757) \quad [_{FinP2} \quad Fin \quad [_{TP2} \quad T \quad [_{vP2} [_{CP1} [_{SP} [syoozyo-wo]_1 [S \quad [_{FinP1} \quad Fin \quad [_{TP1} [[_{v*P1} [_{DP} \quad D \\
 \quad \quad \quad [\phi N]^{EPP} \quad \quad \quad [\phi N]^{EPP} \quad \quad \quad \alpha[\phi N] \\
 \quad \quad \quad [\kappa] \quad \quad \quad [\kappa] \quad \quad \quad [CASE] \\
 \quad \quad \quad +[KASE] \\
 \quad \quad \quad +[FIN] \\
 \quad \quad \quad [REL] \\
 \quad \quad \quad [_{QP} \quad keikan]] \quad [v^* [yuukai \quad si \quad t_1]]]-ta]]]]] [C \quad t_{SP}] [v \quad [_{vP2} \quad V \quad t_{CP1}]]]] \\
 \quad \quad \quad \alpha[\phi N] \quad [\phi N] \\
 \quad \quad \quad [KASE] \\
 \quad \quad \quad [OP] \\
 \quad \quad \quad -[DEF]
 \end{array}$$

Fin of FinP₂ agrees with D of the subject. No phrase which has a matching feature intervenes. Then, the subject moves to Spec,FinP₂. This has not become opaque and the movement succeeds.

- 758) [FinP₂ [DP D [QP keikan]]₂ [Fin [TP₂ T [vP₂ [CP₁ [SP [syoozyo-wo]]₁ [S
 $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{EPP}$ $[\phi N]^{EPP}$
[CASE] [KASE] [K] +[KASE]
[OP]
-[DEF] +[FIN]
[REL]
[FinP₁ Fin [TP₁ [[v*P₁ t₂ [v* [yuukai si t₁]]]-ta]]]] [C t_{SP}] [v [vP₂ V t_{CP1}]]]]]]

In this derivation, the ‘head’ raising takes place from Spec,FinP₂. βP , the host of the ‘head’, is projected above FinP₂. β has interpretable +[OP] and uninterpretable [DEF] with EPP:

- 759) [βP β [FinP₂ [DP D [QP keikan]]₂ [Fin [TP₂ T [vP₂ [CP₁ [SP [syoozyo-wo]]₁ [S
 $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{EPP}$ $[\phi N]^{EPP}$
[CASE] [KASE] [K] +[KASE]
+[OP] [OP]
[DEF]^{EPP} -[DEF] +[FIN]
[REL]
[FinP₁ Fin [TP₁ [[v*P₁ t₂ [v* [yuukai si t₁]]]-ta]]]] [C t_{SP}] [v [vP₂ V t_{CP1}]]]]]]



β agrees with QP of the subject, and QP moves to Spec,βP. Then, CP is projected:

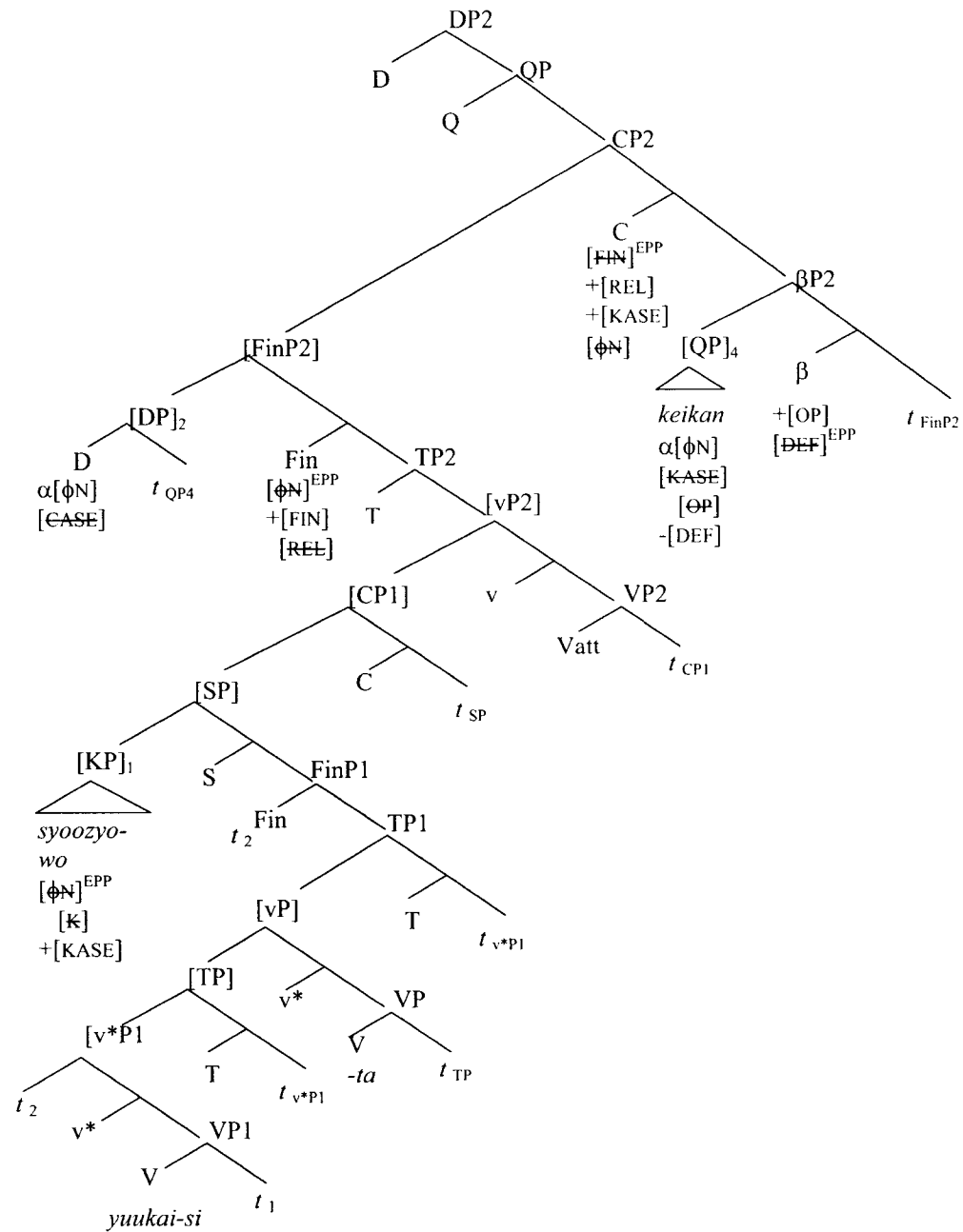
- 760) [CP C [βP [QP keikan]₄ [β [FinP2 [DP D t₄]₂ [Fin [TP2 T [vP2 [CP1 [SP [syoozyo
 [φN] α[φN] α[φN] [φN]^{EPP} [φN]^{EPP}
 +[KASE] [KASE] [CASE] [K] +[KASE]
 +[OP] +[OP]
 -[DEF] -[DEF]^{EPP}
 [FIN]^{EPP} +[FIN]
 +[REL] [REL]
 -WO]₁ [S [FinP1 Fin [TP1 [[v*P1 t₂ [v* [yuukai si t₁]]]-ta]]]] [C t_{SP}] [v [vP2 V
 t_{CP1}]]]]]]]]]

This C has uninterpretable nominal features and an interpretable [KASE] feature. It agrees with the ‘head’ QP, and the uninterpretable nominal features of the C and the uninterpretable [KASE] feature of the D are deleted. The C also has an interpretable Force feature [REL] and an uninterpretable [FIN] with EPP. It agrees with FinP₂ and triggers its movement to Spec,CP:

$$\begin{array}{l}
 761) \quad [_{CP} [_{FinP2} [_{DP} D \quad t_4]_2 [\text{Fin} [_{TP2} T [_{VP2} [_{CP1} [_{SP} [syoozyo-wo]_1 [S \\
 \quad \quad \quad \alpha[\phi N] \quad \quad [\phi N]^{EPP} \quad \quad \quad [\phi N]^{EPP} \\
 \quad \quad \quad [CASE] \quad \quad \quad \quad \quad \quad \quad [K] \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad +[KASE] \\
 \quad \quad \quad \quad \quad \quad \quad +[FIN] \\
 \quad \quad \quad \quad \quad \quad \quad [REL] \\
 [_{FinP1} \text{Fin} [_{TP1} [[_{v*P1} t_2 [v^* [yuukai si \quad t_1]]]-ta]]]] [C \quad t_{SP}] [v [_{VP2} V \quad t_{CP1}]]]] \\
 [C \quad \quad [_{\beta P} [_{QP} keikan]_4 [\beta \quad t_{FinP2}]]] \\
 \quad \quad \quad [\phi N] \quad \quad \quad \alpha[\phi N] \\
 \quad \quad \quad +[KASE] \quad \quad \quad [KASE] \\
 \quad \quad \quad \quad \quad \quad [\Theta P] \quad \quad +[OP] \\
 \quad \quad \quad \quad \quad \quad -[DEF] \quad \quad \quad [\cancel{DEF}]^{EPP} \\
 \quad \quad \quad [\cancel{FIN}]^{EPP} \\
 \quad \quad \quad +[REL]
 \end{array}$$

Finally, QP and DP are projected above CP:

$$\begin{array}{l}
 762) \quad [_{DP} D [_{QP} Q [_{CP} [_{FinP2} [_{DP} D \quad t_4]_2 [\text{Fin} [_{TP2} T [_{VP2} [_{CP1} [_{SP} [syoozyo-wo]_1 [S \\
 \quad \quad \quad [_{FinP1} \text{Fin} [_{TP1} [[_{v*P1} t_2 [v^* [yuukai si \quad t_1]]]-ta]]]]] [C \quad t_{SP}] [v [_{VP2} V \quad t_{CP1}]]]]] \\
 [C \quad [_{\beta P} [_{QP} keikan]_4 [\beta \quad t_{FinP2}]]]]
 \end{array}$$



Note that the relativization of a subject based on the OSV structure is also possible.

- 763) $[\beta_P \beta [\text{FinP}_2 \text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{SP} [\text{syoozyo-wo}]_1 [\text{S} [\text{FinP}_1 [\text{DP} \text{D} [\text{QP} \text{keikan}]]_2$
 $\begin{array}{ccc} & [\phi N]^{EPP} & \alpha[\phi N] \quad \alpha[\phi N] \\ & [\kappa] & [\text{CASE}] \\ & +[\text{KASE}] & [\text{KASE}] \\ +[\text{OP}] & & [\text{OP}] \\ [\text{DEF}]^{EPP} & & -[\text{DEF}] \\ & +[\text{FIN}] & \\ & [\text{REL}] & \end{array}$
 $[\text{Fin} [\text{TP}_1 [[\text{v}^* \text{P}_1 t_2 [\text{v}^* [\text{yuukai si } t_1]]]\text{-ta}]]]] [C t_{\text{SP}}]] [\text{V} [\text{VP}_2 \text{V } t_{\text{CP}_1}]]]]]$

Although it looks like long-distance, the agreement between β and QP of the subject is not interrupted; the QP of the object does not c-command a strong phase; the QP is inside KP. Thus, it does not block the agreement. The derivation continues, and CP is projected:

- 764) $[\text{CP} \text{C} [\beta_P [\text{QP} \text{keikan}]_4 [\beta [\text{FinP}_2 \text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{SP} [\text{syoozyo-wo}]_1 [\text{S} [\text{FinP}_1$
 $[\text{DP} \text{D } t_4]_2 [\text{Fin} [\text{TP}_1 [[\text{v}^* \text{P}_1 t_2 [\text{v}^* [\text{yuukai si } t_1]]]\text{-ta}]]]]]] [C t_{\text{SP}}]] [\text{V} [\text{VP}_2 \text{V}$
 $t_{\text{CP}_1}]]]]]]]$

Then, FinP_2 moves to Spec,CP:

- 765) $[\text{CP} [\text{FinP}_2 \text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{SP} [\text{syoozyo-wo}]_1 [\text{S} [\text{FinP}_1 [\text{DP} \text{D } t_4]_2 [\text{Fin} [\text{TP}_1$
 $[[\text{v}^* \text{P}_1 t_2 [\text{v}^* [\text{yuukai si } t_1]]]\text{-ta}]]]]]] [C t_{\text{SP}}]] [\text{V} [\text{VP}_2 \text{V } t_{\text{CP}_1}]]] [C [\beta_P [\text{QP} \text{keikan}]_4$
 $[\beta t_{\text{FinP}_2}]]]$

5.3.1.2. Object Relativization

The following is an example of the relativization of an object:

RELATIVIZATION OF OBJECT:

- 766) $[[\text{keikan-ga } e_1 \text{ yuukai si-ta}] \text{ syoozyo}_1]$
 officer-NOM kidnap-PST girl
 ‘the/a girl who a police officer kidnapped’

The SOV order based and OSV order based derivations start from a structure like the following:

$$\begin{array}{l}
 767) \quad [_{TP1} [[_{v*P1} [_{DP} \text{keikan}]] [_{v*} [\text{yuukai si } [_{DP} D \quad [_{QP} \text{syoozyo}]]]]]\text{-ta}]] \\
 \qquad \qquad \qquad \alpha[\phi N] \quad [\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \\
 \qquad \qquad \qquad [CASE] \quad \quad \quad [CASE] \\
 \qquad \qquad \qquad [KASE] \quad \quad \quad [KASE] \\
 \qquad \qquad \qquad \quad \quad \quad [OP] \\
 \qquad \qquad \qquad \quad \quad \quad -[DEF]
 \end{array}$$

As in the simple sentence discussed above, the subject DP has interpretable $\alpha[\phi N]$ in D.

Like the relative DP of the subject, the object relative DP has interpretable $\alpha[\phi N]$ in D.

(The object does not accompany a Case-marker.)

There are two well-formed derivations available for the relativization of an object. The two derivations differ in the position of the subject: one has the subject in the higher Spec,FinP and one has the subject in the lower Spec,FinP. Both derivations involve movement of QP from the original position directly to Spec,QP. First, let us look at the following structure constructed right after the movement of the subject to Spec,FinP₂:

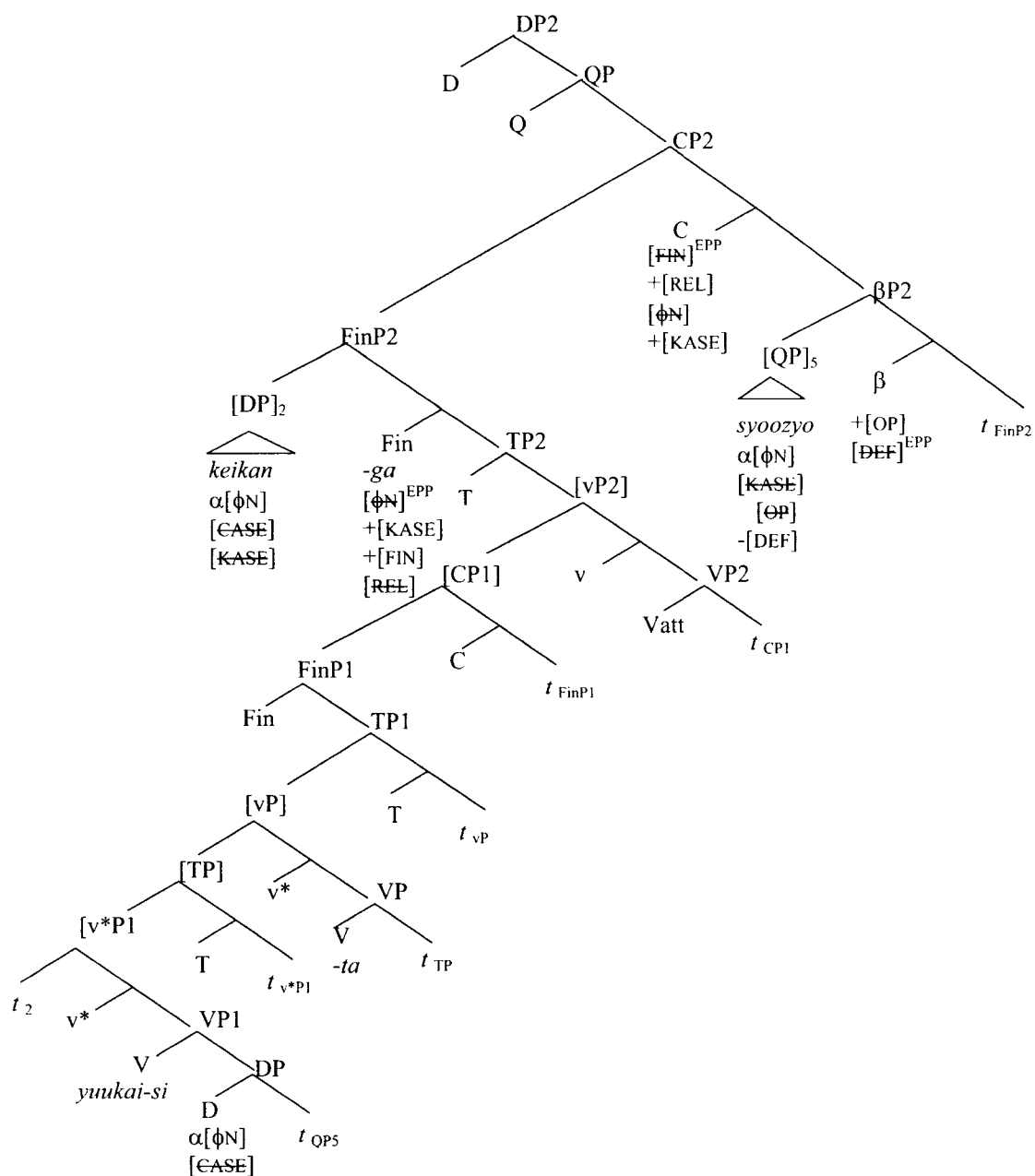
$$\begin{array}{l}
 768) \quad [_{\beta P} \beta \quad [_{FinP2} [_{DP} \text{keikan}]_2 [\text{Fin } [_{TP2} T [_{vP2} [_{CP1} [_{FinP1} \text{Fin} \\
 \qquad \qquad \qquad \alpha[\phi N] \quad [\phi N]^{EPP} \\
 \qquad \qquad \qquad [CASE] \\
 \qquad \qquad \qquad [KASE] \quad +[KASE] \\
 \qquad \qquad \qquad +[OP] \\
 \qquad \qquad \qquad [DEF]^{EPP} \\
 \qquad \qquad \qquad \quad \quad \quad +[FIN] \\
 \qquad \qquad \qquad \quad \quad \quad [REL] \\
 [_{TP1} [[_{v*P1} t_2 [_{v*} [\text{yuukai si } [_{DP} D \quad [_{QP} \text{syoozyo}]]]]]\text{-ta}]]] [C t_{FinP1}]] [V [_{VP2} V \\
 \qquad \qquad \qquad [\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \\
 \qquad \qquad \qquad \quad \quad \quad [CASE] \\
 \qquad \qquad \qquad \quad \quad \quad [KASE] \\
 \qquad \qquad \qquad \quad \quad \quad [OP] \\
 \qquad \qquad \qquad \quad \quad \quad -[DEF]
 \end{array}$$

Intervention Condition. The same explanation holds when the subject is in lower Spec,FinP. Then, QP of the object moves to Spec, β P:

$$\begin{array}{c}
 769) \quad [\beta_P [\text{QP syoozyo}]_5 [\beta [\text{FinP}_2 [\text{DP keikan}]_2 [\text{Fin} [\text{TP}_2 \text{ T} [\text{VP}_2 [\text{CP}_1 [\text{FinP}_1 \text{ Fin} \\
 \alpha[\phi\text{N}] \quad \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \\
 \quad \quad \quad [\text{CASE}] \\
 [\text{KASE}] \quad \quad \quad [\text{KASE}] \quad +[\text{KASE}] \\
 [\text{OP}] \quad +[\text{OP}] \\
 -[\text{DEF}] \quad [\text{DEF}]^{\text{EPP}} \\
 \quad \quad \quad +[\text{FIN}] \\
 \quad \quad \quad [\text{REL}] \\
 [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{ } t_2 [\text{V}^* [\text{yuukai si } [\text{DP } \text{D } t_5]]]]\text{-ta}]]] [\text{C } t_{\text{FinP}_1}]] [\text{V} [\text{VP}_2 \text{ V } t_{\text{CP}_1}]]]]]]]] \\
 [\phi\text{N}] \quad \alpha[\phi\text{N}] \\
 \quad \quad \quad [\text{CASE}]
 \end{array}$$

The movement of QP of the object does not violate the Opacity Condition. QP has not been opaque. There are two strong phases in (769): CP_1 and v^*P_1 . At CP_1 , C agreed with FinP_1 , which is its complement. Thus, QP did not become opaque at that stage. The derivation is successful because it violates neither the Intervention Condition nor the Opacity Condition. QP-raising in object relativization can take place from the object position in v^*P directly to Spec,P. The derivation also succeeds when the subject is in lower Spec,FinP. Thus, we find two possible paths to derive object relativization.

770)



Let us examine derivations that involve scrambling of a relative object DP. A derivation that first moves the relative object DP to Spec,SP require the postulation of an uninterpretable feature on the D. We have allowed the feature [K] to motivate

scrambling. Thus, such derivations are subject to examination. It turns out that derivations of relativization of an object based on OSV order are excluded. It is the derivation that is based on OSV order. Let us go through the steps:

$$\begin{array}{ccccccc}
 771) & [\text{FinP}_1 \text{ Fin } [\text{TP}_1 [[\text{v}^*\text{P}_1 [\text{DP keikan}]] [\text{v}^* [\text{yuukai si } [\text{DP D } [\text{QP syoozyo}]]]]]\text{-ta}]]] \\
 & [\phi\text{N}]^{\text{EPP}} & \alpha[\phi\text{N}] & [\phi\text{N}] & \alpha[\phi\text{N}] & \alpha[\phi\text{N}] & \\
 & & [\text{CASE}] & & [\text{CASE}] & & \\
 & +[\text{KASE}] & [\text{KASE}] & & & [\text{KASE}] & \\
 & & & & & [\text{OP}] & \\
 & & & & & -[\text{DEF}] & \\
 & +[\text{FIN}] & & & & & \\
 & & & & & & [\text{K}]
 \end{array}$$

In (771), Fin agrees with the subject DP and triggers its movement:

$$\begin{array}{ccccccc}
 772) & [\text{FinP}_1 [\text{DP keikan}]_2 [\text{Fin } [\text{TP}_1 [[\text{v}^*\text{P}_1 t_2 [\text{v}^* [\text{yuukai si } [\text{DP D } [\text{QP syoozyo}]]]]]\text{-ta}]]]] \\
 & \alpha[\phi\text{N}] & [\phi\text{N}]^{\text{EPP}} & [\phi\text{N}] & \alpha[\phi\text{N}] & \alpha[\phi\text{N}] & \\
 & [\text{CASE}] & & & [\text{CASE}] & & \\
 & [\text{KASE}] & +[\text{KASE}] & & & [\text{KASE}] & \\
 & & & & & [\text{OP}] & \\
 & & & & & -[\text{DEF}] & \\
 & +[\text{FIN}] & & & & & \\
 & & & & & & [\text{K}]
 \end{array}$$

Then, SP is projected above FinP_1 :

$$\begin{array}{ccccccc}
 773) & [\text{SP S } [\text{FinP}_1 [\text{DP keikan}]_2 [\text{Fin } [\text{TP}_1 [[\text{v}^*\text{P}_1 t_2 [\text{v}^* [\text{yuukai si } [\text{DP D } [\text{QP syoozyo}]]]]]\text{-ta}]]]]] \\
 & \alpha[\phi\text{N}] & [\phi\text{N}]^{\text{EPP}} & [\phi\text{N}] & \alpha[\phi\text{N}] & \alpha[\phi\text{N}] & \\
 & [\text{CASE}] & & & [\text{CASE}] & & \\
 & [\text{KASE}] & +[\text{KASE}] & & & [\text{KASE}] & \\
 & & & & & [\text{OP}] & \\
 & & & & & -[\text{DEF}] & \\
 & +[\text{FIN}] & & & & & \\
 & & & & & & [\text{K}] \\
 & & & & & & \\
 & & & & & &]]]\text{-ta}]]]]]
 \end{array}$$

In (773), S must be seeking some feature to agree with; in particular, some interpretable feature that the object DP carries. The interpretable features that the object has are,

$\alpha[\phi N]$ and possibly $-[DEF]$. But if it were the latter feature, QP that might have moved. Alternatively, if $-[DEF]$ had percolated to D (so that DP will be selected for movement), then QP will not be raised to form the ‘head’ of the relative in a later stage. Given this inventory of features for the relative DP, it must be $\alpha[\phi N]$ that S is looking for. This is illustrated below:

$$\begin{array}{ccccccc}
 774) & [_{SP} S & [_{FinP1} [_{DP} keikan]_2 & [& Fin & [_{TP1} [[_{v^*P1} t_2 & [_{v^*} [yuukai si & [_{DP} D & [_{QP} syoozyo]] \\
 & [\phi N]^{EPP} & \alpha[\phi N] & [\phi N]^{EPP} & [\phi N] & \alpha[\phi N] & \alpha[\phi N] \\
 & & [CASE] & & & [CASE] & \\
 & & [KASE] & +[KASE] & & & [KASE] \\
 & & & & & & [OP] \\
 & & & & & & -[DEF] \\
 & & & +[FIN] & & & \\
 & & & & & & [K] \\
 & & & & & & \\
 & & & & & &]]]-ta]]]]]
 \end{array}$$

If S has uninterpretable $[\phi N]$, then it cannot agree with the object. The subject in Spec,FinP is inactive and has a matching interpretable feature, and it is outside the strong phase (i.e., v^*P) that it c-commands. Thus the Intervention Condition blocks the agreement between S and the object DP. It follows that the relative object DP cannot move to Spec,SP. The same explanation applies to the case in which the subject is in higher Spec,FinP. This means that relativization of an object will not involve the movement of the relative DP past the subject and thus the object DP will not move out of lower CP prior to QP-raising.

Even when the overt subject DP has not moved to lower Spec,FinP, the relative object DP can not move to lower CP. Let us examine the derivation. To derive SOV order, we project SP above FinP₁, where S has uninterpretable nominal features with EPP:

775) [SP S [FinP1 Fin [TP1 [[v*P1 [DP keikan]] [v* [yuukai si [DP D [QP syoozyo]]
 $[\phi N]^{EPP}$ $\alpha[\phi N]$ $[\phi N]$ $\alpha[\phi N]$ $\alpha[\phi N]$
[CASE] [CASE]
[KASE] [KASE]
[OP]
-[DEF]
[K]
]]-ta]]]]]

S and the object DP agree and the latter moves to Spec,SP:

776) [SP [DP D [QP syoozyo]]₁ [S [FinP1 Fin [TP1 [[v*P1 [DP keikan]] [v* [yuukai si
 $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{EPP}$ $\alpha[\phi N]$ $[\phi N]$
[CASE] [CASE]
[KASE] [KASE]
[OP]
-[DEF]
[K]
 t_1]]]-ta]]]]]

At this point, the relative D becomes inactive because its uninterpretable features are all checked and deleted. Then, CP and other categories are projected:

777) [FinP2 Fin [TP2 T [vP2 [CP1 [SP [DP D [QP syoozyo]]₁ [S [FinP1 Fin [TP1 [[v*P1
 $[\phi N]^{EPP}$ $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{EPP}$
+ [KASE] [KASE]
[OP]
-[DEF]
+ [FIN]
[K]
[DP keikan]] [v* [yuukai si t_1]]]-ta]]]]]
 $\alpha[\phi N]$
[CASE]
[KASE]

In (777), Fin of FinP₂ has uninterpretable $[\phi N]$ and seeks a matching feature. Fin matches the object DP with respect to $[\phi N]$. However, the object DP is no longer active and it is

headed by the nominal features. Furthermore, the overt subject is in a strong phase (v^*P) that excludes the object DP. Fin cannot agree with the overt subject. This derivation is ruled out by the Intervention Condition.

To summarize, a relative object DP cannot move to the specifier of a complementizer in lower CP prior to QP-raising. In an OSV-based derivation, the overt subject in lower/higher Spec,FinP blocks the agreement between the relative object DP and S. Under the assumption that an S, which triggers scrambling, targets the nominal features of the relative object DP, the presence of a subject DP in Spec,FinP is a blocker of the agreement. In an SOV-based derivation, on the other hand, the moved object relative DP blocks the agreement between the overt subject and the higher Fin. The set of nominal features identical to the set of features that are needed for subject Case-agreement are in the head of the relative object DP, which c-commands the strong phase that contains the subject. Thus, object relativization takes place from within the v^*P in which it originates. Such conflicts do not arise in scrambling of an overt object. An object KP, for instance, can move to Spec,SP because S can target a feature other than the nominal features or these features are not in the head of the object KP.

In contrast with object relativization, movement of the ‘head’ QP in subject relativization takes place from outside the v^*P in which it originates. It takes place from within the specifier of one of the FinPs. The subject DP moves to higher or lower Spec,FinP and from within that position, the QP generated in the DP moves to Spec, βP .

5.3.2. Out of Embedded Declaratives

What we would like to demonstrate in this section is that QP raises from within an embedded clause directly to the specifier of a complementizer position of another clause without stopping by at an intermediate position. We have discussed instances of such direct movement in examples of *wh*-movement in English in an earlier section. This section presents further instances while showing derivations of relative clauses in Japanese.

5.3.2.1. *Subject Relativization*

The following is an example of relativization of a subject out of an embedded clause:

SUBJECT OUT OF EMBEDDED DECLARATIVE:

- 778) [[FBI-ga [_{e₂} syoozyo-wo yuukai-si-ta-to] suisoku-site-iru] keikan₂]
 F.-NOM girl-ACC kidnap-do-PST-DECL conjecture-do-I officer
 ‘the/a police officer who the FBI conjectures kidnapped a girl’

We have discussed that in subject relativization, the raising of QP takes place from within the specifier of either higher or lower FinP. Neither is ruled out by either the Intervention Condition or the Opacity Condition.

Let us go over the one that takes place from lower FinP. For the derivation of the embedded clause, we adopt the configuration of derived structure (753) discussed earlier, replacing the ordinary DP in the subject position with a relative DP:

$$\begin{array}{c}
779) \quad [\text{FinP}_2 \text{ Fin } [\text{TP}_2 \text{ T } [\text{VP}_2 [\text{CP}_1 [\text{SP } [\text{syoozyo-wo}]_1 [\text{S } [\text{FinP}_1 [\text{DP D } [\text{QP keikan}]]_2 [\text{Fin} \\
\begin{array}{ccc}
[\phi\text{N}]^{\text{EPP}} & \alpha[\phi\text{N}] & \alpha[\phi\text{N}] & [\phi\text{N}]^{\text{EPP}} \\
[\text{K}] & [\text{CASE}] & & \\
+[\text{KASE}] & & [\text{KASE}] & \\
& & [\text{OP}] & \\
& & -[\text{DEF}] & \\
+[\text{FIN}] & & & +[\text{FIN}] \\
[\text{DECL}] & & & \\
\text{[TP}_1 \text{ [[v*P}_1 \text{ t}_2 \text{ [v* [yuukai si t}_1 \text{]]-ta]]]]]] \text{ [C t}_{\text{SP}}] \text{ [V [VP}_2 \text{ V t}_{\text{CP}_1}]]]]]
\end{array}
\end{array}$$

In (779), the subject has moved to Spec,FinP₁, and the object has moved to Spec,SP. CP₁ is a strong phase but its projection does not make the subject (or the object) opaque; they are not in the previous strong phase, which is v*P₁. The head of CP₁ agrees with its complement but not other projections that include v*P₁. Thus, this CP is a strong phase that does not induce opacity of categories.

Above FinP₂, another CP is projected. The head of this CP is declarative *-to*, which carries interpretable +[DECL] and uninterpretable [FIN] with EPP. This C has two other uninterpretable features: [F] and [K]. [F] is for the agreement with v* of a verb that selects a declarative complement. We have discussed that [F] is like an uninterpretable Case feature for nominals. [K] is for the movement of a Case-licensed object to a complementizer projection. The feature allocation is illustrated below:

$$\begin{array}{c}
780) \quad [\text{CP}_2 \text{ C-to } [\text{FinP}_2 \text{ Fin } [\text{TP}_2 \text{ T } [\text{VP}_2 [\text{CP}_1 [\text{SP } [\text{syoozyo-wo}]_1 [\text{S } [\text{FinP}_1 [\text{DP D } [\text{QP keikan}]]_2 \\
\begin{array}{ccc}
[\phi\text{N}]^{\text{EPP}} & \alpha[\phi\text{N}] & \alpha[\phi\text{N}] \\
[\text{K}] & [\text{CASE}] & \\
+[\text{KASE}] & & [\text{KASE}] \\
& & [\text{OP}] \\
& & -[\text{DEF}] \\
[\text{FIN}]^{\text{EPP}} & +[\text{FIN}] & \\
+[\text{DECL}] & [\text{DECL}] & \\
[\text{F}] & & \\
[\text{K}] & &
\end{array}
\end{array}$$

[Fin [TP₁ [[v*P₁ t₂ [v* [yuukai si t₁]]]-ta]]]] [C t_{SP}] [V [VP₂ V t_{CP₁}]]]]]
 [ϕN]^{EPP} [ϕN]
 +[FIN]

As is CP₁, CP₂ is a strong phase and its head agrees with the head that carries the finiteness feature. This, however, is the head of the complement of C₂. Therefore at this stage, nothing becomes opaque. FinP₂ moves to Spec,CP₂ and satisfies the EPP feature of [FIN] of C:

781) [CP₂ [FinP₂ Fin [TP₂ T [VP₂ [CP₁ [SP [syoozyo-wo]₁ [S [FinP₁ [DP D [QP keikan]]]₂ [ϕN]^{EPP} α[ϕN] α[ϕN]
 [κ] [CASE] [KASE]
 +[KASE] [OP]
 -[DEF]
 +[FIN]
 [DECL]
 [Fin [TP₁ [[v*P₁ t₂ [v* [yuukai si t₁]]]-ta]]]]] [C t_{SP}] [V [VP₂ V t_{CP₁}]]]]]
 [ϕN]^{EPP} [ϕN]
 +[FIN]
 [C-to t_{FinP₂}]]
 [FIN]^{EPP}
 +[DECL]
 [F]
 [K]

Above CP₂, VP and v*P are projected. Head v* has uninterpretable [DECL] and seeks agreement with CP.

782) [v*P₃ v* [VP₃ V [CP₂ [FinP₂ Fin [TP₂ T [VP₂ [CP₁ [SP [syoozyo-wo]₁ [S [FinP₁ [DP D [ϕN]^{EPP} α[ϕN]
 [κ] [CASE]
 +[KASE]
 +[FIN]
 [DECL] [DECL]

$$\begin{array}{l}
[_{QP} \text{ keikan}]_2 [\text{Fin } [_{TP1} [[_{v^*P1} t_2 [v^* [\text{yuukai si } t_1]]] -ta]]]] [C t_{SP1}] [v \\
\alpha[\phi N] \quad [\phi N]^{EPP} \\
[KASE] \\
[OP] \\
-[DEF] \\
+ [FIN] \\
[_{VP2} V t_{CP1}]]]] [C-to \quad t_{FinP2}]]]] \\
\quad [\text{FIN}]^{EPP} \\
\quad +[DECL] \\
\quad [F] \\
\quad [K]
\end{array}$$

In (782), v^* of v^*P_3 agrees with CP_2 in the declarative feature and deletes $[F]$ of C . v^*P_3 is a strong phase and v^* is a probe. The category that it agrees with is not its complement. However, this category is the previous strong phase. Again, at this stage, nothing becomes opaque.

The subject merges to v^*P_3 . TP is projected. And v^*P_3 moves to Spec, TP :

$$783) \quad [_{TP3} [_{v^*P3} [FBI] [v^* [_{VP3} V [_{CP2} [_{FinP2} \dots] [C-to \quad t_{FinP2}]]]]] [T \quad t_{v^*P3}]]$$

Above TP_3 , $FinP$ and SP are projected:

$$\begin{array}{l}
784) \quad [_{SP} S \quad [_{FinP3} \text{Fin } [_{TP3} [_{v^*P3} [FBI] [v^* [_{VP3} V [_{CP2} [_{FinP2} \dots] [C-to \quad t_{FinP2}]]]]]] \\
\alpha[\phi N] \\
[CASE] \\
[KASE] \\
\quad [DECL] \\
\quad \quad [\text{FIN}]^{EPP} \\
\quad \quad +[DECL] \\
\quad \quad [F] \\
\quad \quad [K] \\
[T \quad t_{v^*P3}]]]]
\end{array}$$

We want to move the embedded clause CP_2 to Spec, SP to obtain the right word order for Japanese. S can delete $[K]$, but it should first agree with C . To achieve this, S should

have an uninterpretable feature, in particular, one of those that CP has. Suppose that it is [DECL]. Then S agrees with CP and CP moves to Spec,SP:

$$785) \quad [SP \ [CP_2 \ [FinP_2 \ \dots] \ [C-to \ t_{FinP_2}]]]] \ [S \ [FinP_3 \ Fin \ [TP_3 \ [v^*P_3 \ [FBI] \ [v^* \ [VP_3 \ V \ t_{CP_2}]]] \ [T \ t_{v^*P_3}]]]]]$$

FinP₄ is projected to which the matrix subject moves:

$$786) \quad [FinP_4 \ [FBI]_6 \ [Fin \ [SP \ [CP_2 \ [FinP_2 \ \dots] \ [C-to \ t_{FinP_2}]]]] \ [S \ [FinP_3 \ Fin \ [TP_3 \ [v^*P_3 \ t_6 \ [v^* \ [VP_3 \ V \ t_{CP_2}]]] \ [T \ t_{v^*P_3}]]]]]]]$$

Then, β_P is projected to host the ‘head’ of the relative. As before, β has interpretable +[OP], and uninterpretable [DEF]:

$$787) \quad [\beta_P \ \beta \ [FinP_4 \ [FBI]_6 \ [Fin \ [SP \ [CP_2 \ [FinP_2 \ Fin \ [TP_2 \ T \ [VP_2 \ [CP_1 \ [SP \ [syoozyo-wo]_1 \ [S \ \alpha[\phi N] \ [\phi N]^{EPP} \ [\phi N]^{EPP} \ [CASE] \ [K] \ [KASE] \ +[KASE] \ +[OP] \ [DEF] \ [FinP_1 \ [DP \ D \ [QP \ keikan]]_2 \ [Fin \ [TP_1 \ [[v^*P_1 \ t_2 \ [v^* \ [yuukai \ si \ t_1 \]]]-ta]]]]]]] \ [C \ t_{SP}]] \ \alpha[\phi N] \ \alpha[\phi N] \ [\phi N]^{EPP} \ [CASE] \ [KASE] \ [OP] \ -[DEF] \ +[FIN] \ [DECL] \ [v \ [VP_2 \ V \ t_{CP_1}]]]]] \ [C-to \ t_{FinP_2}]]]]] \ [S \ [FinP_3 \ Fin \ [TP_3 \ [v^*P_3 \ t_6 \ [v^* \ [VP_3 \ V \ t_{CP_2}]]] \ [T \ t_{v^*P_3}]]]]]]] \ [FIN]^{EPP} \ +[DECL] \ [DECL] \ [F] \ [K] \ [T \ t_{v^*P_3}]]]]]]]$$

In (787), β seeks a category that has [DEF]. It matches QP in FinP_1 . There is no category that has this feature and is outside a strong phase that includes this QP. The subject of the higher clause (*FBI*) is not a blocker, although it may contain this feature. As discussed, the definiteness feature can remain below D in Japanese (unless it is required to move up for some reason). Thus, this feature is not in D. The agreement can be blocked by a maximal projection of a category that has a matching feature (or by the head itself) and c-commands a strong phase. If this category stays below D, c-command is not possible. Consequently, the agreement is not necessarily blocked by the Intervention Condition. Then, the QP moves to $\text{Spec},\beta\text{P}$:

$$\begin{array}{l}
 788) \quad [\beta\text{P} [\text{QP } \text{keikan}]_8 [\beta [\text{FinP}_4 [\text{FBI}]_6 [\text{Fin} [\text{SP} [\text{CP}_2 [\text{FinP}_2 \text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{SP} [\text{syoozyo} \\
 \alpha[\phi\text{N}] \quad \alpha[\phi\text{N}] \quad [\phi\text{N}]^{\text{EPP}} \quad [\phi\text{N}]^{\text{EPP}} \\
 [\text{CASE}] \quad [\text{CASE}] \quad [\text{K}] \\
 [\text{KASE}] \quad [\text{KASE}] \quad +[\text{KASE}] \quad +[\text{KASE}] \\
 [\text{OP}] \quad +[\text{OP}] \\
 -[\text{DEF}] \quad [\text{DEF}] \\
 -\text{wo}]_1 [\text{S} [\text{FinP}_1 [\text{DP } \text{D } t_8]_2 [\text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 t_2 [\text{v}^* [\text{yuukai si } t_1]]]-\text{ta}]]]]]] [\text{C } t_{\text{SP}}]] [\text{v} \\
 [\text{VP}_2 \text{V } t_{\text{CP}_1}]]]] [\text{C}-\text{to } t_{\text{FinP}_2}]]]] [\text{S} [\text{FinP}_3 \text{Fin} [\text{TP}_3 [\text{v}^*\text{P}_3 t_6 [\text{v}^* [\text{VP}_3 \text{V } t_{\text{CP}_2}]]] [\text{T} \\
 t_{\text{v}^*\text{P}_3}]]]]]]]]
 \end{array}$$

The movement of the QP to $\text{Spec},\beta\text{P}$ does not violate the Opacity Condition either. The QP has not been opaque at any of the earlier stages.

After the QP-raising, CP is projected:

$$\begin{array}{l}
 789) \quad [\text{CP}_3 \text{C} [\beta\text{P} [\text{QP } \text{keikan}]_8 [\beta [\text{FinP}_4 [\text{FBI}]_6 [\text{Fin} [\text{SP} [\text{CP}_2 [\text{FinP}_2 \text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{SP} \\
 [\text{syoozyo-wo}]_1 [\text{S} [\text{FinP}_1 [\text{DP } \text{D } t_8]_2 [\text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 t_2 [\text{v}^* [\text{yuukai si } t_1]]]-\text{ta}]]]]]] [\text{C } t_{\text{SP}}]] [\text{v} [\text{VP}_2 \text{V } t_{\text{CP}_1}]]]] [\text{C}-\text{to } t_{\text{FinP}_2}]]]] [\text{S} [\text{FinP}_3 \text{Fin} [\text{TP}_3 [\text{v}^*\text{P}_3 t_6 [\text{v}^* [\text{VP}_3 \text{V} \\
 t_{\text{CP}_2}]]] [\text{T } t_{\text{v}^*\text{P}_3}]]]]]]]]
 \end{array}$$

The complement of β P (FinP₄) moves to Spec,CP, leaving the ‘head’ QP behind. Above CP, QP and DP are projected:

- 790) $[_{DP} D [_{QP} Q [_{CP3} [_{FinP4} [FBI]_6 [_{Fin} [_{SP} [_{CP2} [_{FinP2} Fin [_{TP2} T [_{VP2} [_{CP1} [_{SP} [syoozyo-wo]_1 [S [_{FinP1} [_{DP} D t_8]_2 [_{Fin} [_{TP1} [[v^*P1} t_2 [v^* [yuukai si t_1]]-ta]]]]]] [C t_{SP}]] [v [_{VP2} V t_{CP1}]]]]]] [C-to t_{FinP2}]]]] [S [_{FinP3} Fin [_{TP3} [v^*P3} t_6 [v^* [_{VP3} V t_{CP2}]]] [T t_{v^*P3}]]]]]]] [C [_{\beta P} [_{QP} keikan]_8 [_{\beta} t_{FinP4}]]]]]]$

Recall that we have an alternative derivation; the subject can occur in higher FinP in the embedded clause. The movement of the QP from within that position is also allowed. The following is the structure to be compared with (787):

- 791) $[_{\beta P} \beta [_{FinP4} [FBI]_6 [_{Fin} [_{SP} [_{CP2} [_{FinP2} [_{DP} D [_{QP} keikan]]_2 [_{Fin} [_{TP2} T$
 $\alpha[\phi N] \quad [\phi N]^{EPP} \quad \alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N]^{EPP}$
 $[CASE] \quad [CASE] \quad [CASE]$
 $[KASE] \quad +[KASE] \quad [KASE]$
 $+[OP] \quad [OP]$
 $[DEF] \quad -[DEF]$
 $+ [FIN]$
 $[DECL]$
 $[_{VP2} [_{CP1} [_{SP} [syoozyo-wo]_1 [S [_{FinP1} Fin [_{TP1} [[v^*P1} t_2 [v^* [yuukai si t_1]]-ta]]]]]] [C t_{SP}] [v [_{VP2} V t_{CP1}]]]] [C-to t_{FinP2}]]]] [S [_{FinP3} Fin [_{TP3} [v^*P3} t_6 [v^* [_{VP3} V t_{CP2}]]] [T t_{v^*P3}]]]]]]]$

In (791), there is no category that has [DEF] and is outside a strong phase that includes the QP in Spec,FinP₂. The agreement between β and the QP is successful. Not to mention, the QP as well as other phrases have not been opaque by this stage; thus, the movement is not ruled out by the Opacity Condition.

5.3.2.2. *Object Relativization*

An object can also be relativized out of an embedded clause. The following is an example:

OBJECT OUT OF EMBEDDED DECLARATIVE:

- 792) [[FBI-ga [keikan-ga e_1 yuukai-si-ta-to] suisoku-site-iru] syoozyo_i]
 F.-NOM officer-NOM kidnap-do-PST-DECL conjecture-do-I girl
 ‘the/a girl who the FBI conjectures that a police officer kidnapped’

Recall our earlier conclusion that relativization of an object may take place from within the v*P in which the object originates. Let us begin with a partially derived structure of the embedded clause:

- 793) [CP₂ C-to [FinP₂ [DP keikan]₂ [Fin [TP₂ T [vP₂ [CP₁ [FinP₁ Fin [TP₁ [[v*P₁ t_2 [v*
 $\alpha[\phi N]$ $[\phi N]^{EPP}$ $[\phi N]$
 $[\cancel{CASE}]$
 $[\cancel{KASE}]$ +[KASE]
 $[\cancel{FIN}]^{EPP}$ +[FIN]
 +[DECL] [DECL]
 [F]
 [K]
 [yuukai si [DP D [QP syoozyo]]]]]-ta]]] [C t_{FinP1}] [v [vP₂ V t_{CP1}]]]]]]]
 $\alpha[\phi N]$ $\alpha[\phi N]$
 $[\cancel{CASE}]$
 $[\cancel{KASE}]$
 $[\cancel{OP}]$
 $-\cancel{[DEF]}$

In (793), the QP (*syoozyo* ‘girl’) that is going to be raised is in v*P₁. The derivation up to FinP₂ follows the derivation in (768). CP₂ is projected above FinP₂. The head of CP₂ is a declarative complementizer *-to*, which carries interpretable +[DECL], uninterpretable [FIN] with EPP, uninterpretable [F] and [K], as in the case discussed above.

The situation in (795) is very much like the one we have described for (787). β seeks a category that has [DEF]. It matches QP in FinP_1 . There is no category that has this feature and is outside a strong phase that includes this QP. Thus, the agreement is not blocked by the Intervention Condition. Then, the QP moves to $\text{Spec},\beta\text{P}$, deriving the following structure:

- 796) $[\beta\text{P} [\text{QP syoozyo}]_7 [\beta [\text{FinP}_4 [\text{FBI}]_6 [\text{Fin} [\text{SP} [\text{CP}_2 [\text{FinP}_2 [\text{FinP}_2 [\text{DP keikan}]_2 [\text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{FinP}_1 \text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{t}_2 [\text{v}^* [\text{yuukai si} [\text{DP D t}_7]]]]-\text{ta}]]] [\text{C t}_{\text{FinP}_1}] [\text{V} [\text{VP}_2 \text{V t}_{\text{CP}_1]]]]]]]] [\text{C-to t}_{\text{FinP}_2}]]]] [\text{S} [\text{FinP}_3 \text{Fin} [\text{TP}_3 [\text{v}^*\text{P}_3 \text{t}_6 [\text{v}^* [\text{VP}_3 \text{V t}_{\text{CP}_2}]]] [\text{T t}_{\text{v}^*\text{P}_3}]]]]]]]]]]$

The movement of the QP is not excluded by the Opacity Condition, since it has not been opaque. The relative complementizer is projected above βP :

- 797) $[\text{CP}_3 \text{C} [\beta\text{P} [\text{QP syoozyo}]_7 [\beta [\text{FinP}_4 [\text{FBI}]_6 [\text{Fin} [\text{SP} [\text{CP}_2 [\text{FinP}_2 [\text{FinP}_2 [\text{DP keikan}]_2 [\text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{FinP}_1 \text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{t}_2 [\text{v}^* [\text{yuukai si} [\text{DP D t}_7]]]]-\text{ta}]]] [\text{C t}_{\text{FinP}_1}] [\text{V} [\text{VP}_2 \text{V t}_{\text{CP}_1]]]]]]]] [\text{C to t}_{\text{FinP}_2}]]]] [\text{S} [\text{FinP}_3 \text{Fin} [\text{TP}_3 [\text{v}^*\text{P}_3 \text{t}_6 [\text{v}^* [\text{VP}_3 \text{V t}_{\text{CP}_2}]]] [\text{T t}_{\text{v}^*\text{P}_3}]]]]]]]]]]$

The complement of βP (FinP_4) moves up past the ‘head’ QP and lands in Spec,CP .

Finally, QP and DP are projected.

- 798) $[\text{DP D} [\text{QP Q} [\text{CP}_3 [\text{FinP}_4 [\text{FBI}]_6 [\text{Fin} [\text{SP} [\text{CP}_2 [\text{FinP}_2 [\text{FinP}_2 [\text{DP keikan}]_2 [\text{Fin} [\text{TP}_2 \text{T} [\text{VP}_2 [\text{CP}_1 [\text{FinP}_1 \text{Fin} [\text{TP}_1 [[\text{v}^*\text{P}_1 \text{t}_2 [\text{v}^* [\text{yuukai si} [\text{DP D t}_7]]]]-\text{ta}]]] [\text{C t}_{\text{FinP}_1}] [\text{V} [\text{VP}_2 \text{V t}_{\text{CP}_1]]]]]]]] [\text{C-to t}_{\text{FinP}_2}]]]] [\text{S} [\text{FinP}_3 \text{Fin} [\text{TP}_3 [\text{v}^*\text{P}_3 \text{t}_6 [\text{v}^* [\text{VP}_3 \text{V t}_{\text{CP}_2}]]] [\text{T t}_{\text{v}^*\text{P}_3}]]]]]]]] [\text{C} [\beta\text{P} [\text{QP syoozyo}]_7 [\beta t_{\text{FinP}_4}]]]]]]$

As in the case of subject relativization, QP-raising out of an embedded clause in object relativization can take the direct route. In our analysis, the movement of a relative

object DP to a pre-subject position is not only unnecessary but also destructive; it conflicts with the Case assignment of the overt subject. The same conflict arises with the movement of a relative object DP from within an embedded clause to a pre-subject position of a higher clause.

We have seen in the above examples that many strong phases headed by a probe can be crossed in one step. In Japanese examples, strong phases are crossed typically in two contexts. In one context, the category that the head of a given strong phase agrees is the complement of the head. We have seen many instances of this with (declarative) CPs. In another context, the category that the head of a given strong phase agrees is the previous strong phase. *v**P agreeing with CP falls under this case. We will see in a later section that there are instances in Japanese that do not fall under either case.

5.3.3. Out of Wh-islands

Relativization of a subject or an object out of an embedded *wh*-question is possible in Japanese, although it seems slightly degraded compared to relativization out of an embedded declarative. Here are some examples:

SUBJECT OUT OF EMBEDDED WH-QUESTION:

799) (?) [[FBI-ga [_{e₂} nani-wo takurande-iru-ka] sitte-iru] dantai₂]

F.-NOM what-ACC attempt-I-QUES know-I group

‘the/a group that the FBI knows what they are planning’

800) (?) [[FBI -ga [_{e₂} dare-wo yuukai-si-ta-ka] sitte-iru] yoogisya₂]

F.-NOM who-ACC kidnap-do-PST-QUES know-I suspect

‘the/a suspect that the FBI knows who he kidnapped’

OBJECT OUT OF EMBEDDED WH-QUESTION:

5.3.4. Out of Relative Clause Islands

The question that we raised in the introduction asks why there is a contrast between relativization of a subject out of a subject and relativization of an object out of an object in Japanese. The former is possible while the latter is at least dubious. In this section, we demonstrate that derivations of the latter are ruled out by one of the two conditions we have been applying. The former, i.e., relativization of a subject out of a subject, on the other hand, finds a path that is not excluded by either condition.

5.3.4.1. *Out of Object Islands*

Japanese sentences that involve relativization out of an object relative clause are not readily acceptable, as shown in the following examples:

SUBJECT OUT OF OBJECT:

804) ?? [[keikan-ga [[e_2 e_1 yuukai-si-ta] syoozyo₁]-wo naguri.taosi-ta] otoko₂]
 officer-NOM kidnap-do-PST girl-ACC knock.down-PST man
 ‘the/a man who a police officer knocked down the girl who he kidnapped’

805) ?? [[noraneko-ga [[e_2 e_1 katte-i-ta] inu₁]-wo oikake.mawasi-ta] syoonen₂]
 stray.cat-NOM own-I-PST dog ACC follow.around-PST boy
 ‘the/a boy that a stray cat followed around the dog that he owned’

OBJECT OUT OF OBJECT:

806) ?* [[keikan-ga [[e_2 e_1 yuukai-si-ta] otoko₂]-wo naguri.taosi-ta] syoozyo₁]
 officer-NOM kidnap-do-PST man-ACC knock.down-PST girl
 ‘the/a girl who a police officer knocked down the man who kidnapped her’

807) ?* [[noraneko-ga [[e_2 e_1 katte-i-ta] syoonen₂]-wo oikake.mawasi-ta] inu₁]
 stray.cat-NOM own-I-PST boy ACC follow.around-PST dog
 ‘the/a dog that a stray cat followed around the boy who owned it’

- 809) $[_{CP2} C [_{\beta P} [_{QP5} \text{syoozyo}] [\beta [_{FinP2} [_{DP} D [_{QP7} \text{otoko}]]_2 [\text{Fin} [_{TP2} T [_{VP2} [_{CP1}$
 $[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N]^{EPP}$
 $[CASE]$
 $+ [KASE] \quad [KASE] \quad [KASE]$
 $[OP] \quad + [OP] \quad [OP]$
 $- [DEF] \quad [DEF]^{EPP} \quad - [DEF]$
 $[FIN]^{EPP} \quad + [FIN]$
 $+ [REL] \quad [REL]$
 $[_{FinP1} \text{Fin} [_{TP1} [[_{VP1} t_2 [v^* [\text{yuukai-si} [_{DP} D \text{ } t_{QP5}]]]] - \text{ta}]]] [C \text{ } t_{FinP1}]] [v$
 $[\phi N] \quad \alpha[\phi N]$
 $[CASE]$
 $[_{VP2} V \text{ } t_{CP1}]]]]]]]]]$

In (809), C of CP₂ is marked with interpretable +[REL] and uninterpretable [FIN] with EPP. CP₂ is a strong phase and its head is a probe. The head agrees with FinP₂, and FinP₂ is not the complement of CP₂. FinP₂ includes the previous strong phase, namely CP₁. Thus the categories contained in CP₁ become opaque at this phase. The categories include FinP₁ and all the categories in FinP₁. Note that the subject DP, which contains the ‘head’ (QP₇) of the subsequently derived relative, does not become opaque at this phase.

Let us move on to the next stage. Upon the agreement between C of CP₂ and FinP₂, FinP₂ moves to Spec,CP₂:

- 810) $[_{CP2} [_{FinP2} [_{DP} D [_{QP7} \text{otoko}]]_2 [\text{Fin} [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} \text{Fin} [_{TP1} [[_{VP1} t_2 [v^*$
 $[\text{yuukai-si} [_{DP} D \text{ } t_{QP5}]]]] - \text{ta}]]] [C \text{ } t_{FinP1}]] [v [_{VP2} V \text{ } t_{CP1}]]]]]]]] [C [_{\beta P} [_{QP5}$
 $\text{syoozyo}] [\beta \text{ } t_{FinP2}]]]$

- 812) [TP₁ [_v*P₃ [keikan] [v* [VP V [KP [DP₃ D [QP Q [CP₂ [FinP₂ [DP D [QP₇ otoko]]]₂ [Fin [TP₂ T [_vP₂ [CP₁ [FinP₁ Fin [TP₁ [[_v*P₁ t₂ [v* [yuukai-si [DP D t_{QP5}]]]-ta]]] [C t_{FinP1}]] [V [_vP₂ V t_{CP1}]]]]]]]]]] [C [βP [QP₅ syoozyo] [β t_{FinP2}]]] [K-wo t_{DP3}]]]] [T t_v*P₃]]

Above TP₃, FinP and SP are projected. S attracts the movement of the object PP.

- 813) [SP S [FinP₃ Fin [TP₃ [_v*P₃ [keikan] [v* [VP V [KP [DP₃ D [QP Q [CP₂ [FinP₂ [DP D [QP₇ otoko]]]₂ [Fin [TP₂ T [_vP₂ [CP₁ [FinP₁ Fin [TP₁ [[_v*P₁ t₂ [v* [yuukai-si [DP D t_{QP5}]]]-ta]]] [C t_{FinP1}]] [V [_vP₂ V t_{CP1}]]]]]]]]]] [C [βP [QP₅ syoozyo] [β t_{FinP2}]]] [K-wo t_{DP3}]]]] [T t_v*P₃]]]

The object PP moves to Spec,SP. CP₃ is projected above it:

- 814) [CP₃ C [SP [KP [DP₃ D [QP Q [CP₂ [FinP₂ [DP D [QP₇ otoko]]]₂ [Fin [TP₂ T [_vP₂ [CP₁ [FinP₁ Fin [TP₁ [[_v*P₁ t₂ [v* [yuukai-si [DP D t_{QP5}]]]-ta]]] [C t_{FinP1}]] [V [_vP₂ V t_{CP1}]]]]]]]]]] [C [βP [QP₅ syoozyo] [β t_{FinP2}]]] [K-wo t_{DP3}]] [S [FinP₃ Fin [TP₃ [_v*P₃ [keikan] [v* [VP V t_{KP}]]] [T t_v*P₃]]]]]]]

CP₃ is a strong phase and its head agrees with its complement. The projection of this category does not bring out opacity. SP moves to Spec,CP, and VP, and vP are projected above it:

- 815) [_vP V [_vP V [CP₃ [SP [KP [DP₃ D [QP Q [CP₂ [FinP₂ [DP D [QP₇ otoko]]]₂ [Fin [TP₂ T [_vP₂ [CP₁ [FinP₁ Fin [TP₁ [[_v*P₁ t₂ [v* [yuukai-si [DP D t_{QP5}]]]-ta]]] [C t_{FinP1}]] [V [_vP₂ V t_{CP1}]]]]]]]]]] [C [βP [QP₅ syoozyo] [β t_{FinP2}]]] [K-wo t_{DP3}]] [S [FinP₃ Fin [TP₃ [_v*P₃ [keikan] [v* [VP V t_{KP}]]] [T t_v*P₃]]]]] [C t_{SP}]]]]

CP₃ moves to Spec,vP, and TP₄ is projected:

- 816) [TP₄ T [_vP [CP₃ [SP [KP [DP₃ D [QP Q [CP₂ [FinP₂ [DP D [QP₇ otoko]]]₂ [Fin [TP₂ T [_vP₂ [CP₁ [FinP₁ Fin [TP₁ [[_v*P₁ t₂ [v* [yuukai-si [DP D t_{QP5}]]]-ta]]] [C t_{FinP1}]] [V [_vP₂ V

$t_{CP1}]])])])]) [C [\beta_P [QP5 \text{ syoozyo}] [\beta t_{FinP2}]]] [K\text{-wo } t_{DP3}] [S [\text{FinP3 Fin } [TP3$
 $[v^*P3 [\text{keikan}] [v^* [VP V t_{KP}]]] [T t_{v^*P3}]]])]) [C t_{SP}] [V [VP V t_{CP3}]]]$

FinP₄ is projected. Then, the subject (*keikan*) of the upper clause moves to Spec,FinP₄:

817) $[\text{FinP4 } [\text{keikan}]_6 [\text{Fin } [TP4 T [VP [CP3 [SP [KP [DP3 D [QP Q [CP2 [\text{FinP2 } [DP D [QP7$
 $\text{otoko}]]_2 [\text{Fin } [TP2 T [VP2 [CP1 [\text{FinP1 Fin } [TP1 [[v^*P1 } t_2 [v^* [\text{yuukai-si } [DP D t_{QP5}]]]]-$
 $\text{ta}]]] [C t_{FinP1}]] [V [VP2 V t_{CP1}]]])])])]) [C [\beta_P [QP5 \text{ syoozyo}] [\beta t_{FinP2}]]] [K\text{-wo}$
 $t_{DP3}] [S [\text{FinP3 Fin } [TP3 [v^*P3 t_6 [v^* [VP V t_{KP}]]] [T t_{v^*P3}]]])]) [C t_{SP}] [V [VP V$
 $t_{CP3}]]])])]$

Then, another β_P is projected to host the ‘head’ of the larger relative:

818) $[\beta_P \beta [\text{FinP4 } [\text{keikan}]_6 [\text{Fin } [TP4 T [VP [CP3 [SP [KP [DP3 D [QP Q [CP2 [\text{FinP2}$
 $\alpha[\phi N] \quad [\phi N]^{EPP} \quad \alpha[\phi N] \text{----}$
 $[\text{CASE}] \quad [\text{CASE}] \quad [\text{CASE}]$
 $[\text{KASE}] \quad +[\text{KASE}] \quad [\text{KASE}]$
 $+[\text{OP}]$
 $[\text{DEF}]^{EPP}$
 $[\text{DP D } [QP7 \text{ otoko}]]_2 [\text{Fin } [TP2 T [VP2 [CP1 [\text{FinP1 Fin } [TP1 [[v^*P1 } t_2 [v^* [\text{yuukai-si}$
 $\alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N]^{EPP} \quad [\phi N]$
 $[\text{CASE}]$
 $[\text{KASE}]$
 $[\text{OP}]$
 $-[\text{DEF}]$
 $+[\text{FIN}]$
 $[\text{REL}]$
 $[\text{DP D } t_{QP5}]]]]-\text{ta}]]] [C t_{FinP1}]] [V [VP2 V t_{CP1}]]])])])]) [C [\beta_P [QP5 \text{ syoozyo}] [\beta$
 $t_{FinP2}]]] [K\text{-wo } t_{DP3}] [S [\text{FinP3 Fin } [TP3 [v^*P3 t_6 [v^* [VP V t_{KP}]]] [T t_{v^*P3}]]])]) [C$
 $t_{SP}] [V [VP V t_{CP3}]]])])]$

In (818), β seeks a matching feature $[\text{DEF}]$. The agreement is not problematic; it agrees with QP₇ in Spec,FinP₂. There is no category which carries this feature on its head and which c-commands a strong phase that contains QP₇. Recall, however, that QP₇ has been

- 820) $[_{CP2} C [_{\beta P} [_{QP7} \text{otoko}] [\beta [_{FinP2} [_{DP} D \text{ } t_{QP7}]_2 [\text{Fin} [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} \text{Fin}$
 $[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N]^{EPP}$
 $[CASE]$
 $+[KASE] \quad [KASE]$
 $[OP] \quad +[OP]$
 $-[DEF] \quad [\text{DEF}]^{EPP}$
 $[FIN] \quad +[FIN]$
 $+[REL] \quad [REL]$
 $[_{TP1} [[_{VP1} t_2 [v^* [\text{yuukai-si} [_{DP} D [_{QP5} \text{syoozyo}]]]]]\text{-ta}]] [C t_{FinP1}]] [v$
 $[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N]$
 $[CASE]$
 $[KASE]$
 $[OP]$
 $-[DEF]$
 $[_{VP2} V t_{CP1}]]]]]]]]]$

CP_2 is a strong phase and its head is a probe. The head agrees with $FinP_2$, and $FinP_2$ is not the complement of CP_2 . $FinP_2$ includes CP_1 , the previous strong phase. Thus the categories under CP_1 become opaque at this phase. QP_5 (*syoozyo*), which is to be moved later, is one of them.

The derivation proceeds and v^*P_3 is built, which is another strong phase:

- 821) $[_{v^*P3} [\text{keikan}] [v^* [_{VP} V [_{KP} [_{DP3} D [_{QP} Q [_{CP2} [_{FinP2} [_{DP} D \text{ } t_{QP7}]_2 [\text{Fin} [_{TP2} T$
 $\alpha[\phi N] \quad [\phi N] \quad \alpha[\phi N] \text{----} \quad \alpha[\phi N] \quad [\phi N]^{EPP}$
 $[CASE] \quad [CASE] \quad [CASE]$
 $[KASE] \quad [KASE]$
 $+ [FIN]$
 $[REL]$
 $[_{VP2} [_{CP1} [_{FinP1} \text{Fin} [_{TP1} [[_{VP1} t_2 [v^* [\text{yuukai-si} [_{DP} D [_{QP5} \text{syoozyo}]]]]]\text{-ta}]] [C$
 $[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N]$
 $[CASE]$
 $[KASE]$
 $[OP]$
 $-[DEF]$

.

$$\begin{array}{c}
t_{\text{FinP1}}]] [V [VP_2 V t_{\text{CP1}}]]]]]] [C [\beta_P [QP_7 \text{otoko}] [\beta t_{\text{FinP2}}]]] [K\text{-wo } t_{\text{DP3}}]]]] \\
\begin{array}{ccc}
\begin{array}{c} [\phi_N] \\ +[KASE] \end{array} & \begin{array}{c} \text{---}[] \\ [KASE] \end{array} & \begin{array}{c} [\phi_N]^{\text{EPP}} \\ +[KASE] \end{array} \\
\begin{array}{c} [\phi_N]^{\text{EPP}} \\ +[REL] \end{array} & \begin{array}{c} [\Theta_P] \\ -[DEF] \end{array} & \begin{array}{c} +[OP] \\ [\Theta EF] \end{array} \\
& & [K]
\end{array}
\end{array}$$

In (821), v^*P_3 is a strong phase and its head is a probe. It agrees with the newly projected DP (DP_3) and checks its Case feature. DP_3 is not the complement of v^*P_3 and it includes the previous strong phase CP_2 . At this phase, the categories that are included in CP_2 become opaque. CP_2 includes QP_5 . At this stage, QP_5 is defined as opaque for the second time.

In short, derivations of relativization out of an object violate the Opacity Condition, whether the relative ‘head’ QP originates in the subject or object position. The movement of the ‘head’ QP violates the Opacity Condition twice in relativization of an object out of an object, whereas it violates only once in relativization of a subject out of an object. The former is judged less acceptable than the latter. The difference in the number of violations reflects the difference in the degrees of acceptability.

5.3.4.2. *Out of Subject Islands*

In contrast with relativization out of an object, relativization out of a subject is possible if it is of a subject. The latter also contrasts with relativization of an object out of a subject. The following examples illustrate this contrast:

SUBJECT OUT OF SUBJECT:

- 822) [[[[e_2 e_1 *yuukai-si-ta*] *syoozyo*₁]-ga *keikan wo naguri.taosi-ta*] *otoko*₂]
 kidnap-do-PST girl-NOM officer-ACC knock.down-PST man
 ‘the/a man who the girl who he kidnapped knocked a police officer down’
- 823) [[[[e_2 e_1 *katte-i-ta*] *inu*₁]-ga *noraneko-wo oikake.mawasi-ta*] *syoonen*₂]
 own-I-PST dog-NOM stray.cat ACC follow.around-PST boy
 ‘the/a boy who the dog that he owned followed around a stray cat’

OBJECT OUT OF SUBJECT:

- 824) ?? [[[[e_2 e_1 *yuukai-si-ta*] *otoko*₂]-ga *keikan-wo naguri.taosi-ta*] *syoozyo*₁]
 kidnap-do-PST man-NOM officer-ACC knock.down-PST girl
 ‘the/a girl who the man who kidnapped her knocked a police officer down’
- 825) ?? [[[[e_2 e_1 *katte-i-ta*] *syoonen*₂]-ga *noraneko-wo oikake.mawasi-ta*] *inu*₁]
 own-I-PST boy-NOM stray.cat ACC follow.around-PST dog
 ‘the/a dog that the boy who owned followed around a stray cat’

In this sub-section, we will show that relativization of a subject out of a subject can be derived without violating the Opacity Condition. On the other hand, when an object is relativized out of a subject, the condition is violated.

Let us begin with the relativization of a subject out of a subject like (822). Again, we start with a partially derived structure, referring to (769) for the steps up to this point:

- 826) [_{TP} [_{QP} *syoozyo*]₅ [_β [_{FinP}₂ [_{DP} *D* [_{QP}₇ *otoko*]]]₂ [_{Fin} [_{TP}₂ *T* [_{VP}₂ [_{CP}₁ [_{FinP}₁ [_{Fin}
 $\alpha[\phi N]$ $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{EPP}$
 $[\phi N]$ $[\phi N]$ $[\phi N]$ $[\phi N]$
 $[\text{KASE}]$ $[\text{CASE}]$ $[\text{KASE}]$ $[\text{KASE}]$
 $[\text{OP}]$ $+\text{[OP]}$ $[\text{OP}]$ $[\text{OP}]$
 $-\text{[DEF]}$ $[\text{DEF}]^{EPP}$ $-\text{[DEF]}$ $-\text{[DEF]}$
 $+\text{[FIN]}$
 $[\text{REL}]$
_{TP}₁ [[_{v*P}₁ t_2 [_{v*} [*yuukai-si* [_{DP} *D* t_5]]]-ta]]] [_C $t_{\text{FinP}1}$] [_V [_{VP}₂ *V* $t_{\text{CP}1}$]]]]]]]]
 $[\phi N]$ $\alpha[\phi N]$
 $[\text{CASE}]$

To complete the relativization of the object with *syoozyo* ‘girl’ as the ‘head’, we first project a CP above β P, to the specifier of which the complement of β P will raise:

- 827) $[_{CP2} C [_{\beta P} [_{QP} \text{syoozyo}]_5 [_{\beta} [_{FinP2} [_{DP} D [_{QP7} \text{otoko}]]_2 [_{Fin} [_{TP2} T [_{VP2} [_{CP1}$
 $[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N]^{EPP}$
 $+[KASE] \quad [KASE] \quad [CASE] \quad [KASE]$
 $[\Theta P] \quad +[OP] \quad [OP]$
 $-[DEF] \quad [DEF]^{EPP} \quad -[DEF]$
 $[FIN] \quad +[FIN]$
 $+ [REL] \quad [REL]$
 $[_{FinP1} Fin [_{TP1} [[_{v*P1} t_2 [v^* [\text{yuukai-si} [_{DP} D t_5]]]]-ta]]] [C t_{FinP1}]]$
 $[\phi N] \quad \alpha[\phi N]$
 $[CASE]$
 $[v [_{VP2} V t_{CP1}]]]]]]]]]$

In (827), CP_2 is a strong phase and its head is a probe. The head agrees with $FinP_2$, and $FinP_2$ is not the complement of CP_2 . $FinP_2$ includes CP_1 , the previous strong phase.

Thus the categories under CP_1 become opaque at this phase. The QP that we attempt to raise later is QP_7 , and fortunately it not included in CP_1 . Under the agreement between C of CP_2 and $FinP_2$, $FinP_2$ moves to Spec, CP_2 . After that, QP and DP are projected:

- 828) $[_{DP3} D [_{QP} Q [_{CP2} [_{FinP2} [_{DP} D [_{QP7} \text{otoko}]]_2 [_{Fin} [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} Fin [_{TP1}$
 $[[_{v*P1} t_2 [v^* [\text{yuukai-si} [_{DP} D t_{QP5}]]]]-ta]]] [C t_{FinP1}]] [v [_{VP2} V t_{CP1}]]]]]]]]] [C [_{\beta P}$
 $[_{QP5} \text{syoozyo}] [_{\beta} t_{FinP2}]]]]]$

There is another line of project, in which a v^*P is being built, call it v^*P_{03} . Its complement is a VP headed by the transitive verb *naguri.taosu* ‘to knock down’, and this VP has an object *keikan-wo* ‘police officer-ACC’. This project has built the following structure:

- 829) $[_{v^*P_03} v^* [_{VP} V [_{KP} [keikan] -wo]]]$

$$\begin{array}{ccc} [\phi N] & \alpha[\phi N] & [\phi N]^{EPP} \\ & [CASE] & \\ & [\cancel{KASE}] & +[KASE] \end{array}$$

Now DP_3 merges with v^*P_{03} , deriving the following structure:

- 830) $[_{v^*P_03} [_{DP_3} D [_{QP} Q [_{CP_2} [_{FinP_2} [_{DP} D [_{QP_7} otoko]]_2 [_{Fin} [_{TP_2} T [_{VP_2} [_{CP_1} [_{FinP_1} Fin [_{TP_1} [[_{v^*P_1} t_2 [v^* [yuukai-si [_{DP} D t_{QP_5}]]]-ta]]] [C t_{FinP_1}]] [v [_{VP_2} V t_{CP_1}]]]]]]]] [C [_{\beta P} [_{QP_5} syoozyo] [\beta t_{FinP_2}]]]] [v^* [_{VP} V [_{KP} keikan-wo]]]$

Head v^* of v^*P_3 is a probe but it does not c-command DP_3 . Thus, no category in DP_3 is made opaque at this phase.

Above v^*P_{03} , TP_{03} is projected. v^*P_{03} moves to Spec, TP_{03} :

- 831) $[_{TP_03} [_{v^*P_03} [_{DP_3} D [_{QP} Q [_{CP_2} [_{FinP_2} [_{DP} D [_{QP_7} otoko]]_2 [_{Fin} [_{TP_2} T [_{VP_2} [_{CP_1} [_{FinP_1} Fin [_{TP_1} [[_{v^*P_1} t_2 [v^* [yuukai-si [_{DP} D t_{QP_5}]]]-ta]]] [C t_{FinP_1}]] [v [_{VP_2} V t_{CP_1}]]]]]]]] [C [_{\beta P} [_{QP_5} syoozyo] [\beta t_{FinP_2}]]]] [v^* [_{VP} V [_{KP} keikan-wo]]] [T t_{v^*P_03}]]$

Above TP_{03} , $FinP$ and SP are projected. S attracts the movement of the object PP .

- 832) $[_{SP} S [_{FinP_03} Fin [_{TP_3} [_{v^*P_03} [_{DP_3} D [_{QP} Q [_{CP_2} [_{FinP_2} [_{DP} D [_{QP_7} otoko]]_2 [_{Fin} [_{TP_2} T [_{VP_2} [_{CP_1} [_{FinP_1} Fin [_{TP_1} [[_{v^*P_1} t_2 [v^* [yuukai-si [_{DP} D t_{QP_5}]]]-ta]]] [C t_{FinP_1}]] [v [_{VP_2} V t_{CP_1}]]]]]]]] [C [_{\beta P} [_{QP_5} syoozyo] [\beta t_{FinP_2}]]]] [v^* [_{VP} V [_{KP} keikan-wo]]] [T t_{v^*P_03}]]]]$

The object PP moves to Spec, SP . CP_{03} is projected above it:

- 833) $[_{CP_03} C [_{SP} [_{KP} keikan-wo]] [S [_{FinP_03} Fin [_{TP_03} [_{v^*P_03} [_{DP_3} D [_{QP} Q [_{CP_2} [_{FinP_2} [_{DP} D [_{QP_7} otoko]]_2 [_{Fin} [_{TP_2} T [_{VP_2} [_{CP_1} [_{FinP_1} Fin [_{TP_1} [[_{v^*P_1} t_2 [v^* [yuukai-si [_{DP} D$

Then, another βP is projected to host the ‘head’ of the larger relative:

- 838) $[\beta P \beta \text{ }_{\text{FinP04}} [\text{DP}_3 \text{ D }_{\text{QP}} \text{ Q }_{\text{CP2}} [\text{FinP2 }_{\text{DP}} \text{ D }_{\text{QP7}} \text{ otoko}]]_2 [\text{Fin }_{\text{TP2}} \text{ T }_{\text{VP2}} [\text{CP1}$
 $\alpha[\phi N]$ $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{\text{EPP}}$
 $[\text{CASE}]$ $[\text{CASE}]$
 $[\text{KASE}]$ $[\text{KASE}]$
 $+[\text{OP}]$ $[\text{OP}]$
 $[\text{DEF}]^{\text{EPP}}$ $-[\text{DEF}]$
 $+[\text{FIN}]$
 $[\text{REL}]$
 $_{\text{FinP1}} \text{ Fin }_{\text{TP1}} [[\text{v}^* \text{P1 } t_2 [\text{v}^* [\text{yuukai-si }_{\text{DP}} \text{ D }_{\text{TP5}}]]]]\text{-ta}]] [\text{C } t_{\text{FinP1}}]] [\text{V }_{\text{VP2}} \text{ V}$
 $t_{\text{CP1}}]]]]]] [\text{C }_{\beta P} [\text{QP5 syoozyo}] [\beta t_{\text{FinP2}}]]] [\text{Fin-ga }_{\text{TP04}} \text{ T }_{\text{VP}} [\text{CP03 }_{\text{SP}} [\text{KP}$
 $\text{keikan-wo}]] [\text{S }_{\text{FinP03}} \text{ Fin }_{\text{TP03}} [\text{v}^* \text{P03 } t_{\text{DP3}} [\text{v}^* [\text{VP } \text{V } t_{\text{KP}}]]] [\text{T } t_{\text{v}^* \text{P03}}]]]] [\text{C } t_{\text{SP}}]] [\text{V}$
 $_{\text{VP}} \text{ V } t_{\text{CP03}}]]]]]]]$

In (838), β seeks a matching feature $[\text{DEF}]$. It agrees with QP_7 in Spec,FinP_2 . There is no category which carries this feature between them. QP_7 has not been opaque. It did not become opaque at CP_2 , $\text{v}^* \text{P}_03$, or CP_03 . QP_7 moves to $\text{Spec,}\beta P$. The movement does not violate the Opacity Condition.

In contrast with relativization of a subject out of a subject, the Opacity Condition rules out the QP-raising in relativization of an object out of a subject. Let us find out how that happens. The example that we are referring to is (824) above. The following is a partial derivation:

- 839) $[\beta P [\text{QP7 otoko}] [\beta \text{ }_{\text{FinP2}} [\text{DP } \text{D }_{\text{QP7}}]]_2 [\text{Fin }_{\text{TP2}} \text{ T }_{\text{VP2}} [\text{CP1 }_{\text{FinP1}} \text{ Fin }_{\text{TP1}} [[\text{v}^* \text{P1 } t_2$
 $\alpha[\phi N]$ $\alpha[\phi N]$ $[\phi N]^{\text{EPP}}$
 $[\text{CASE}]$
 $[\text{KASE}]$
 $[\text{OP}]$ $+[\text{OP}]$
 $-[\text{DEF}]$ $[\text{DEF}]^{\text{EPP}}$
 $+[\text{FIN}]$
 $[\text{REL}]$

$$\begin{array}{c}
[v^* [yuukai-si [_{DP} D [_{QP5} syoozyo]]]]-ta]] [C t_{FinP1}] [v [_{VP2} V t_{CP1}}]]]]]]]] \\
[\phi N] \quad \quad \alpha[\phi N] \quad \alpha[\phi N] \\
\quad \quad [CASE] \\
\quad \quad \quad [KASE] \\
\quad \quad \quad [OP] \\
\quad \quad \quad -[DEF]
\end{array}$$

From this point, there are three strong phases that the derivation encounters. The first one is CP₂. CP₂ is projected above βP:

$$\begin{array}{c}
840) \quad [_{CP2} C [_{\beta P} [_{QP7} otoko] [\beta [_{FinP2} [_{DP} D t_{QP7}]_2 [_{Fin} [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} Fin \dots \\
\quad \quad [\phi N] \quad \quad \alpha[\phi N] \quad \quad \alpha[\phi N] \quad \quad [\phi N]^{EPP} \\
\quad \quad \quad \quad \quad [CASE] \\
+ [KASE] \quad [KASE] \\
\quad \quad [OP] \quad + [OP] \\
\quad \quad -[DEF] \quad [DEF]^{EPP} \\
\quad \quad [FIN] \quad \quad \quad + [FIN] \\
+ [REL] \quad \quad \quad [REL] \\
[_{TP1} [[_{v^*P1} t_2 [v^* [yuukai-si [_{DP} D [_{QP5} syoozyo]]]]-ta]] [C t_{FinP1}] \\
\quad \quad [\phi N] \quad \quad \alpha[\phi N] \quad \alpha[\phi N] \\
\quad \quad \quad [CASE] \\
\quad \quad \quad \quad [KASE] \\
\quad \quad \quad \quad [OP] \\
\quad \quad \quad \quad -[DEF] \\
[v [_{VP2} V t_{CP1}}]]]]]]]]]
\end{array}$$

CP₂ is a strong phase and its head is a probe. The head agrees with FinP₂, and FinP₂ is not the complement of CP₂. FinP₂ includes CP₁, the previous strong phase. Thus the categories under CP₁ become opaque at this phase. The category that we attempt to raise is QP₅. This category is in CP₁ and it becomes opaque at this phase.

The second strong phase is v*P₀₃:

- 841) [_{v*P03} [_{DP3} D [_{QP} Q [_{CP2} [_{FinP2} [_{DP} D *t*_{QP7}]₂ [Fin [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} Fin [_{TP1} [[_{v*P1} *t*₂ [_{v*} [yuukai-si [_{DP} D [_{QP5} syoozyo]]]]]-ta]]] [C *t*_{FinP1}]] [_v [_{VP2} V *t*_{CP1}]]]]]]]]] [C [_{βP} [_{QP7} otoko] [β *t*_{FinP2}]]]]] [_{v*} [_{VP} V [_{KP} keikan-wo]]]

Since _{v*P}₀₃ does not c-command _{DP}₃, nothing becomes opaque at this phase.

The third strong phase is _{CP}₀₃:

- 842) [_{CP03} C [_{SP} [_{KP} keikan-wo]] [S [_{FinP03} Fin [_{TP03} [_{v*P03} [_{DP3} D [_{QP} Q [_{CP2} [_{FinP2} [_{DP} D *t*_{QP7}]₂ [Fin [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} Fin [_{TP1} [[_{v*P1} *t*₂ [_{v*} [yuukai-si [_{DP} D [_{QP5} syoozyo]]]]]-ta]]] [C *t*_{FinP1}]] [_v [_{VP2} V *t*_{CP1}]]]]]]]]] [C [_{βP} [_{QP7} otoko] [β *t*_{FinP2}]]]]] [_{v*} [_{VP} V *t*_{KP}]]] [T *t*_{v*P03}]]]]]]]

Nothing becomes opaque at this phase because the category that C agrees with is its complement.

Finally, _{βP} is projected and _β seeks for _{QP}₅.

- 843) [_{βP} β [_{FinP04} [_{DP3} D [_{QP} Q [_{CP2} [_{FinP2} [_{DP} D *t*_{QP7}]₂ [Fin [_{TP2} T [_{VP2} [_{CP1} [_{FinP1} Fin [_{TP1} [[_{v*P1} *t*₂ [_{v*} [yuukai-si [_{DP} D [_{QP5} syoozyo]]]]]-ta]]] [C *t*_{FinP1}]] [_v [_{VP2} V *t*_{CP1}]]]]]]]]] [C [_{βP} [_{QP7} otoko] [β *t*_{FinP2}]]]]] [Fin-ga [_{TP04} T [_{VP} [_{CP03} [_{SP} [_{KP} keikan-wo]] [S [_{FinP03} Fin [_{TP03} [_{v*P03} *t*_{DP3} [_{v*} [_{VP} V *t*_{KP}]]] [T *t*_{v*P03}]]]]]]] [C *t*_{SP}]] [_v [_{VP} V *t*_{CP03}]]]]]]]

Unfortunately, _{QP}₅ has been opaque since _{CP}₂. Thus, the movement to Spec,_{βP} will violate the Opacity Condition.

To summarize, relativization of a subject out of a subject can be derived without violating the Opacity Condition. In contrast, the derivation of relativization of an object out of a subject violates this condition. The derivation of relativization of an object out

of a subject is predicted to be more acceptable than that of relativization of an object out of an object, since the latter violates the Opacity Condition twice.

5.3.4.3. *Out of Scrambled Object Islands*

We have seen that the QP-raising in relativization of a subject out of an object violates the Opacity Condition. Examples of this class are not totally acceptable. They remain so even when the object has been scrambled to a pre-subject position. A slight improvement might be felt in some instances but they are not as good as corresponding examples of relativization of a subject out of a subject.

SUBJECT OUT OF OBJECT, OSV:

- 844) ?? [[[[e_2 e_1 *yuukai-si-ta*] *syoozyo₁*]-wo *keikan-ga* *naguri.taosi-ta*] *otoko₂*]
 kidnap-do-PST girl-ACC officer-NOM knock.down-PST man
 ‘the/a man who the girl who he kidnapped, a police officer knocked down’
- 845) ?? [[[[e_2 e_1 *katte-i-ta*] *inu₁*]-wo *noraneko-ga* *oikake.mawasi-ta*] *syoonen₂*]
 own-I-PST dog-ACC stray.cat-NOM follow.around-PST boy
 ‘the/a boy that the dog that he owned, a stray cat followed around’

This phenomenon is expected in our analysis. We discussed their non-scrambling counterparts in section 5.3.4.1. The relative ‘head’ QP in the subject position internal to the larger object becomes opaque when the transitive v^*P is projected above the object, as illustrated in (811). The structure is repeated below:

- 846) $[_{vP3} [keikan] [_{v^*} [_{VP} V [_{KP} [_{DP3} D [_{QP} Q [_{CP2} [_{FinP2} [_{DP} D [_{QP7} otoko]]]_2] [_{Fin}$
 $\alpha[\phi N] \quad [\phi N] \quad \alpha[\phi N] \text{----} \quad \alpha[\phi N] \quad \alpha[\phi N] \quad [\phi N]^{EPP}$
 $[CASE] \quad [CASE] \quad [CASE] \quad [CASE]$
 $[KASE] \quad [KASE] \quad [KASE]$
 $[OP]$
 $-[DEF]$
 $+ [FIN]$
 $[REL]$
 $[_{TP2} T [_{VP2} [_{CP1} [_{FinP1} Fin [_{TP1} [[[_{vP1} t_2 [_{v^*} [yuukai-si [_{DP} D t_{QP5}]]]-ta]]] [C t_{FinP1}]]$
 $[\phi N] \quad \alpha[\phi N]$
 $[CASE]$
 $[V [_{VP2} V t_{CP1}]]]]]]] [C [_{\beta P} [_{QP5} syoozyo] [_{\beta} t_{FinP2}]]] [K-wo t_{DP3}]]]]]$
 $[\phi N] \quad \text{----} [] \quad [\phi N]^{EPP}$
 $+ [KASE] \quad [KASE] \quad + [KASE]$
 $[OP] \quad + [OP]$
 $- [DEF] \quad [-DEF]^{EPP}$
 $[FIN]^{EPP}$
 $+ [REL]$
 $[K]$

The opacity remains while the large object phrase moves past the subject. Thus, the movement of the QP still violates the Opacity Condition.

5.3.5. Relativization of Genitives

We have discussed the structure of phrases containing a Genitive phrase in Chapter 2. In our analysis, a Genitive-marked phrase is contained in a predicate (vP). This vP is projected under TP and FinP and moves to Spec,FinP (Predicate Inversion), leaving the nominal modifyee (the ‘head’ of the genitive) in Spec,TP. Under the vP there is VP which takes CP as its complement. Thus, like relative clauses, they are derived from a clause stacked on the top of another clause. Unlike relative clauses, however, the clause does not contain TopP or SP, and the highest complementizer of the higher clause is FinP. The head of this FinP is realized as the Genitive marker *-no*. The lower clause

contains vP, TP, and FinP, in which the phrase is generated and Case-assigned. Let us take the following example, in which the overt modifier is DP:

- 847) keikan-no musume
 officer-GEN daughter
 ‘the police officer’s daughter’

The DP *kaikan* ‘police officer’ is generated in the lower clause and moves to Spec,vP of the higher clause:

- 848) [_{VP2} [_{DP} keikan]₁ [_V [_{VP2} V [_{CP1} C [_{FinP1} Fin [_{TP1} ... [_{VP1} ... [musume] ... *t*₁]]]]]]]]

Then, the nominal to be modified *musume* ‘daughter’ moves to Spec,TP of the higher clause:

- 849) [_{TP2} [musume]₂ [_T [_{VP2} [_{DP} keikan]₁ [_V [_{VP} V [_{CP1} C [_{FinP1} Fin [_{TP1} ... [_{VP1} ... *t*₂ ... *t*₁]]]]]]]]]]

After that, a FinP is projected above the TP:

- 850) [_{FinP2} Fin [_{TP2} [musume]₂ [_T [_{VP2} [_{DP} keikan]₁ [_V [_{VP} V [_{CP1} C [_{FinP1} Fin [_{TP1} ... [_{VP1} ... *t*₂ ... *t*₁]]]]]]]]]]

Then, the vP whose specifier is occupied by the KP moves to Spec,FinP:

- 851) [_{FinP2} [_{VP2} [_{DP} keikan]₁ [_V [_{VP} V [_{CP1} C [_{FinP1} Fin [_{TP1} ... [_{VP1} ... *t*₂ ... *t*₁]]]]]]]]₃ [Fin [_{TP2} [musume]₂ [_T *t*₃]]]]

After the Predicate Inversion, the CP inside of the moved vP is truncated:

- 852) [_{FinP2} [_{VP2} [_{DP} keikan]₁ [_V [_{VP} V [_{CP} C [_{FinP1} Fin [_{TP1} ... [_{VP1} ... *t*₂ ... *t*₁]]]]]]]]₃ [Fin [_{TP2} [musume]₂ [_T *t*₃]]]]

Lastly, QP and DP are projected above the FinP:

- 853) [DP [QP [FinP2 [vP2 [DP keikan]₁ [v [vP V [CP₄ ...]]]]]₃ [Fin [TP2 [musume]₂ [T t₃]]]]]]

As we can see, the structure of Genitive phrases is similar to that of relative clauses, except that the phrase that hosts the predicate clause is FinP, instead of CP. This FinP is the highest complementizer. It may be reasonable to hypothesize that this Fin has a relative feature +[REL], just like the relative complementizer. If the FinP is a strong phase as we hypothesized, then we shall expect effects of movement similar to those of relatives. In non-relative sentences, overt Genitive phrases may occur as in the following:

- 854) [syoonen-no kai.inu]-ga noraneko-wo oikake.mawasi-ta
 boy-GEN pet.dog-NOM stray.cat ACC follow.around-PST
 ‘The boy’s pet dog followed around a stray cat.’
- 855) noraneko-ga [syoonen-no kai.inu]-wo oikake.mawasi-ta
 stray.cat-NOM boy-GEN pet.dog--ACC follow.around-PST
 ‘A stray cat followed around the boy’s pet dog.’

Japanese allows relativization of a genitive. The relativizability parallels that of subject relativization in that relativization of a genitive out of a subject is possible while relativization of a genitive out of an object is less than perfect:

GENITIVE OUT OF SUBJECT:

- 856) [[[[e₂ kai.inu₁]-ga noraneko-wo oikake.mawasi-ta] syoonen₂]
 pet.dog-NOM stray.cat-ACC follow.around-PST boy
 ‘the/a boy whose pet dog followed around a stray cat’
- 857) [[[[e₂] musume₁]-ga doroboo-wo naguri.taosi-ta] keikan₂]
 daughter-NOM burglar-ACC knock.down-PST officer

‘the/a police officer whose daughter knocked a burglar down’

GENITIVE OUT OF OBJECT:

858) ?? [[noraneko-ga [[e_2] kai.inu₁]-wo oikake.mawasi-ta] syoonen₂]

stray.cat-NOM pet.dog-ACC follow.around-PST boy

‘the/a boy whose pet dog a stray cat followed around’

859) ?? [[doroboo-ga [[e_2] musume₁]-wo naguri.taosi-ta] keikan₂]

burglar-NOM daughter-ACC knock.down-PST officer

‘the/a police officer whose daughter a burglar knocked down’

The marginal acceptability of relativization of a genitive out of an object persists even when it is complemented by scrambling of the object to a pre-subject position. The contrast is shown in the following examples:

GENITIVE OUT OF OBJECT, OSV:

860) ?? [[[[e_2] kai.inu₁]-wo noraneko-ga oikake.mawasi-ta] syoonen₂]

pet.dog-ACC stray.cat-NOM follow.around-PST boy

‘the/a boy whose pet dog a stray cat followed around’

861) ?? [[[[e_2] musume₁]-wo doroboo-ga naguri.taosi-ta] keikan₂]

daughter-ACC burglar-NOM knock.down-PST officer

‘the/a police officer whose daughter a burglar knocked down’

If our analysis on locality is correct, the above contrast indicates that there is a strong phase in the object in a way parallel with the structure of relative clauses.

If the head of FinP has +[REL], then it is a strong phase. Having a strong phase in this position gives us a desirable result to account for the contrast observed in (856)~(860). Let us incorporate the derivation of a Genitive phrase to the derivation of a relative clause. We first examine the derivation of relativization out of a subject

instantiated in (856). Let us begin with a partial derivation like the following, which is similar to (830) for the relativization of a subject out of a subject:

- 862) $[_{v^*P_{03}} [_{DP_3} D [_{QP} Q [_{FinP_2} [_{v^*P} [syoonen] [v^* [_{VP} V [_{CP_4} \dots]]] [Fin-no [_{TP} [kai.inu]_1 [T t_{v^*P}]]]]]]]] [v^* [_{VP} V [_{KP} [noraneko]-wo]]]]$

In (862), the DP that contains the genitive is merged to Spec, v^*P_{03} as the subject of the transitive verb *oikake.mawasi* ‘to follow around’. v^*P_{03} is a strong phase. However, the subject DP (DP_3) is not c-commanded by the head of v^*P_{03} . At this phase, therefore, the genitive *syoonen* does not become opaque.

The subsequent derivation encounters one other strong phase before the ‘head’ movement:

- 863) $[_{CP_{03}} C [_{SP} [_{KP} [noraneko]-wo]] [S [_{FinP_{03}} Fin [_{TP_{03}} [_{v^*P_{03}} [_{DP_3} D [_{QP} Q [_{FinP_2} [_{v^*P} [syoonen] [v^* [_{VP} V [_{CP_4} \dots]]] [Fin [_{TP} [kai.inu]_1 [T t_{v^*P}]]]]]]]] [v^* [_{VP} V t_{KP}]]] [T t_{v^*P_{03}}]]]]]]]$

In (863), CP_{03} is a strong phase and its head is a probe. However, this C agrees with its complement. This phase does not induce opacity. After this phase, no other strong phase is encountered before the movement of the ‘head’ *syoonen*. Thus, the movement of this phrase is not excluded by the Opacity Condition. The following is the structure just before the movement:

- 864) $[_{\beta P} \beta [_{FinP_{04}} [_{DP_3} D [_{QP} Q [_{FinP_2} [_{v^*P} [syoonen] [v^* [_{VP} V [_{CP_4} \dots]]] [Fin-no [_{TP} [kai.inu]_1 [T t_{v^*P}]]]]]]]] [Fin [_{TP_{04}} T [_{VP} [_{CP_{03}} [_{SP} [_{KP} keikan-wo]] [S [_{FinP_{03}} Fin [_{TP_{03}} [_{v^*P_{03}} t_{DP_3} [v^* [_{VP} V t_{KP}]]] [T t_{v^*P_{03}}]]]]] [C t_{SP}] [v [_{VP} V t_{CP_{03}}]]]]]]]]]$

The situation is different in the derivation of relativization of a genitive out of an object like (858). Again, we first examine a partially derived structure like the following, which is similar to (846) for relativization of a subject out of an object:

- 865) $[_{v^*P_3} [_{noraneko}] [_{v^*} [_{VP} V [_{KP} [_{DP_3} D [_{QP} Q [_{FinP_2} [_{v^*P} [_{syoonen}] [_{v^*}$
 $\alpha[\phi N] \quad [\phi N] \quad \alpha[\phi N] \text{----} \quad \alpha[\phi N]$
 $[CASE] \quad [CASE]$
 $[KASE] \quad [KASE]$
 $[OP]$
 --[DEF]
 $[_{VP} V [_{CP} \dots]]] [_{Fin-no} [_{TP} [_{kai.inu}]_1 [T t_{v^*P}]]]]]]] [K-wo t_{DP_3}]]]]]$

In (865), the DP that contains a genitive is in the KP which is the complement of the transitive verb *oikake.mawasi*. Above it, VP and v^*P_3 have been projected, and the subject has merged to its specifier. v^*P_3 is a strong phase and its head is a probe. It agrees with the newly projected DP (DP_3) (and KP) and checks its Case feature. DP_3 (and KP) is not the complement of v^*P_3 and it includes the previous strong phase $FinP_2$. At this phase, the categories under $FinP_2$ become opaque, including *syoonen*.

The subsequent derivation encounters one another strong phase before the ‘head’ movement:

- 866) $[_{CP_3} C [_{SP} [_{KP} [_{DP_3} D [_{QP} Q [_{FinP_2} [_{v^*P} [_{syoonen}] [_{v^*} [_{VP} V t_1]]]] [_{Fin-no} [_{TP}$
 $[_{kai.inu}]_1 [T t_{v^*P}]]]]]]] [K-wo t_{DP_3}]] [S \quad [_{FinP_3} Fin [_{TP_3} [_{v^*P_3} [_{noraneko}] [_{v^*} [_{VP}$
 $V t_{KP}]]] [T t_{v^*P_3}]]]]]]]$

In (866), CP_3 is a strong phase but its head agrees with its complement. The projection of this category does not bring out opacity. The derivation proceeds and βP is projected:

- 867) [_{βP} β [_{FinP4} [keikan]₆ [_{Fin} [_{TP4} T [_{VP} [_{CP3} [_{SP} [_{KP} [_{DP3} D [_{QP} Q [_{FinP2} [_{v*P} [syoonen]
 [_{v*} [_{VP} V *t*₁]] [_{Fin-no} [_{TP} [kai.inu]₁ [T *t*_{v*P}]]]]]]] [_{K-wo} *t*_{DP3}]] [_S [_{FinP3} _{Fin} [_{TP3}
 [_{v*P3} *t*₆ [_{v*} [_{VP} V *t*_{KP}]]] [T *t*_{v*P3}]]]]] [_C *t*_{SP}]] [_V [_{VP} V *t*_{CP3}]]]]]]]

β agrees with *syoonen*. However, it has been opaque since phase v*P₃. Thus, the movement is excluded by the Opacity Condition.

The same awkwardness is observed in relativization of a genitive out of a preposed object, shown in (860). The phrase *syoonen* has become opaque since v*P₃ was projected, and the opacity remains while the large object phrase moves past the subject.

The contrast in genitive relativization shown in (856)~(860), which is exactly parallel to the contrast observed in subject relativization, is explained by our structural analysis of Genitive phrases complemented by the hypothesis that the FinP headed by *-no* is a strong phrase.

Support is found for the structural analysis in which an overt modifier phrase is contained in a predicate and does not c-command the ‘head’ nominal, as in the case of relatives. There is a similarity between genitives and relatives with respect to a binding phenomenon. Japanese has two types of reflexives. One type includes *kare-zisin*, *kanozy-zisin*, *watasi-zisin*, etc., which are morphologically similar to *himself*, *herself*, *myself*, etc. in English. The other type includes *zibun* and *zibun-zisin* ‘self’. Binding of both types requires an antecedent that c-commands them. The former type requires local binding and can be bound by a non-subject. The latter type, if it is bound, is bound by a subject (Katada 1988, 1991; Aikawa 1993; Fiengo & Haruna 1987; and others). *Zibun-*

zisin requires a local binder, while *zibun* does not. The following examples illustrate these points:

- 868) keikan_k-wa [Joe_j-ga [*kare-zisin* *_{k/j}-ni tuite-no kiz]- wo kai-ta-to] omot-ta.
 officer-TOP Joe-NOM himself-DAT about-GEN article-ACC write-PST think-PST
 ‘The police officer thought that Joe wrote an article about himself*_{k/j}.’
- 869) keikan_k-wa [Joe_j-ga [*zibun-zisin* *_{k/j}-ni tuite-no kizi]-wo kai-ta-to] omot-ta.
 officer-TOP Joe-NOM self-self-DAT about-GEN article-ACC write-PST think-PST
 ‘The police officer thought that Joe wrote an article about self*_{k/j}.’
- 870) keikan_k-wa [Joe_j-ga [*zibun* _{k/j}-ni tuite-no kizi]-wo kai-ta-to] omot-ta.
 officer-TOP Joe-NOM self-DAT about-GEN article-ACC write-PST think-PST
 ‘The police officer thought that Joe wrote an article about self_{k/j}.’

When the ‘head’ of a relative contains a reflexive of *kare-zisin* type as in (871), it can be bound by either the subject of the relative clause or the subject of the higher clause, as observed by Ishii (1991). On the other hand, when the ‘head’ of a relative contains a reflexive of the *zibun* type as in (872), it can be bound only by the subject of the higher clause. In other words, the latter type does not exhibit reconstruction effects.

SUBJECT OF RELATIVE CLAUSE:

- 871) keikan_k-wa [[Joe_j-ga *e*₂ kai-ta] [*kare-zisin* _{k/j}-ni tuite-no kizi]₂]-wo yomi-tagat-ta.
 officer-TOP Joe-NOM write-PST himself-DAT about-GEN article-ACC read-want-PST
 ‘The police officer wanted to read an article about himself_{k/j} that Joe wrote.’
- 872) keikan_k-wa [[Joe_j-ga *e*₂ kai-ta] [*zibun-(zisin)* _{k/*j}-ni tuite-no kiz] ₂]-wo yomi-tagat-ta.
 officer-TOP Joe-NOM write-PST self-(self) DAT about-GEN article-ACC read-want-PST
 ‘The police officer wanted to read an article about himself_{k/*j} that Joe wrote.’

We find a parallel binding behavior in the genitive construction:

GENITIVE:

- 873) keikan_k-wa [[Joe_j-no] [*kare-zisin* _{k/j}-ni tuite-no kizi]₂]-wo yomi-tagat-ta.
 officer-TOP Joe-GEN himself-DAT about-GEN article-ACC read-want-PST
 ‘The police officer_k wanted to read an article by Joe_j about himself_{k/j}.’
- 874) keikan_k-wa [[Joe_j-no] [*zibun-(zisin)* _{k/*j}-ni tuite-no kiz]₂]-wo yomi-tagat-ta.
 officer-TOP Joe-GEN self-(self) DAT about-GEN article-ACC read-want-PST
 ‘The police officer_k wanted to read an article by Joe_j about himself_{k/*j}.’

In English, reflexives can be bound by a local c-commanding phrase, which includes the possessor in a DP. If a reflexive in a post-nominal position and there is a possessor marked by - 's in a DP, then it cannot be bound by the subject of a clause:

- 875) The police officer_k wanted to see Joe_j's picture of himself_{*j}

The binding phenomenon of the genitives in (873) and (874) is clearly different from that of English possessors. In particular, it makes little sense to say that a genitive in the pre-nominal position c-commands a reflexive in such a position. If they were, it would remain as a mystery why *zibun-(zisin)* cannot be bound by a genitive in that position.

In our structural analysis of the genitive construction, the genitive *Joe* in a sentence like (873) and (874) c-commands the reflexive at one point in derivation but the predicate that contains the genitive moves past the ‘head’ that contains the reflexive. In this respect, the derivation and the resultant structure are similar to those of relatives. In our view, the unavailability of binding of *zibun-(zisin)* in the genitive construction is not an exception to the general property of reflexives being able to take a c-commanding antecedent. It can be analyzed as a reflection of the property that *zibun-(zisin)* do not show reconstruction effects.

6. Some Issues

6.1. *Overt Resumptive Pronouns*

6.1.1. A ‘Last-resort’ Strategy

Overt resumptive pronouns may occur in relative clauses; however, their distribution is restricted (Kuno 1973). There are a few pronominal candidates for overt resumptive pronouns in relatives. Among them, we will examine the behavior of demonstrative pronouns like *sore* ‘it/that’, *soitu* ‘that fellow’, *soko* ‘there’, etc., (which have proximal, distal, and indefinite counterparts), rather than personal third person pronouns like *kare* ‘he/him’, *kanozoyō* ‘she/her’, etc. Ishii (1991) points out, following Yoshimura (1990), that demonstrative pronouns like *soitu* ‘that fellow’ can be bound by a quantificational antecedent while personal pronouns like *kare* ‘he/him’ cannot be bound by it:¹⁰²

876) Dare_i-ga soitu_i-no hahaoya-wo aisite-iru no. (Ishii 1991, 40)
 who-NOM he-GEN mother-ACC love-I QUES
 ‘Who loves his mother?’

877) * Dare_i-ga kare_i-no hahaoya-wo aisite-iru no.
 who-NOM he-GEN mother-ACC love-I QUES

Considering this fact, Ishii employs *soitu* for his tests of resumptive pronouns. We follow Ishii for the choice of overt resumptive forms.

¹⁰² See Fiengo and May (1994) for the discussion of the semantic property of *kare*.

In relativization of complements of verbs, a resumptive pronoun may occur when the relativization is out of a relative clause, and such a sentence may be judged to be (slightly) better than the null counterpart:

OBJECT OUT OF OBJECT:

- 878) ? [[keikan-ga [[*e*₂ *soitu*₁-wo *yuukai-si-ta*] *otoko*₂]-wo *naguri.taosi-ta*] *syoonen*₁]
 officer-NOM him-ACC kidnap-do-PST man-ACC knock.down-PST boy
 ‘the/a boy who a police officer knocked down the man who kidnapped him’

- 879) ?* [[keikan-ga [[*e*₂ *e*₁ *yuukai-si-ta*] *otoko*₂]-wo *naguri.taosi-ta*] *syoonen*₁]
 officer-NOM kidnap-do-PST man-ACC knock.down-PST boy

OBJECT OUT OF SUBJECT:

- 880) ? [[[[*e*₂ *soitu*₁-wo *yuukai-si-ta*] *otoko*₂]-ga *keikan-wo* *naguri.taosi-ta*] *syoonen*₁]
 him-ACC kidnap-do-PST man-NOM officer-ACC knock.down-PST boy
 ‘the/a boy who the man who kidnapped him knocked down a police officer’

- 881) ?? [[[[*e*₂ *e*₁ *yuukai-si-ta*] *otoko*₂]-ga *keikan-wo* *naguri.taosi-ta*] *syoonen*₁]
 kidnap-do-PST man-NOM officer-ACC knock.down-PST boy

In contrast, the occurrence of an overt resumptive pronoun leads to much lesser acceptability when relativization of a complement takes place from the highest clause or a complement clause:

OBJECT OUT OF SIMPLE CLAUSE:

- 882) * [[*keikan-ga* *soitu*₁-wo *yuukai-si-ta*] *syoonen*₁]
 officer-NOM him-ACC kidnap-do-PST boy
 ‘the/a boy who a police officer kidnapped (him)’

- 883) [[*keikan-ga* *e*₁ *yuukai-si-ta*] *syoonen*₁]
 officer-NOM kidnap-do-PST boy
 ‘the/a boy who a police officer kidnapped (him)’

OBJECT OUT OF EMBEDDED DECLARATIVE:

- 884) ?* [[FBI-ga [keikan-ga *soitu*₁-wo yuukai-si-ta-to] suisoku-site-iru] syoonen₁]
 F.-NOM officer-NOM him-ACC kidnap-do-PST-DECL conjecture-do-I boy
 ‘the/a boy who the FBI conjectures that a police officer kidnapped (him)’
- 885) [[FBI-ga [keikan-ga *e*₁ yuukai-si-ta-to] suisoku-site-iru] syoonen₁]
 F.-NOM officer-NOM kidnap-do-PST-DECL conjecture-do-I boy

The observation of the above contrasts seems to support an analysis of a (overt) resumptive strategy as a ‘last resort’ (Ishii 1991, Kaplan and Whitman 1995), which claims that a resumptive strategy can be employed only if movement leads to a violation of a locality condition. In this logic, the resumptive pronoun strategy is not the ‘last resort’ strategy in (882) and (792) because the movement that derives the relative clauses does not violate a locality condition. The resumptive pronoun strategy can be invoked in (878), in contrast, because the movement violates a locality condition. Given the resumptive-pronoun strategy as a ‘last-resort’ strategy, we expect the following pattern of contrasts in judgments between the gap ($\emptyset$) and the occurrence of a resumptive pronoun:

886)

	Simple Clause: $\emptyset$ vs. pronoun	Embedded Clause: $\emptyset$ vs. pronoun	Relative Clause: $\emptyset$ vs. pronoun
relativization of complement	ok vs. *	ok vs. ?*	?*/?? vs. ?

As we will see below, however, not all the classes of relatives exhibit this pattern.

6.1.2. Overt Resumptive Pronouns in Adjunct Relativization

The distribution of overt resumptive pronouns in adjunct relativization is slightly different from the above pattern. Take relativization of an instrumental adjunct and a place adjunct for instance. Kaplan & Whitman (1995, 48) point out that an overt

resumptive pronoun may occur in relativization of adjuncts out of simple clauses as shown in (887) and (889). If these sentences are compared with their gap counterparts ((888) and (890)), they are still worse than the latter in my intuition but they do not seem to be as awkward as the cases of object resumptive pronouns in (882):

INSTRUMENTAL ADJUNCT OUT OF SIMPLE CLAUSE:

887) ??? [[Mary-ga *sore*₁-de John-wo korosi-ta] naifu₁]

M.-NOM it-DE J.-ACC kill-PST knife

‘the knife with which Mary killed John’

888) [[Mary-ga *e*₁ John-wo korosi-ta] naifu₁]

M.-NOM J.-ACC kill-PST knife

LOCATION ADJUNCT OUT OF SIMPLE CLAUSE:

889) ??? [[gakusei-ga *soko*₁-de mensetu-wo uke-ta] kaigisitu₁]

student-NOM there-DE interview-ACC receive-PST room

‘the room in which students did the interview’

890) [[gakusei-ga *e*₁ mensetu-wo uke-ta] kaigisitu₁]

student-NOM interview-ACC receive-PST room

Overt resumptive pronouns are more easily accepted in relativization of such adjuncts out of embedded clause, and it is more acceptable than overt resumptive pronouns in object relativization out of embedded clauses:

INSTRUMENTAL ADJUNCT OUT OF EMBEDDED CLAUSE:

891) ? [[FBI-ga [Mary-ga *sore*₁-de John-wo korosi-ta-to] suisoku-site-iru] naifu₁]

F.-NOM M.-NOM it-DE J.-ACC kill-PST-DECL conjecture-do-1 knife

‘the knife with which the FBI conjectures that Mary killed John’

892) [[FBI-ga [Mary-ga *e*₁ John-wo korosi-ta-to] suisoku-site-iru] naifu₁]

F.-NOM M.-NOM J.-ACC kill-PST-DECL conjecture-do-1 knife

LOCATION ADJUNCT OUT OF EMBEDDED CLAUSE:

- 893) ? [[FBI-ga [gakusei-ga *soko*₁-de mensetu-wo uke-ta-to] suisoku-site-iru]
kaigisitu₁]
F.-NOM student-NOM there-DE interview-ACC receive-PST-DECL conjecture-
do-I room
'the room in which the FBI conjectures that students did the interview'
- 894) [[FBI-ga [gakusei-ga *e*₁ mensetu-wo uke-ta-to] suisoku-site-iru] kaigisitu₁]
F.-NOM student-NOM interview-ACC receive-PST-DECL conjecture-do-I room

Like the cases of object relativization, overt resumptive pronouns more acceptable than a gap in relativization out of a relative clause:

INSTRUMENTAL ADJUNCT OUT OF RELATIVE CLAUSE:

- 895) ? [[FBI-ga [[*e*₂ *sore*₁-de John-wo korosi-ta] hito₂-wo] sagasite-iru] naifu₁]
F.-NOM it-DE J.-ACC kill-PST person-ACC search-I knife
'the knife with which the FBI is looking for a person who killed John'
- 896) * [[FBI-ga [*e*₂ *e*₁-de John-wo korosi-ta] hito₂-wo] sagasite-iru] naifu₁]
F.-NOM it-DE J.-ACC kill-PST person-ACC search-I knife

LOCATION ADJUNCT OUT OF RELATIVE CLAUSE:

- 897) ? [[FBI-ga [[*e*₂ *soko*₁-de mensetu-wo uke-ta] gakusei₂-wo] sagasite-iru]
kaigisitu₁]
F.-NOM there-DE interview-ACC receive-PST student-ACC search-I room
'the room in which the FBI is looking for the students who did the interview'
- 898) * [[FBI-ga [*e*₂ *e*₁ mensetu-wo uke-ta] gakusei₂-wo] sagasite-iru] kaigisitu₁]
F.-NOM interview-ACC receive-PST student-ACC search-I room

The above data show that the pattern of acceptability of overt resumptive pronouns in adjunct relativization is slightly different from that of object relativization. In particular, their occurrences in simple clauses and embedded clauses are not as bad as expected from the perspective of a resumptive pronoun as a 'last resort' strategy:

899)

	Simple Clause: ø vs. pronoun	Embedded Clause: ø vs. pronoun	Relative Clause: ø vs. pronoun
relativization of instrumental & location adjuncts	ok vs. ???	ok vs. ?	* vs. ?

The gapped counterparts of these relative clauses show that it is possible to relativize these adjuncts without overt resumptive pronouns. The gapped counterparts are like the gapped relatives of object relativization in that their ‘head’ nominal can be quantificational:

INSTRUMENTAL ADJUNCT OUT OF EMBEDDED CLAUSE:

- 900) ? [[FBI-ga [Mary-ga e_1 inu-wo korosi-ta-to] suisoku-site-iru] dono naifu₁]-mo
 F.-NOM M.-NOM dog-ACC kill-PST-DECL conjecture-do-I which knife-MO
 ‘every knife with which the FBI conjectures that Mary killed a dog ...’

LOCATION ADJUNCT OUT OF EMBEDDED CLAUSE:

- 901) [[FBI-ga [gakusei-ga e_1 mensetu-wo uke-ta-to] suisoku-site-iru] dono kaigisitu₁]-
 mo
 F.-NOM student-NOM interview-ACC receive-PST-DECL conjecture-do-I room-
 MO
 ‘every room in which the FBI conjectures that students did the interview’

OBJECT OUT OF EMBEDDED DECLARATIVE:

- 902) [[FBI-ga [keikan-ga e_1 yuukai-si-ta-to] suisoku-site-iru] dono syoonen₁]-mo
 F.-NOM officer-NOM kidnap-do-PST-DECL conjecture-do-I which boy-MO
 ‘every boy who the FBI conjectures that a police officer kidnapped (him)’

On the other hand, overt resumptive counterparts do not tolerate quantificational ‘heads’ in both object and adjunct relativization:

INSTRUMENTAL ADJUNCT OUT OF EMBEDDED CLAUSE:

- 903) * [[FBI-ga [Mary-ga *sore*₁-de inu-wo korosi-ta-to] suisoku-site-iru] dono naifu₁]-mo

F.-NOM M.-NOM it-DE dog-ACC kill-PST-DECL conjecture-do-I which knife-MO
 ‘every knife with which the FBI conjectures that Mary killed a dog ...’

LOCATION ADJUNCT OUT OF EMBEDDED CLAUSE:

- 904) * [[FBI-ga [gakusei-ga *soko*₁-de mensetu-wo uke-ta-to] suisoku-site-iru] dono kaigisitu₁]-mo

F.-NOM student-NOM there-DE interview ACC receive-PST-DECL conjecture-do-I room-MO
 ‘every room in which the FBI conjectures that students did the interview’

OBJECT OUT OF EMBEDDED DECLARATIVE:

- 905) * [[FBI-ga [keikan-ga *soitu*₁-wo yuukai-si-ta-to] suisoku-site-iru] dono syoonen₁]-mo

F.-NOM officer-NOM him-ACC kidnap-do-PST-DECL conjecture-do-I which boy-MO
 ‘every boy who the FBI conjectures that a police officer kidnapped (him)’

If we adopt Ishii’s argument that resumptive pronouns cannot occur in relative clauses (in Japanese) that are headed by quantificational expressions, then the adjunct gaps in (900) and (901) are not null resumptive pronouns. This analysis excludes the possibility of base-generated null adjunct pronouns, suggesting that these relative clauses are derived by movement. Thus, a puzzle remains as to why resumptive pronouns in adjunct relativization do not show the expected ‘last resort’ characterization.

6.1.3. Overt Subject Resumptive Pronouns

Like overt resumptive pronouns in object positions, overt subject resumptive pronouns are not acceptable in simple relative clauses and embedded clauses in relatives, while their gapped counterparts are perfect:

SUBJECT OUT OF SIMPLE CLAUSE:

- 906) * [[*soitu*₁-ga syoonen-wo yuukai-si-ta] otoko₁]
 he-NOM boy-ACC kidnap-do-PST man
 ‘the/a man who kidnapped a boy’

- 907) [[*e*₁ syoonen-wo yuukai-si-ta] otoko₁]
 boy-ACC kidnap-do-PST man

SUBJECT OUT OF EMBEDDED DECLARATIVE:

- 908) ?* [[FBI-ga [*soitu*₁-ga syoonen-wo yuukai-si-ta-to] suisoku-site-iru] otoko₁]
 F.-NOM he-NOM boy-ACC kidnap-do-PST-DECL conjecture-do-I man
 ‘the/a man who the FBI conjectures kidnapped a boy’

- 909) [[FBI-ga [*e*₁ syoonen-wo yuukai-si-ta-to] suisoku-site-iru] otoko₁]
 F.-NOM boy ACC kidnap-do-PST-DECL conjecture-do-I man

In relativization out of a relative clause, overt resumptive pronouns are more easily accepted:

SUBJECT OUT OF OBJECT:

- 910) ? [[keikan-ga [[*soitu*₂-ga *e*₁ yuukai-si-ta] syoozyo₁]-wo naguri.taosi-ta] otoko₂]
 officer-NOM he-NOM kidnap-do-PST girl-ACC knock.down-PST man
 ‘the/a man who a police officer knocked down the girl who (he) kidnapped’

- 911) ?? [[keikan-ga [[*e*₂ *e*₁ yuukai-si-ta] syoozyo₁]-wo naguri.taosi-ta] otoko₂]
 officer-NOM kidnap-do-PST girl-ACC knock.down-PST man

SUBJECT OUT OF SUBJECT:

- 912) ? [[[[*soitu*₂-ga *e*₁ *yuukai-si-ta*] *syoozyo*₁]-ga *keikan wo naguri.taosi-ta*] *otoko*₂]
 he-NOM kidnap-do-PST girl-NOM officer-ACC knock.down-PST man
 ‘the/a man who the girl who (he) kidnapped knocked a police officer down’
- 913) [[[[*e*₂ *e*₁ *yuukai-si-ta*] *syoozyo*₁]-ga *keikan wo naguri.taosi-ta*] *otoko*₂]
 kidnap-do-PST girl-NOM officer-ACC knock.down-PST man

What is not predicted from the resumption-as-a-‘last-resort’ strategy is the relative acceptability of an overt resumptive pronoun in relativization of a subject out of a subject relative clause. Without an overt resumptive pronoun, this type of relativization is perfect as we discussed. However, the occurrence of an overt resumptive pronoun is not excluded either. The gap in this position is not an instance of null resumptive pronoun, as discussed in Ishii (1991), since they can co-occur with quantificational ‘heads’.

SUBJECT OUT OF SUBJECT:

- 914) [[[[*e*₂ *e*₁ *yuukai-si-ta*] *syoozyo*₁]-ga *keikan wo naguri.taosi-ta*] *dono otoko*₂]-mo
 kidnap-do-PST girl-NOM officer-ACC knock.down-PST which man-MO
 ‘every man who the girl who (he) kidnapped knocked a police officer down’

Note that in relativization of a subject out of a subject, *zibun* ‘self’ can occur in the subject position (Kuno 1973), in addition to *soitu*:¹⁰³

SUBJECT OUT OF SUBJECT:

¹⁰³ Kuno (1973, 47) relates the occurrence of *zibun* in the subject position internal to the relative clause to the possibility of a derivation through topicalization. A topicalization counterpart of (915) is the following:

- (i) Sono *otoko*₂-wa [[[*zibun*₂-ga *e*₁ *yuukai-si-ta*] *syoozyo*₁]-ga *keikan wo naguri.taosi-ta*]
 That man-TOP self-NOM kidnap-do-PST girl-NOM officer-ACC knock.down-PST man
 ‘Speaking of that man, the girl who (he) kidnapped knocked a police officer down’

- 915) [[[[*zibun*₂-ga *e*₁ *yuukai-si-ta*] *syoozyo*₁]-ga *keikan* wo *naguri.taosi-ta*] *otoko*₂]
 self-NOM kidnap-do-PST girl-NOM officer-ACC knock.down-PST man
 ‘the/a man who the girl who (he) kidnapped knocked a police officer down’

The occurrence of *zibun* in the position of a resumptive pronoun is restricted. In other contexts, it is more difficult to relate *zibun* with the ‘head’ of relatives:

SUBJECT OUT OF OBJECT:

- 916) ?* [[*keikan*-ga [[*zibun*₂-ga *e*₁ *yuukai-si-ta*] *syoozyo*₁]-wo *naguri.taosi-ta*] *otoko*₂]
 officer-NOM self-NOM kidnap-do-PST girl-ACC knock.down-PST man
 ‘the/a man who a police officer knocked down the girl who (he) kidnapped’

OBJECT OUT OF SUBJECT:

- 917) ?? [[[[*e*₂ *zibun*₁-wo *yuukai-si-ta*] *otoko*₂]-ga *keikan*-wo *naguri.taosi-ta*] *syoonen*₁]
 self-ACC kidnap-do-PST man-NOM officer-ACC knock.down-PST boy
 ‘the/a boy who the man who kidnapped him knocked down a police officer’

To summarize, we have the following pattern:

918)

	Simple Clause: ∅ vs. pronoun	Embedded Clause: ∅ vs. pronoun	Object RC: ∅ vs. pronoun	Subject RC: ∅ vs. pronoun
relativization of subject	ok vs. *	ok vs. ?*	?? vs. ?	ok vs. ?/ok

As in the case of short-distance adjunct relativization, a puzzle remains as to why resumptive pronouns in subject relativization do not show the expected ‘last resort’ characterization.

6.2. *Counterexamples to Structural Approaches*

6.2.1. Korean and Turkish

In Korean and Turkish, there are relative clauses that exhibit phenomena similar to Japanese relative clauses. They show island effects in some cases of object relativization but not always in relativization of a subject out of a relative clause.

In Korean, some cases of relativization of an object out of a subject and relativization of a subject out of an object show island effects. The following examples are cited in Na and Huck (1993, 203):

KOREAN: OBJECT OUT OF SUBJECT:

- 919) * [[[e_2 e_1 tulkoiss-nun] ai_2]-ka pappu-n] wusan₁]
 holding-MOD child-NOM busy-MOD umbrella
 ‘the umbrella₁ who which the child who is holding [e_1] is busy’
- 920) * [[[e_2 e_1 ponaycwu-n] salam₂]-i Pwusan-e iss nun] senmwul₁]
 send-MOD person-NOM Pwusan-in be-MOD gift
 ‘the presents₁ which the person who sent [e_1] is in Pwusan’

KOREAN: SUBJECT OUT OF OBJECT:

- 921) ? [[[e_2 e_1 ssu-n] chayk₁]-ul cengpwu-ka thaywepeli-n] cakkatul₂]
 write-MOD book-ACC government-NOM burn.up-MOD authors
 ‘authors₂ such that the government burned the books [they₂] wrote’

In contrast, Korean allows relativization of a subject out of a subject. The following examples are also from Na and Huck (1993, 204):

KOREAN: SUBJECT OUT OF SUBJECT:

- 922) [[[[e_2 e_1 ip-koiss-nun] os_1]-i mesci-n] namca₂]
 wear-PROG-MOD clothes-NOM stylish-MOD man
 ‘man₂ who the clothes that [e_2] is wearing is stylish’
- 923) [[[[e_2 e_1 ssu-n] sosel₁]-i inki-lul kku-n] cakka₂]
 write-MOD novel-NOM fame-ACC attract-MOD writer
 ‘writer₂ who the novel that [e_2] wrote was popular’

Similarly, Turkish seems to show a contrast between relativization of a subject out of a subject and relativization of an object out of an object in a limited way. The following examples are from Kornfilt, Kuno, and Sezer (1980, 18):

TURKISH: OBJECT OUT OF OBJECT:

- 924) * [[[[e_2 e_1 alan] adami₂] sevdiğim] araba₁] dozuk çıktı
 buying man I-loving car defective turned-out
 ‘[The car₁ that I love the man who bought [it₁]] turns out to be defective.’

TURKISH: SUBJECT OUT OF SUBJECT:

- 925) [[[[e_2 e_1 aldığı] araba₁] dozuk çıkan] adami₂]
 buying man defective turned-out car
 ‘[the man₂ who the car that [he₂] bought turns out to be defective]...’

The above contrasts are similar to the contrasts that we observed in Japanese relative clause constructions, indicating the applicability of our structural analysis to these languages. However, there are also phenomena that do not directly conform to our analysis. It turns out that there are such cases in Japanese as well. Kornfilt et al. (1980) recognize that relativization out of a relative clause other than relativization of a subject out of a subject is much more difficult in Japanese, but they also state that it is possible to find acceptable cases of non-subject relativization out of relative clauses. In the following section, I will first discuss some of the counterexamples that Kornfilt et al.

(1980) and Na and Huck (1993) present, examine how their Japanese counterparts are judged (if they are in Korean or Turkish), and comment on the Japanese counterparts. I will leave open the question as to whether the same explanation applies to Korean and Turkish cases.

6.2.2. Subject Out of Subject

Counterexamples are divided into several classes. One class of counterexamples involves relativization of a subject out of a subject.

Na and Huck (1993) observe the following contrasts in Korean between relatives of this class:

KOREAN: SUBJECT OUT OF SUBJECT:

- 926) [[[[e_2 e_1 pangmwunha-l] kacok₁]-i iss-nun] salam₂]
 visited-MOD family-NOM exist-MOD person
 ‘person who has a family to visit’; (lit.) ‘person₂ who a family that [he₂] will visit exists’
- 927) * [[[[e_2 e_1 pangmwunhal] hakkyo₁]-ka concayhanun] salamtul₂]
 will.visit school-NOM exist-MOD people
 ‘people₂ who the school that [they₂] will visit exist’

Na and Huck attributes the contrast to the presence or absence of a “possessive interpretation” in the (existential) predicates. They claim that (926) has a possessive interpretation as in *I have a family*, while (927) lacks such an interpretation.

Japanese paraphrases of the above examples, on the other hand, do not show the same contrast; both paraphrases are equally acceptable:

JAPANESE: SUBJECT OUT OF SUBJECT:

- 928) [[[[e_2 e_1 tazuneru] kazoku₁]-ga iru] hito₂]
 visit family-NOM exist-PST person
 ‘person who has a family to visit’; (lit.) ‘person₂ who a family that [he₂] will visit exists’
- 929) [[[[e_2 e_1 tazuneru] gakkoo₁]-ga aru] hitotati₂]
 visit school-NOM exist people
 ‘people₂ who the school that [they₂] will visit exist’

It is not clear why Na and Huck’s “possessive interpretation” analysis does not apply to Japanese.

Kornfilt et al. also present examples of unacceptable relativization of a subject out of a subject. The following is an example (Kornfilt et al. 1980, 32-33):

TURKISH: SUBJECT OUT OF SUBJECT:

- 930) * [[[[e_2 e_1 isirdiği] çocuklar₂] hastaneye yatırılan] köpekte₁] kuduz teşhis edildi
 biting kids hospital-to confined dog-in rabies diagnosed
 ‘Rabies is diagnosed in [the dog₂ that the kids that [it₂] bit were confined to the hospital]’

Kornfilt et al. explains that “given the expression ‘the dog such that the kids were confined to the hospital’, it is difficult to establish a meaningful semantic relationship between the head noun ‘the dog’ and the modifying clause ‘such that the kids were confined to the hospital’.

A Japanese paraphrase of (930), on the other hand, is a bit awkward but does not seem to be totally unacceptable:

- 931) ? [[[[e_2 e_1 kamitui-ta] kodomo₂]-ga byooin-ni kankin sare-ta] inu₁]-ni
 bit-PST kids-NOM hospital-DAT confine do-PSS-PST dog DAT
 kyookenbyoo-ga hakken sare-ta
 rabies discover do-PSS-PST
 ‘Rabies was found in [the dog₂ that the kids that [it₂] bit were confined to the hospital]’

The same relative clause becomes readily acceptable when it occurs in a different sentential context:

- 932) [[[[e_2 e_1 kamitui-ta] kodomo₂]-ga byooin-ni kankin sare ta] inu₁]-wa
 bit-PST kids-NOM hospital-DAT confine do-PSS-PST dog TOP
 sugu-ni korosare-ta
 right.away kill-PSS-PST
 ‘[The dog₂ that the kids that [it₂] bit were confined to the hospital] was killed right away’

The acceptability in (932) indicates that the semantic condition that is applied to the Turkish case is not applied to this case in Japanese.

Kornfilt et al. also present examples in Japanese. The following is an example (Kornfilt et al. 1980, 7):

JAPANESE: SUBJECT OUT OF SUBJECT:

- 933) * Kore-wa [[[[e_2 e_1 osiete-i-ta] sensei₂]-ga se-ga takai] seito₁] da.
 this-TOP teach-I-PST teacher-NOM statute-NOM high student COP
 ‘This is [a student₂ that the teacher who was teaching [him₁] was tall].’

(933) is judged unacceptable by Kornfilt et al. However, the relative clause itself seems to be acceptable to my ear. The same relative clause can occur in the following context and it is perfectly acceptable:

- 934) [[[[e_2 e_1 osiete-i-ta] sensei₂]-ga se-ga takai] seito₁]-wa kuroo site-iru.
 teach-I-PST teacher-NOM statute-NOM high student COP suffer do-I
 '[Students₂ that the teacher who was teaching [them₁] is tall] are suffering.'

To summarize, there seems to be language variation in degrees of acceptability in relativization of a subject out of a subject, and not all the hypothesized (semantic) conditions seem to apply equally to Japanese cases.

6.2.3. Non-subject Out of Non-subject

Another class of counterexamples involves relativization of a non-subject out of a non-subject. In our analysis, this is predicted to violate the Opacity Condition twice.

Kornfilt et al. (1980) find acceptable cases of relativization of a non-subject out of a non-subject in Turkish. The following is an example (Kornfilt et al. 1980, 36):

TRKISH: NON-SUBJECT OUT OF NON-SUBJECT:

- 935) [[[[e_2 [e_1 mezaridan] çıkartılan] tabletlerde₂] tarihsel yönden önemli
 tomb-his-from dug.out tablets-in historical view-point important
 bilgiler bulunan] kralin₁] hangi yüzyılda yaşadığı anlaşılamadı
 information found king which century lived couldn't be figured out
 'It could not be figured out in which century [the king about whom important
 information was found on the tablets that were dug out of his tomb] lived.'

The gap e_1 in the above example is the genitive in the phrase *mezaridan* 'from tomb'.

A Japanese paraphrase of (935) is also acceptable:

JAPANESE: NON-SUBJECT OUT OF NON-SUBJECT:

- 936) [[[[*e*₂ [*e*₁ haka]-kara hori.okos-are-ta] syoohai₂]-ni rekisiteki-ni zyuuyoo na
tomb-from dug.out-PSS-PST tablets-DAT historically important COP
zyoohoo-ga mitukat-ta] oo₁]-ga nan seiki-ni sonzai si-ta-ka hanmei saretei- nai
info-NOM found-PST king-NOM what century-DAT exist do-pst-ques figure.out do-
PSS-I-Neg
'It has not been figured out in which century [the king about whom important
information was found on the tablets that were dug out of his tomb] lived.'

While the intended gap position in the Japanese example is the genitive of the relative clause embedded in the dative phrase, which in turn contained in the higher relative clause, it is not necessary that the gap to be located in that position. The relativization of *oo* 'king' is also possible even in the absence of the deeply embedded relative clause:

JAPANESE: NON-SUBJECT:

- 937) [[rekisiteki-ni zyuuyoo na zyoohoo-ga mitukat-ta] oo₁]
historically important COP info-NOM found-PST king
'the king about whom historically important information was found'

A potential gap position in the above relative clause is the genitive of the subject of the clause. In a corresponding simple sentence, *oo* can appear as the genitive of the subject:

- 938) sono oo-no rekisiteki-ni zyuuyoo na zyoohoo-ga mitukat ta
that king-GEN historically important COP info-NOM found-PST
'That king's historically important information was found.'

The possibility of *oo* occurring in the genitive position of the subject is suggestive of the fact that what is relativized in the Japanese example (936) may not be the one in the

deeply embedded position. Consequently, (936) does not constitute a counterexample to our prediction that relativization of a non-subject out of a non-subject violates the locality condition. The remaining question is whether there is a potential gap can be found in a higher position in the Turkish examples.

A similar approach is taken by Kameshima (1989) to explain the acceptability of counterexamples in Japanese raised by Kitagawa (1982). The following is an example from Kameshima (1989, 120):

JAPANESE: OBJECT OUT OF NON-SUBJECT:

- 939) [[[[e_2 e_1 tukatte-i-ta] hitotati₂]-kara koogi-ga ki-ta] seihin₁]
 use-I-PST people-from complaint-NOM come-PST product
 ‘the products which complains came from people who were using [them]’

Kameshima finds that it is possible to project *seihin* ‘product’ as a genitive modifier in the subject of the relative clause:

- 940) Sehin-no koogi-ga ki-ta
 product-GEN complaint-NOM come-PST
 ‘Complains on (the) products came.’

If the gap is in the genitive position, then (939) is an example of relativization of a genitive out of a subject, which we predict to involve no locality condition violation.

6.2.4. Non-subject Out of Subject

Many common counterexamples seem to fall under relativization of a non-subject out of a subject relative clause. In our analysis, the derivations of such relatives are predicted to violate the Opacity Condition once. They are supposedly better than

relativization of an object out of an object, whose derivation violates the condition twice.

Many of the counterexamples of this type can be re-analyzed as relativization of a genitive out of a subject, in a manner instantiated in the previous section.

Let us first examine counterexamples of this type in Japanese. Kornfilt et al.

(1980, 8) presents the following examples:

JAPANESE: OBJECT OUT OF SUBJECT: (KORNFILT ET AL. 1980, 8)

941) [[[[e_2 e_1 osiete-i-ta] sensei₂]-ga tennin site simat-ta] seitotati₁]-wa kawai-soo da.

teach-I-PST teacher-NOM transfer do finish-PST student-TOP pitiful COP

‘[Those students₂ that the teacher who was teaching [them₁] was transferred] are to be sympathized with.’

942) Kore-wa [[[[e_2 e_1 syuppan si ta] kaisya₂]-ga toosan site simat-ta] hon₁] desu.

this-top publish do-PST company-NOM bankrupt do finish-PST book COP

‘This is [the book₂ that the publisher that published [it₁]] has gone bankrupt.’

In the above examples, the gap is analyzed to be in the object position of the inner relative clause. However, it can also be analyzed to be in the genitive position of the nominal phrase containing the relative clause:

GENITIVE TEST:

943) (?) [Sono seitotati₁-no [e_2 e_1 osiete-i-ta] sensei₂]-ga tennin site simat ta

that student-GEN teach-I-PST teacher-NOM transfer do finish-PST

‘Those students₂’ teacher who was teaching [them₁] was transferred’

944) (?) [Sono hon₁-no [e_2 e_1 syuppan si-ta] kaisya₂]-ga toosan site simat-ta

that book-GEN publish do-PST company-NOM bankrupt do finish-PST

‘The book₂’s publisher that published [it₁] has gone bankrupt.’

The above sentences show that the ‘heads’ of relatives in (941) and (942) can be associated with the genitive of the subject (although they may be felt to be a bit wordy). If these positions correspond to their real gap positions, then (941) and (942) are instances of relativization of a genitive out of a subject, which does not violate the locality condition.

Note that not all cases can be analyzed in this way. For the examples that we presented for relativization of an object out of a subject, repeated below, it is difficult to obtain corresponding genitive expressions:

OBJECT OUT OF SUBJECT:

- 945) ?? [e₂ e₁ yuukai-si-ta] otoko₂]-ga keikan-wo naguri.taosi-ta] syoozyo₁
 kidnap-do-PST man-NOM officer-ACC knock.down-PST girl
 ‘the/a girl who the man who kidnapped her knocked a police officer down’
- 946) ?? [e₂ e₁ katte-i-ta] syoonen₂]-ga noraneko-wo oikake.mawasi-ta] inu₁
 own-I-PST boy-NOM stray.cat ACC follow.around-PST dog
 ‘the/a dog that the boy who owned followed around a stray cat’

GENITIVE TEST:

- 947) * [Sono syoozyo₁-no [e₂ e₁ yuukai-si-ta] otoko₂]-ga keikan-wo naguri.taosi-ta
 that girl-GEN kidnap-do-PST man-NOM officer-ACC knock.down-PST
 ‘That girl’s man who kidnapped [her] knocked a police officer down’
- 948) * [Sono inu₁-no [e₂ e₁ katte-i-ta] syoonen₂]-ga noraneko-wo oikake.mawasi-ta
 that dog-GEN own-I-PST boy NOM stray.cat ACC follow.around-PST
 ‘That dog’s boy who owned [it] followed around a stray cat’

The unacceptability of (947) and (948) shows that the genitive positions are not available for the relatives in (945) and (946), respectively. Consequently, the derivations violate the locality condition as discussed in the previous chapter.

The same analysis can apply to the Japanese paraphrase of the following Turkish example:

TURKISH: NON-SUBJECT OUT OF SUBJECT: (KORNFILT ET AL. 1980, 29)

- 949) [[[[e_2 e_1 şimdiye kadar alınmış olan] bütün sekreterlerin₂] yalnız müdür
 now-DAT until hired being all secretaries only directory by
 tarafından seçildiği] bu büroda₁] bizim fazla yetkimiz olamaz
 selected this office-in our much authority cannot be
 ‘We cannot have much authority in [this office₁ in which all secretaries hired (for
 it) until now have been selected only by the director.’

JAPANESE: OBJECT OUT OF SUBJECT:

- 950) [[[[e_2 e_1 ima-made yatow-are-ta] hisyo zen’in₂]-ga zyuuyaku-dake-ni yotte
 now-until hire-PSS-PST secretaries all NOM director-only-DAT depend
 erab-are-ta] busyo₁]
 select-PSS-PST office
 ‘[the office₁ in which all secretaries hired (for it) until now have been selected
 only by the director].’

GENITIVE TEST:

- 951) (?) [Sono busyo₁-no [e_2 e_1 ima made yatow-are-ta] hisyo zen’in₂]-ga
 that office-GEN now-until hire-PSS-PST secretaries all NOM
 zyuuyaku-dake-ni yotte erab-are-ta
 director-only-DAT depend select-PSS-PST

6.2.5. Other Counterexamples

There are a few examples that cannot straightforwardly accounted for by the same re-analysis or other means. One of them is an example of relativization of an object out of a subject. A Japanese paraphrase of the following Korean example is grammatical; however, their genitive counterpart is not totally acceptable:

KOREAN: OBJECT OUT OF SUBJECT: (NA AND HUCK 1993, 209)

- 952) [[[[pom-hakki-ey e_2 e_1 kaluchi-ul] salam₂]-i kyelcengtoy-un] kwamok₁]
 spring-term-in teach-FUT person-NOM decided MOD course
 ‘the course₁ such that the person who will teach [it₁] in spring term has been decided’

JAPANESE: OBJECT OUT OF SUBJECT:

- 953) [[[[haru-ni e_2 e_1 osieru] hito₂]-ga kimatte-iru] koosu₁]
 spring-in teach person-NOM decided-I course
 ‘the course₁ such that the person who will teach [it₁] in spring has been decided’

GENITIVE TEST:

- 954) ?? [Sono koosu₁-no [haru-ni e_2 e_1 osieru] hito₂]-ga kimatte-iru
 that course-GEN spring-in teach person-NOM decided I
 ‘The person of the course₁ who will teach [it₁] in spring has been decided’

Another example involves relativization of a subject out of an object. A Japanese paraphrase of the following Korean example is grammatical. However our analysis predicts that this violates the locality condition once:

KOREAN: SUBJECT OUT OF OBJECT: (NA AND HUCK 1993, 217)

- 955) [[[[e_2 e_1 sayngsanha-nun] ceyphwum₁]-ul cengpwu-ka pokungha-nun] hoysa₂]
 produce-MOD product-ACC government-NOM guarantee-MOD company
 ‘company₂ such that the government guarantees the products that [they₂] produce’

JAPANESE: SUBJECT OUT OF OBJECT:

- 956) [[[[e_2 e_1 tukutte-iru] seihin₁]-wo seihu-ga hosyoo site-iru] kaisya₂]
 produce-I product-ACC government-NOM guarantee do-I company
 ‘company₂ such that the government guarantees the products that [they₂] produce’

It is not clear why these relatives are acceptable, while other counterexamples of Japanese that we discussed above can be re-analyzed as to involve relativization of a genitive out of a subject.

6.3. *Notes on Wh-questions*

6.3.1. Wh-agreement

As discussed in the section on preliminaries, the postulation of the operator on a complementizer position has a motivation. We interpret the cross-linguistic absence of relative pronouns/operators in pre-nominal relatives as the absence of a demand for obligatory *wh*-movement. If an operator is already in a complementizer projection, movement corresponding to *wh*-movement is not needed.

We will take a similar approach to the derivation of *wh*-questions in Japanese, which have a question particle at the end of the clause and which lack obligatory *wh*-movement. In Japanese, *wh*-questions are morphologically different from relatives and similar to existential quantificational DPs or KPs. Both constructions involve intrinsically indefinite pre-nominal demonstratives (*wh*-demonstratives) or nouns (*wh*-words) which are interpreted in relation to the morpheme *-ka*. So we have the following patterns for existential quantificational DPs or KPs:

WH-WORDS:

957) *dare* ‘who’, *dore* ‘which one’, *nani* ‘what’, *doko* ‘where’, *itsu* ‘when’, *ikutsu* ‘how many’...

WH-DEMONSTRATIVE (PRE-NOMINAL):

958) *dono* ‘which ...’

EXISTENTIAL DPs:

959)	<i>dare -ka</i>	<i>dono hito -ka</i>
	who -KA	which person -KA
	‘someone’	‘some person’

EXISTENTIAL PPS:

- 960) dare -kara -ka dono hito -kara -ka
 who -from -KA which person -from -KA
 ‘from someone’ ‘from some person’

Wh-questions have a *wh* -phrase and the morpheme *-ka* at the end of the predicate.

Sequentially they can be represented as follows:

- 961) ... dare ... V -ka (*wh*-question)
 962) kinoo dare-ga ki-masi-ta-ka?
 yesterday who-NOM come-Plt-PST-QUES
 ‘Who came yesterday?’

When a *wh*-expression is associated with existential *-ka*, it cannot be interpreted as a *wh*-question regardless of the presence of interrogative *-ka* at the end of the clause:

- 963) ... [dare -ka] ... V -ka (existential DP in yes/no question)
 964) kinoo dare-ka-ga ki-masi-ta-ka?
 yesterday who-KA-NOM come-Plt-PST-QUES
 ‘Did someone/anyone come yesterday?’

If we consider Nishigauchi’s observation that the quantificational force is in *-ka* and not in *wh*-elements in Japanese, then Japanese lacks the so-called *wh*-operator but has *wh*-indefinites and operators/quantifiers that seek association. If we interpret this idea into the allocation of features of quantificational DPs, we may have the following:

- 965) [DP D-ka [QP dare]]
 +[OP] [OP]
 [WH]^{EPP} +[WH]

In (965), the *wh*-QP has an interpretable *wh*-feature as well as an uninterpretable operator feature. Existential *-ka* has an interpretable operator feature and uninterpretable *wh*-feature and definiteness feature. The EPP feature on *wh*-feature will motivate the movement of QP to Spec,DP, resulting in *dare-ka* ‘someone’:

$$\begin{array}{ll}
 966) & [\text{DP } [\text{QP } dare] \quad [\text{D-ka } t_{\text{QP}}]] \\
 & \begin{array}{ll}
 [\Theta\text{P}] & +[\text{OP}] \\
 +[\text{WH}] & [\text{WH}]^{\text{EPP}}
 \end{array}
 \end{array}$$

Wh-questions should be analyzed in a similar fashion. In this case, however, *-ka* is in C. Since they involve the movement of a clause to Spec,CP, the EPP feature is on the uninterpretable Finiteness feature, like declaratives:

$$\begin{array}{llll}
 967) & [\text{CP } C\text{-ka} & [\alpha\text{P } \dots & [\text{DP } D \quad [\text{QP } dare]] \dots V \dots] \\
 & \begin{array}{ll}
 +[\text{OP}] & [\text{OP}] \\
 [\text{WH}] & +[\text{WH}] \\
 +[\text{QUES}] & [\text{QUES}] \\
 [\text{FIN}]^{\text{EPP}} & +[\text{FIN}]
 \end{array}
 \end{array}$$

In (967), *-ka* agrees with *dare* ‘who’ in the operator feature and the *wh*-feature. It also agrees with αP with respect to the finiteness feature. And, αP moves to Spec,CP:

$$\begin{array}{llll}
 968) & [\text{CP } [\alpha\text{P } \dots & [\text{DP } D & [\text{QP } dare]] \dots V \dots] [C\text{-ka } t_{\alpha\text{P}}] \\
 & & \begin{array}{ll}
 [\Theta\text{P}] & +[\text{OP}] \\
 +[\text{WH}] & [\text{WH}] \\
 [\text{QUES}] & +[\text{QUES}] \\
 +[\text{FIN}] & [\text{FIN}]^{\text{EPP}}
 \end{array}
 \end{array}$$

The structure (968) represents the structure of a sentence like (962).

The impossibility of a sentence like (964) to be interpreted as a *wh*-question is due to the fact that the uninterpretable operator feature of *dare* has already been checked and

deleted by the agreement with existential *-ka*. *Dare* is inactive by the time interrogative - *ka* is projected, and therefore *dare* can no longer enter an agreement relation with it.

- 969) * [CP C-*ka* [αP ... [DP [QP *dare*] [D-*ka* t_{QP}] ... V ...]]
- | | | |
|--|------------------|---|
| +[OP]
[WH]
+[QUES]
[FIN] ^{EPP} | [QUES]
+[FIN] | [OP]
+[WH]
+[OP]
[WH] ^{EPP} |
|--|------------------|---|

Basically the same logic will apply to the case in which a *wh*-phrase inside an embedded *wh*-question cannot take the matrix scope to produce a matrix *wh*-question. Nishigauchi (1990) observes this effect:

- 970) Satoo-kun-wa [[*dare-ga nani-wo* tabe-ta]-ka] oboete-i-masu-ka
 Sato-Mr-TOP who-NOM what-ACC eat-PST-QUES remember.I.Polite-QUES
 ‘Does Sato remember who ate what?’
 * ‘For which x, x a person, does Tanaka know what x ate?’
 * ‘For which y, y a thing, does Tanaka know who ate y?’
 (Nishigauchi 1990, 28)

Partial derivation of the embedded *wh*-question for (970) in our approach will be the following:

- 971) ... [CP C-*ka* [FinP [DP D [QP *dare*]] [Fin ... [DP D [QP *nani*]] ... V ...]]
- | | | |
|--|-----------------------------------|---------------|
| +[OP]
[WH]
+[QUES]
[FIN] ^{EPP} | [OP]
+[WH]
[QUES]
+[FIN] | [OP]
+[WH] |
|--|-----------------------------------|---------------|

In (971), interrogative *-ka* has an uninterpretable *wh*-feature. It agrees with the two *wh*-phrases, without requiring them to move. This is possible because both phrases are active at this stage. The agreements result in a multiple *wh*-question.

Note that the agreement between *-ka* and the object *nani* in (971) does not violate the Intervention Condition. There are two reasons. First, the intervening phrase *dare* is active, while the condition refers to the inactiveness. Second, the *wh*-feature of *dare* is in a head below D; it is in Q. QP does not c-command out of a phrase that contains *nani*. Thus, the agreement is not blocked by the condition.

The clause-internal derivation is completed by movement of FinP to Spec,CP:

$$\begin{array}{ccccccc}
 972) & \dots & [\text{CP} [\text{FinP} [\text{DP D} [\text{QP dare}]]] & [\text{Fin} \dots [\text{DP D} [\text{QP nani}]] \dots \text{V} \dots]] & [\text{C-ka } t_{\text{FinP}}] \\
 & & [\emptyset\text{P}] & & [\emptyset\text{P}] & & +[\text{OP}] +[\text{OP}] \\
 & & +[\text{WH}] & & +[\text{WH}] & & [\text{WH}] [\text{WH}] \\
 & & & & & & +[\text{QUES}] +[\text{QUES}] \\
 & & & & & & +[\text{QUE}] +[\text{FIN}]^{\text{EPP}} \\
 & & & & & & [\text{FIN}] [\text{FIN}]
 \end{array}$$

In (972), both *wh*-phrases have become inactive, since their uninterpretable features have been deleted. They will no longer check the uninterpretable *wh*-feature of matrix CP.

A question arises as to why either one of them cannot wait to agree with the matrix *-ka*. The impossibility of delaying agreement in (971) implies that some condition is operative to force multiple agreements in this context. However, requiring multiple agreements by a single probe whenever possible has an adverse effect on *wh*-island cases in English. These cases are similar to the above Japanese cases in that the probe has an uninterpretable feature that matches interpretable features of multiple elements, as illustrated below:

$$\begin{array}{ccccccc}
 973) & \dots & [\text{FocP Foc} [\text{FinP Fin John could } [_{\text{V}^*}\text{P solve [Which problem] [how]]]]]] \\
 & & [\text{OP}]^{\text{EPP}} & & +[\text{OP}] & & +[\text{OP}] \\
 & & +[\text{QUES}] & & [\text{FOC}] & & [\text{FOC}]
 \end{array}$$

Such a multiple agreement requirement would have the effect of excluding all the cases of *wh*-island violations and would not allow a matrix *wh*-question in these cases. As we have seen, this is not the case.

There is a difference between the cases of (971) and (973). The difference lies in the presence/absence of an EPP feature on the uninterpretable feature of the probe that matches the interpretable feature of *wh*-phrases. In (971), the uninterpretable feature (i.e., [WH]) that triggers agreements with the *wh*-phrases does not accompany an EPP feature. In (973), on the other hand, the uninterpretable feature (i.e., [OP]) accompanies an EPP feature. One way to resolve this discrepancy is to presuppose multiple agreements to be imposed as soon as possible as a default condition while specifying the context in which this imposition can be obviated. Incorporating the distinction, we can hypothesize the following condition and obviation condition:

CONDITION ON DELETION:

- 974) An uninterpretable feature [F1] of a goal is deleted by a probe as soon as possible if the probe has a feature [F2] that matches the interpretable feature(s) of the goal.

OBVIATION OF MULTIPLE AGREEMENTS:

- 975) The uninterpretable [F] of a probe need not agree with the matching feature of more than one element if [F] of the probe has EPP.

The condition (975) says that Foc in (973) may not pursue an agreement with more than one *wh*-phrase. It does not say that the same obviation applies to C-*ka* in (971).

Interrogative *-ka* does not always need to be associated with a *wh*-phrase; it can occur in yes/no-questions, as can *whether* in English. This raises another question. Is it possible to derive a matrix *wh*-question with a structure in which the *wh*-phase is in an

embedded yes/no question? Nishigauchi (1990) judges the following sentence to be ungrammatical as a matrix *wh*-question:¹⁰⁴

- 976) Satoo-kun-wa [[Suzuki-kun-ga *nani*-wo tabe-ta]-ka] oboete-i-masu-ka
 Sato-Mr-TOP Suzuki-Mr-NOM what-ACC eat-PST-QUES remember-I-Plt-QUES
 ‘Does Sato remember what Suzuki ate?’
 * ‘What does Sato remember whether Suzuki ate?’
 (Nishigauchi 1990, 30)

Recall that we have discussed that *whether* in English may have an interpretable operator feature instead of an uninterpretable counterpart. From that hypothesis, we derive a violation of the Intervention Condition in English counterparts of sentences like (976). Let us apply a similar strategy and hypothesize that non-*wh*-interrogative- *ka* has an interpretable *wh*-feature.

¹⁰⁴ Note that sentences of parallel constructions with the collocational expression *ka doo-ka* ‘whether’ are judged either ungrammatical (by Nishigauchi (1990)) or marginal (by Lasnik and Saito (1992) and Watanabe (1992)):

- (i) * Satoo-kun-wa [[Suzuki-kun-ga *nani*-wo tabe-ta]-ka doo-ka] oboete-i-masu-ka
 Sato-Mr-TOP Suzuki-Mr-NOM what-ACC eat-PST-QUES whether remember-I-Polite-QUES
 ‘What does Sato remember whether Suzuki ate?’
 (Nishigauchi 1990, 31)
- (ii) [?] John-wa [[Mary-ga *nani*-wo kat-ta]-ka doo-ka] siri-tagatte-iru-no
 John-TOP Mary-NOM what-ACC buy-PST-QUES whether know-want-I-QUES
 ‘What does John want to know whether Mary bought?’
 (Lasnik & Saito 1992, 15 & 188)

Note that *ka doo-ka* occurs in embedded yes/no-questions. The term *doo* in the collocational expression *ka doo-ka* ‘whether’ literally means ‘how’ or ‘what’. It can be used alone in a *wh*-question:

- (iii) Sono hon-wa *doo* si-masu-ka
 that book-TOP how do-Polite-QUES
 ‘What are you going to do with the book?’ or ‘How are you going to treat the book?’

$$\begin{array}{lcl}
 977) \quad \dots [_{CP} C\text{-}ka & [_{FinP} \dots Fin \dots & [_{DP} D [_{QP} nani]] \dots V \dots] \\
 & \begin{array}{l} +[OP] \\ -[WH] \\ +[QUES] \\ [FIN]^{EPP} \end{array} & \begin{array}{l} [OP] \\ +[WH] \\ [QUES] \\ +[FIN] \end{array}
 \end{array}$$

In (977), non-*wh*-interrogative *-ka* differs from *wh*-interrogative *-ka* in (967) in only one respect; the former has a negatively valued interpretable *wh*-feature instead of an uninterpretable one. In (977), *C-ka* is active since it has an uninterpretable finiteness feature. It agrees with the *wh*-phrase *nani* ‘what’ and its uninterpretable operator feature is deleted. It meets the Condition on Deletion because *C-ka* has a *wh*-feature that matches the interpretable feature of the *wh*-phrase. The *wh*-phrase will not be able to resist agreement because the Obviation Condition does not apply: the *wh*-feature of *C-ka* does not have EPP. After this stage, the *wh*-phrase will no longer be active, since it has no more uninterpretable features. *C-ka* agrees with *Fin* with respect to the finiteness feature. As usual, *FinP* moves to *Spec,CP*. After all other movements, matrix *CP* is projected:

$$\begin{array}{lcl}
 978) \quad \dots [_{CP} C\text{-}ka & [_{\alpha P} \dots \dots [_{CP} [_{FinP} \dots Fin \dots [_{DP} D [_{QP} nani]] \dots V \dots]] & [C\text{-}ka \ t_{FinP}]] \\
 & \dots] & \\
 & \begin{array}{l} +[OP] \\ [WH] \\ +[QUES] \\ [FIN]^{EPP} \end{array} & \begin{array}{l} [WH] \\ [QUES] \\ +[FIN] \end{array} & \begin{array}{l} [\emptyset P] \\ +[WH] \\ [\emptyset QUES] \\ +[FIN] \end{array} & \begin{array}{l} +[OP] \\ -[WH] \\ +[QUES] \\ [FIN]^{EPP} \end{array}
 \end{array}$$

Since the *wh*-phrase *nani* is already inactive (so is embedded *C-ka*), it cannot value the uninterpretable *wh*-feature of matrix *C-ka*. Given that there is no other active *wh*-phrase, this feature will remain unvalued and not deleted. As a result, the derivation of the matrix *wh*-question fails.

In this section, cases of *wh*-questions that have been traditionally diagnosed as violations of the *wh*-island condition have been re-analyzed. In our analysis, *wh*-questions in Japanese do not involve *wh*-movement but *wh*-agreement. The *wh*-feature of a *wh*-phrase agrees with an operator generated as the complementizer *-ka*. The complementizer *-ka* has an uninterpretable *wh*-feature but this feature does not have EPP. Thus only agreement is required between them. The unavailability of a matrix *wh*-question with a *wh*-phrase within an embedded question derives from the fact that the uninterpretable feature of the *wh*-phrase is checked by the embedded interrogative complementizer. This agreement is obligatory because it is not obviated.

6.3.2. Wh-agreement out of Relative Clauses

In Japanese, a *wh*-phrase can appear within a complex NP in a *wh*-question. This phenomenon has been pointed out by Nishigauchi (1990) and Lasnik and Saito (1992):

WH-QUESTIONS: *WH* IN RELATIVE CLAUSE:

979) Kimi-wa [[dare-ga kai-ta] hon]-wo yomi-masi-ta-ka
 you-TOP who-NOM write-PST book-ACC read-Plt-PST-QUES
 ‘You read books that who wrote?’
 (Nishigauchi 1990, 40)

980) John-wa [[nani-wo kat-ta] hito]-wo sagasite-iru-no
 John-TOP what-ACC buy-PST person-ACC search-I-QUES
 ‘John looking for the person who bought what?’
 (Lasnik & Saito 1992, 13)

In order to account for the acceptability of *wh*-questions like (979) and (980) in which a *wh*-phrase is embedded within a complex NP, Nishigauchi argues that the complex NP is

pied-piped at LF, instead of the *wh*-phrase crossing the complex NP. He pursues the pied-piping of the complex NP by claiming the following:

- 981) [...] the *wh*-feature is percolated to the entire complex NP once the *wh*-expression has been moved to an A'-position within the relative clause, [...]. Due to this percolation mechanism, the entire complex NP is treated as if it were a *wh*-expression itself, which triggers the pied-piping mechanism. (Nishigauchi 1990, 43)

The LF representation of the example (979) that Nishigauchi (1990, 42) proposes is the following:¹⁰⁵

- 982) [You read *y*] [_{NP} [[_S *x* wrote] *WHO_x*] *books_y*]_y

In (982), at LF, *WHO* moves from within the *S* to the *Comp* under the *NP*, and the *wh*-feature percolates up to the *NP*. Then, the *NP* moves to the *Comp* of the matrix clause. Neither LF movement crosses an island; as a result, the Subjacency Condition is satisfied.

Our analysis need not rely on LF pied-piping to account for the absence of Subjacency effects. In our analysis, *wh*-phrases do not move in *wh*-questions. Thus, they are not subject to the Opacity Condition. Since the interrogative operator is generated as complementizer *-ka*, a *wh*-phrase only needs to agree with the operator. The derivation of a relative clause does not interfere with the *wh*-agreement. Unlike the complementizer *-ka*, the probe that triggers movement of a 'head' QP does not have an uninterpretable *wh*-feature; thus, it does not seek an agreement with a *wh*-phrase.

¹⁰⁵ Watanabe (1992) basically adopts this line of thought and incorporates it to the mechanism he proposes.

Let us examine a partially derived structure prior to a ‘head’ QP-raising for a sentence like (979):

- 983) $[\beta_P \quad \beta \quad [_{FinP2} [_{DP} D \quad [_{QP} dare]]_2 [_{Fin-ga} [_{TP2} T, [_{VP2} [_{CP1} [_{FinP1} Fin [_{TP1} [[_{v*P1} t_2$
 $\alpha[\phi N] \quad [\phi N]^{EPP}$
 $[CASE] \quad [CASE]$
 $[KASE] \quad +[KASE]$
 $+[OP] \quad [OP]$
 $[DEF]^{EPP} \quad +[WH]$
 $\quad \quad \quad +[FIN]$
 $\quad \quad \quad [REL]$
 $[v* [kai [_{DP} D \quad [_{QP} hon]]]]-ta]] [C t_{FinP1}] [v [_{VP2} V t_{CP1}]]]]]]]$
 $[\phi N] \quad \alpha[\phi N] \quad \alpha[\phi N]$
 $\quad \quad [CASE]$
 $\quad \quad [KASE]$
 $\quad \quad [OP]$
 $\quad \quad -[DEF]$

In (983), β looks for an element that it matches with respect to the feature $[DEF]$. The *wh*-phrase *dare* ‘who’ does not have the necessary feature. Thus, it is not a match for β with respect to $[DEF]$. Note that while the *wh*-phrase has uninterpretable $[OP]$ and matches with interpretable $+ [OP]$ of β . However, β does not have another feature that matches the interpretable feature of the *wh*-phrase; thus, the Condition on Deletion is not met and the deletion does not take place. On the other hand, β finds QP *hon* ‘book’ as a match. Provided that no other element has a matching feature between β and the QP and c-commands a strong phase, the match leads to agreement.

The QP moves to Spec, β_P , and CP is projected above it:

- 986) [CP C-ka [FinP [DP kimi] [Top ... [KP [DP3 D [QP Q [CP2 [FinP2 [DP D [QP dare]]]2
 $\alpha[\phi N]$ $\alpha[\phi N]$ $\alpha[\phi N]$ $\alpha[\phi N]$
 [CASE] [CASE] [CASE]
 [KASE] +[KASE] [KASE] [KASE]
 +[OP] [OP]
 [WH] +[WH]
 +[QUES] [QUES]
 [FIN]^{EPP} +[FIN]----[]
 [Fin [TP2 T [vP2 [CP1 [FinP1 Fin [TP1 [[v*P1 t2 [v* [kai [DP D t5]]]]-ta]]] [C t_{FinP1}]]
 [v [vP2 V t_{CP1}]]]]]]]] [C [βP [QP hon]5 [β t_{FinP2}]]] [K-wo t_{DP3}]] ... V ...]]

In (986), *C-ka* matches *dare* with respect to the *wh*-feature. The match leads to agreement, since there is no intervening element that matches with the probe. The derivation is not ruled out by the Intervention Condition.

The success of the agreement between *C-ka* of the matrix clause and *dare* in the relative clause is contingent upon the fact that the uninterpretable operator feature of the *wh*-phrase is not deleted by the operator β of the relative. This is due to the fact that the uninterpretable feature of the trigger of the ‘head’ raising of relatives does not match the interpretable feature of the *wh*-phrase. In this context, the uninterpretable operator feature of the latter cannot be deleted because the deletion of an uninterpretable feature of a goal requires the probe to have another feature that matches a feature of the goal, by virtue of the Condition on Deletion.

6.3.3. Wh-‘head’ of Relatives

In Japanese, it is possible to construct the ‘head’ of relatives with a *wh*-phrase. The following examples illustrate this point:

WH-QUESTIONS: WITH *WH*-‘HEAD’:

987) Kimi-wa [[kare-ga kai-ta] dono hon]-wo yomi-masi-ta-ka
 you-TOP he-NOM write-PST which book-ACC read-Plt-PST-QUES
 ‘Which book that he wrote have you read?’

988) John-wa [[hon-wo kat-ta] dono hito]-wo sagasite-iru-no
 John-TOP book-ACC buy-PST which person-ACC search-I-QUES
 ‘Which person who bought a book is John looking for?’

WH-QUESTIONS: WH IN RELATIVE CLAUSE, WITH *WH*-‘HEAD’:

989) Kimi-wa [[dare-ga kai-ta] dono hon]-wo yomi-masi-ta-ka
 you-TOP who-NOM write-PST which book-ACC read-Plt-PST-QUES
 ‘Which book that who wrote have you read?’
 (Which book of who/which author have you read?)

990) John-wa [[nani-wo kat-ta] dono hito]-wo sagasite-iru-no
 John-TOP what-ACC buy-PST which person-ACC search-I-QUES
 ‘Which person who bought what is John looking for?’
 (Which buyer of what is John looking for?)

There are also alternative constructions to the above examples. The *wh*-demonstrative *dono* ‘which’ can precede the relative clause. The following two examples are counterparts of (989) and (990):

WH-QUESTIONS: WH IN RELATIVE CLAUSE, WITH *WH*-‘HEAD’:

991) Kimi-wa [dono [dare-ga kai-ta] hon]-wo yomi-masi-ta-ka
 you-TOP which who-NOM write-PST book-ACC read-Plt-PST-QUES
 ‘Which book that who wrote have you read?’
 (Which book of who/which author have you read?)

992) John-wa [dono [nani-wo kat-ta] hito]-wo sagasite-iru-no
 John-TOP which what-ACC buy-PST person-ACC search-I-QUES
 ‘Which person who bought what is John looking for?’
 (Which buyer of what is John looking for?)

Note that the entire complex DP containing *dono*, a relative clause, and the ‘head’ in (993) has three instances of an uninterpretable operator feature. One is inside the relative clause, one is in the top-most Q, where *dono* is generated, and one is in the ‘head’ *hon* ‘book’. The last one is checked by the relative operator β and not by C-*ka*. This indicates that the derivation of relatives with a *wh*-‘head’ in (987)~(989) also involves two instances of an uninterpretable operator feature, one for relativization and one for interrogation. To realize them in these constructions, we postulate an uninterpretable operator feature on the Q that is projected above the relative clause as in the case of *dono* being realized in that position.

Let us examine the derivation of (989), a counterpart of (991) , which we have just discussed above:

- 994) $[\beta_P \ \beta \ [\text{FinP}_2 \ [\text{DP} \ D \ [\text{QP} \ \text{dare}]]]_2 \ [\text{Fin} \ [\text{TP}_2 \ T \ [\text{VP}_2 \ [\text{CP}_1 \ [\text{FinP}_1 \ \text{Fin} \ [\text{TP}_1 \ [[\text{v}^* \text{P}_1 \ t_2$
- $\alpha[\phi_N]$ $[\phi_N]^{\text{EPP}}$
 $[\text{CASE}]$
 $[\text{KASE}]$ $+[\text{KASE}]$
 $+[\text{OP}]$ $[\text{OP}]$
 $[\text{DEF}]^{\text{EPP}}$ $+[\text{WH}]$
 $+[\text{FIN}]$
 $[\text{REL}]$
- $[\text{v}^* \ [\text{kai} \ [\text{DP} \ D \ [\text{QP} \ \text{dono} \ \text{hon}]]]]\text{-ta}]] \ [\text{C} \ t_{\text{FinP}_1}] \ [\text{V} \ [\text{VP}_2 \ \text{V} \ t_{\text{CP}_1}]]]]]]]$
- $[\phi_N]$ $\alpha[\phi_N]$ $\alpha[\phi_N]$
 $[\text{CASE}]$
 $[\text{KASE}]$
 $+[\text{WH}]$
 $[\text{OP}]$
 $-[\text{DEF}]$

In (994), QP *dono hon* ‘which book’ in the object has an interpretable *wh*-feature. β agrees with this phrase, and deletes uninterpretable [OP]. The QP moves to Spec, β P, and

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