THE SYNTAX OF POSSESSOR RAISING

by

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B. Ed., Kumamoto University, 1996

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

Department of Linguistics

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

August 1999

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Date August 30th, 1999
ABSTRACT

This thesis provides an analysis of Possessor Raising (PR) in a minimalist framework. I examine four languages that exhibit PR, namely Japanese, Korean, Kinyarwanda, and Swahili. I propose that cross-linguistic variation of PR in these languages is captured by the single notion of *Multiple Feature-Checking* (MFC). In addition to cross-linguistic variation of surface syntax of PR, this thesis also examines a universal feature of PR, namely the relational noun restriction.

PR raises an interesting problem with the mapping relation between an argument DP and its grammatical function (GF). A DP is normally associated with a unique GF (i.e., a one-to-one mapping relation), but in some cases such as passive, a DP may be associated with more than one GF, being both an underlying object and a surface subject (i.e., a one-to-many). PR also poses another type of mapping relation, namely a many-to-one relation; under PR, a possessor DP may also bear the GF of its host. In order to capture such a many-to-one relation between a DP and its GF in PR, I propose that this is an example of MFC, which is defined as follows:

(i) MFC is possible only if a Formal Feature (FF) of a head (T and v) can escape deletion.

(ii) MFC applies to both strong and weak FFs.

In contrast to the original formulation of MFC (cf. Chomsky 1995b), which always involves overt movement of DPs and derives multiple specifiers, I argue that MFC also takes place at LF, which involves covert movement of FFs and derives multiple adjuncts of feature bundles onto a head. Given the evidence against overt movement of the subject and object in Japanese and Korean, I argue that PR in these languages is best analyzed in terms of covert MFC. I also provide an overt MFC analysis for Kinyarwanda and Swahili PR. Lastly, I discuss the relational noun restriction on PR, which holds of all PR languages. I propose that this restriction is reducible to the structural position of the possessor of a relational noun, namely its position as complement to the noun.
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### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACC</td>
<td>accusative</td>
</tr>
<tr>
<td>ASP</td>
<td>aspect</td>
</tr>
<tr>
<td>GEN</td>
<td>genitive</td>
</tr>
<tr>
<td>HON</td>
<td>honorification marker</td>
</tr>
<tr>
<td>IND</td>
<td>indicative</td>
</tr>
<tr>
<td>NOM</td>
<td>nominative</td>
</tr>
<tr>
<td>OBJ</td>
<td>object</td>
</tr>
<tr>
<td>PASS</td>
<td>passive</td>
</tr>
<tr>
<td>PAST</td>
<td>past tense</td>
</tr>
<tr>
<td>POSS</td>
<td>possessor</td>
</tr>
<tr>
<td>PRES</td>
<td>present tense</td>
</tr>
<tr>
<td>Q</td>
<td>question marker</td>
</tr>
<tr>
<td>SUBJ</td>
<td>subject</td>
</tr>
</tbody>
</table>

**Lexical category labels**

- Adv: adverbial  
- N: noun  
- P: preposition  
- V: verb

**Functional category labels**

- C(P): complementizer (phrase)  
- D(P): determiner (phrase)  
- SPEC: specifier  
- T(P): tense (phrase)  
- M(P): major subject (phrase)  
- ν(P): a higher head of the two layered VP-shell (phrase)

**Other abbreviations**

- *: ungrammatical expressions  
- ?: slightly degraded grammatical expressions  
- ??: degraded grammatical expressions  
- FF: formal features  
- FF₁: strong formal feature  
- FF₂: weak formal feature  
- GF: grammatical function  
- LF: logical form  
- PR: possessor raising  
- pro: null argument  
- t: trace  
- θ: thematic, theta
ACKNOWLEDGEMENTS

I am grateful to the members of my committee, Rose-Marie Déchaine, Henry Davis, Douglas Pulleyblank, and Strang Burton, for their comments, advice and feedback. I am particularly indebted to Rose-Marie Déchaine for constant encouragement and patience. I have learned many things from her throughout the completion of my thesis. Without her guidance, I could not finish my thesis. I cannot describe how much she has helped me and inspired me to find an interest in syntax.

I am also grateful to everyone else in the UBC Department of Linguistics for their constant help and support during my graduate studies. I owe special thanks to Edna, for help above and beyond the call of duty. She encouraged me and cheered me up at the hardest times.

I would like to thank to my fellow graduate students, Ikuyo Kaneko, Marion Caldecott, Mimi, Randy Sharp, Sandra Lai, Suzanne Gessner, Tanya Bob, Tomio Hirose, Uri Strauss, for their great help and encouragement. To Eun-Sook Kim and Sunyoung Oh: thank you for helping me with Korean data. To Matthew Ritchie: thank you for proofreading my thesis. Thank you for all your friendship; it was so fun!

I would also like to thank Morio Nishikawa, who strongly motivated me to study in the field of Linguistics and also provided me with constant encouragement and support from Japan. I do not know how to express my deep appreciation.

I also greatly appreciate the Rotary International Foundation for providing me such a wonderful academic setting and financial support.

Finally, I would like to give thanks for the love and support of my family, especially my parents, Takehiko and Sayoko Nakamura. To my brother Yoshihiro and my sister Kumiko: thank you for being there for me.
CHAPTER 1: Possessor Raising and Questions

1.0 Introduction

This thesis examines the syntax of possessive DPs and Possessor Raising (PR). PR is defined as follows:

(1) Possessor Raising is a phenomenon in which a possessor DP bears the grammatical function (GF) of a host DP.

I define the GF as the syntactic properties that a given argument DP is assumed to bear. In this thesis, I ask four questions that PR raises and provide answers for these questions under feature-checking approach.

1.1 Question 1

The first question is why PR is possible in some languages but not in others. For example, Japanese allows PR from subject position. A possessor DP would ordinarily be marked with the genitive case marker -no as in (2a). In addition, it may be marked with the same case marker as its host DP, namely, the nominative case marker -ga as in (2b).

(2) Subject PR in Japanese
   a. Mary-no kami-ga nagai.
      -GEN hair-NOM long-be
      'Mary's hair is long.'
   b. Mary-ga kami-ga nagai.
      -NOM hair-NOM long-be
      'same meaning as (2a).'

In contrast, some languages do not allow PR. For instance, in English, a third person pronominal possessor DP must always be marked with the genitive Case, as in (3a). It can never appear as,
nominative, which is the same Case assigned to a host DP hair, as in (3b):

(3) *No PR in English
   a. Her hair is long.
   b.*She hair is long.

1.2 Question 2

The second question that will be addressed is why some PR languages allow PR only from subject position. For example, Japanese allows PR from subject position, however it does not allow PR from object position. A possessor of a direct object must be marked with the genitive case marker –no, as in (4a). It cannot be marked with the same case marker as its host DP ude, namely, the accusative case marker –o, as in (4b):

(4) *Object PR in Japanese
      -NOM -GEN arm-ACC grab-PAST
      ‘Mary grabbed John’s arm.’
   b.* Mary-ga John-o ude-o tukan-da.
      -NOM -ACC arm-ACC grab-PST
      ‘same meaning as (4a)’

In contrast to Japanese, Korean allows PR from both subject and object position. In Korean, a possessor DP would ordinarily be marked with the genitive case marker –uy as in (5a). In addition, it may be marked with the nominative case marker –ka as well as its host DP, as in (5b):
(5) Subject PR in Korean
      -GEN brother-NOM exam-at pass-PAST-IND
      'John's brother passed the exam.'
      -NOM brother-NOM exam-at pass-PAST-IND
      'same meaning as (5a).' 

PR is also possible from object position in Korean. In addition to being marked with genitive Case (-uy), a possessor DP may be marked with the accusative Case (-lul):

(6) Object PR in Korean
      -NOM -GEN face-ACC draw-PAST-IND
      'John drew Mary's face'
   b. John-i Mary-lul elkwul-ul kuli-ess-ta
      -NOM -ACC face-ACC draw-PST-IND
      'same meaning as (6a)'

1.3 Question 3

The third question that I will address is what determines the grammatical function (GF) of the possessor and host DPs in a PR construction. For example, in some PR languages, the possessor and host DPs bear the same GF (e.g. Japanese, Korean). But in other PR languages, the possessor and host DPs do not bear the same GF (e.g. Swahili).

In Korean Object PR, the possessor and host DPs have the same GF of a direct object. Given a diagnostic for the GF of objecthood, namely, passivization, both the possessor and host DPs are passivized under PR, as in (7b):
(7) Korean PR
a. John-i Mary-lul elkwul-ul kuli-ess-ta
   -NOM -ACC face-ACC draw-PST-IND
   'John drew Mary’s face.'

b. Mary-ka (John-ekay) elkwul-i kuli-eci-ess-ta
   -NOM -by face-NOM draw-PASS-PAST-IND
   'Mary’s face was drawn (by John).'

It is not possible to passivize only a possessor DP Mary, as shown in (8):

(8) *Mary-ka (John-ekay) elkwul-ul kuli-eci-ess-ta
   -NOM -by face-ACC draw-PASS-PAST-IND

This shows that in Korean PR the possessor and host DPs must bear the same GF.

Swahili also allows PR from object position. However, in Swahili PR, the possessor and
host DPs do not bear the same GF. Consider the example in (9):²

(9) Swahili PR
a. Juma a-li-(ki)-ata kidole cha Asha
   1Juma 1-PST-(7)-cut 7finger 7-of 1Asha
   'Juma cut Asha’s finger.'

b. Juma a-li-m-kata Asha kidole
   1Juma 1-PST-1-cut 1Asha 7finger
   'same meaning as (9a).'

c. *Juma a-li-(ki)-ata Asha kidole
   1Juma 1-PST-7-cut 1Asha 7finger
   'same meaning as (9a).'

In an ordinary sentence like (9a), the possessor DP (Asha) is marked with the possessive marker
and it follows its host DP kidole ‘finger’. Since the host DP is a direct object in the clause, it

¹ In Korean, a nominative case marker is -ka when it is suffixed to a word which ends with a consonant, whereas it
is -i when suffixed to a word which ends with a vowel.
² The numbers indicate noun class affiliation.
triggers object agreement on the verb. In a PR sentence like (9b), the possessor DP is not marked with the possessive marker and it precedes its host DP. Following immediately the verb, the possessor DP triggers object agreement on the verb. Under PR, the host DP cannot trigger object agreement any more, as in (9c). This indicates that the possessor and host DPs do not have the same GF in Swahili PR.

1.4 Question 4

So far, I have raised three questions which are concerned with cross-linguistic variation in the syntax of PR;

(i) Why is PR possible in some languages but not in others?

(ii) Why do some languages allow PR only from subject position? Why do other languages allow it from both subject and object position?

(iii) Why in some PR languages do the possessor and host DPs have the same GF? Why in other PR languages do they not have the same GF?

In addition to understanding why PR has variation in its surface syntax, this thesis also examines what seems to be a universal feature of PR; namely PR is only possible with a certain semantic class of nouns, specifically relational nouns. Relational nouns include body-parts, kinship terms and so on (Stockwell, Schachter and Partee 1972, Déchaine 1993, Barker 1995), and only relational nouns can host PR. In other words, if a host noun is not a relational noun, then PR is not possible. Consider the following example from Korean in (10) and (11):

---

3 Object agreement is optional if an object is inanimate.
Since in (10) the head noun yenphil ‘pencil’ is not a relational noun, it cannot be the target for PR, and hence the possessor DP Mary cannot be marked with the same case marker as its host, i.e., the accusative case marker (-uy), as shown in (10b). This restriction is not peculiar to Korean, but holds of all PR languages.

1.5 Overview of the Thesis

I have introduced four questions in the above sections. In order to answer these questions, I make the following claims;

(12) I. Q1: Why is PR possible in some languages but not in others?

A1: a. If a language allows multiple feature-checking (MFC), then PR is possible (e.g. Japanese, Korean, Swahili, etc.).

b. If a language does not allow MFC, then PR is not possible (e.g. English).

II. Q2: Why do some languages allow PR only from subject position, whereas other languages allow it from both subject and object position?
A2: a. If a language allows PR from subject position, the formal features (FFs) of T can be checked multiply.
b. If a language allows PR from object position, the FFs of v can be checked multiply.

III. Q3: Why in some PR languages do the possessor and host DPs have the same GF? Why in other PR languages do they not have the same GF?

A3: a. If MFC applies to a homogeneous set of FFs, namely ∀FF₂ or ∀FF₃, then the possessor and host DPs have the same GF.
b. If MFC applies to a heterogeneous set of FFs, namely ∃FF₁, then the possessor and host DPs do not have the same GF.

IV. Q4: Why is PR possible only with relational nouns?

A4: a. If a possessor is merged as a complement to N, then it can be the target for PR. Only relational Ns introduce their possessors as complements and host PR.
b. If a possessor is merged as a specifier to N, then it cannot be the target for PR. Nouns that are not relational introduce their possessors as specifiers and thus do not host PR.

This thesis is organized as follows. Chapter 2 introduces the multiple feature-checking analysis that accounts for PR. Chapter 3 applies the MFC analysis to Japanese PR. Chapter 4 examines PR in Korean and extends the MFC analysis to account for Subject and Object PR. What will emerge in these two chapters is that PR in both Japanese and Korean involves covert movement: multiple feature checking takes place at LF. Chapter 5 examines two languages where PR involves overt movement, namely Kinyarwanda and Swahili. Chapter 6 examines the universal feature of PR, namely the relational noun restriction. This restriction is reduced to the structural position of the possessor, namely a complement of N.
2.0 Introduction

This chapter introduces the basic notions of feature-checking and multiple feature-checking, which are at the heart of the analysis of PR in this thesis. In the following sections, I will discuss the following: (i) how the grammatical function (GF) of a DP is determined in feature-checking theory; (ii) how feature-checking accounts for PR; and (iii) how feature-checking captures the fact that languages with PR differ in whether the possessor and host DPs bear the same GF or not.

2.1 Grammatical Function

In this section, I will discuss how the GF of a DP is determined in feature-checking theory.

It is traditionally assumed that sentences are structured out of words and phrases, each of which belongs to a specific grammatical category and serves a specific grammatical function (GF) within the sentence. For instance, in the sentence like “John likes Mary”, John serves the GF of a subject of the sentence and Mary serves the GF of direct object of the sentence. Now, what determines the GF of a DP? If a DP is the subject in a clause, then it is expected to have subject properties, which include the ability to induce subject agreement, to bind a subject-oriented reflexive, etc. If a DP is not a subject, then it is not expected to have any subject properties. In a traditional generative approach, grammatical relations such as subject or object are determined in structural terms (Chomsky 1981). Thus a subject is defined as an NP that is immediately dominated by S node, and notated as [NP, S]. Such an NP assumes the GF of subject (cf. Marantz 1984). A direct object is immediately dominated by VP, and notated as [NP, VP]. This is illustrated in (1):
This structure contains a unique subject and a unique object; thus the relation between NP (DP in this thesis) and GF is one-to-one. However, the relation between DP and GF is not always one-to-one. There are cases where a DP may appear in more than one structural position. For instance, in a passive clause a DP is an underlying object but it appear as a surface subject. The object DP moves from Case-less position to Case-marked position, which is shown in (2):

In (2), the relation between DP and GF is one-to-many: a single DP has two GFs.

PR poses another type of problem for the relation between DP and GF. Recall that PR is a phenomenon in which a possessor DP bears the same GF as its host DP. That is, the possessor DP bears an extra GF that it does not bear without PR in an ordinary structure. In a Japanese possessive construction like (3a), only the host DP imooto 'sister' has the GF of subject, and the genitive-marked possessor DP Mary has a different GF, namely the GF of possessor. In a PR construction like (3b), the possessor DP and the host DP both bear the subject GF:
I propose that the possessor DP is base-generated within the host DP. In (3a), the GF of subject is linked uniquely to the host DP. In (3b), however, the subject GF is associated with two DPs, namely the host DP and the possessor DP. This is shown in (4):

In PR, the relation between DP and GF is many-to-one: two DPs have the same GF.

2.2 Previous Accounts of PR

2.2.1 Possessor Ascension in Relational Grammar

Given the several types of relations between DP and GF (= grammatical function), this raises the question of how a given DP comes to bear a given GF. Relational Grammar (cf. Perlmutter 1982, 1984, and Blake 1990) regards grammatical functors (relations) as primitives. In order to account for GF-splitting in (4b), Relational Grammar posits multiple level syntactic structures such as “initial stratum” or “final stratum” and assumes that some properties of a DP are linked to the relation the DP holds in the initial stratum and others are linked to the relation the DP holds in the final stratum. For PR, Relational Grammar proposes that the relation between the
possessor and its host in the initial stratum is initially a modifier-Head relation, but in the final stratum the possessor assumes the GF of its host. That is, the possessor promoted by ascension assumes the grammatical relation borne by the host out of which it ascends. Thus Possessor Raising is called ‘Possessor Ascension’ in Relational Grammar.

In Swahili PR, the possessor DP bears the GF of its host DP but the host DP is demoted and hence does not bear its original GF. Therefore Relational Grammar can capture Swahili PR. However, Relational Grammar fails to capture another type of PR, where the possessor and host DPs bear the same GF, such as in Japanese, Korean and Kinyarwanda.

2.2.2 Possessor Raising by Noun Incorporation

Baker (1988) argues that GF-splitting, which Baker calls “GF changing”, is analyzable as the result of Noun Incorporation (NI). For example, in Oneida PR, Baker argues that a direct object (host) *nuh* ‘horse’ is incorporated into V, stranding its possessor *John*, and the possessor then becomes the derived direct object of the verb. The example is given in (5) and the structure for (5) is illustrated in (6):

(5) *Wa-hi-nuh-ahni:nu: John*
    PAST-1sS/3M-house-buy-John
    ‘I bought John’s house.’

(6)

```
S
  NP       VP
    I
  V       NP
    N  V NP N
    house, buy John
```

Baker extends this NI analysis to PR without overt NI. For instance, Kinyarwanda has PR with
no NI, as shown in (7). In an ordinary possessive construction, a possessor DP requires the possessive marker and follows a host DP as in (7a). In a PR construction, a possessor DP does not require the possessive marker and precedes the host DP, as in (7b):

(7)  a. Umugore y-a-vun-nye ukuboko k’u umwaana.
    woman she-PAST-break-ASP arm of child
    ‘The woman broke the arm of the child.’

    b. Umugore y-a-vun-nye umwaana ukuboko.
    woman she-PAST-break-ASP child arm
    ‘The woman broke the child’s arm.’ [Kimenyi 1980:p97(1)]

Baker argues that the host noun undergoes abstract NI and is linked to the verb as though incorporation had taken place (a process also called Reanalysis). The Reanalysis is indicated as asterisk in (8):

(8)  

    S
    /   \
   NP   VP
     /   \
    the woman V* NP
       /   \
      broke NP   N*
         /   \n        the child arm

Baker’s NI analysis of PR predicts that it will only take place from object position. Thus PR from subject position, such as is found in Japanese and Korean, is predicted not to occur or to be derived by a different mechanism.

In this thesis, we consider how a feature-checking analysis can capture the GF-splitting (GF changing) found in PR. In the following, I first show how the GF of a DP is determined in feature-checking theory. Then I discuss how GF-splitting in Japanese PR, i.e., a many-to-one
relation between DP and GF of subject, is captured in a feature-checking theory.

2.3 Feature-Checking

In feature-checking theory, the relation between a DP and its grammatical function (GF) is determined by the feature-checking relation. Functional heads such as T and v, as well as DPs, are associated with formal features (FFs). FFs include categorial features, Case-features, and \( \phi \)-features (person, number, gender). FFs need to be checked (feature-checking). The strength of a feature may be either strong or weak and this determines when feature-checking applies:

(9) a. A FF of a functional head is checked by an identical FF on a lexical category.
   b. If a FF is strong, it must be checked before Spell-Out, which triggers overt movement of a matching feature with pied-piping of a category (due to a PF requirement). If a strong FF remains unchecked at PF, the derivation crashes.
   c. If a FF is weak, it does not have to be checked before Spell-Out. It is checked at LF by covert movement of the bundle of FFs of a category (LF pied-piping). Covert movement of FFs is an adjunction to a head.

The following FFs are important in this thesis:

(10) a. categorial features: D-features for nouns and verbs and an EPP-feature for a functional head T, which is checked by a D-feature of DP.
   b. Case-features: nominative, accusative, etc.
   c. \( \phi \)-feature: gender, person, number, etc.

A D-feature of T is a way to implement the Extended Projection Principle (EPP), i.e., the requirement that sentences have (overt) subject, hence it is also called an EPP-feature. A strong EPP-feature of T in English is motivated by expletive constructions, as in (11):
In (11), Spec of T is filled by an expletive *there*, and a strong D-feature of T is checked by the expletive. T also has Case- and \( \Phi \)-features, but these are not checked by an expletive, since expletives lack these features. As seen in (11), agreement on the matrix verb is triggered by the associate of the expletive (namely, book/books), which is also assigned nominative Case. That is, the D-feature is independent from the Case- and \( \Phi \)-feature of T.

Case-checking replaces Case-assignment of earlier approaches as in GB, where arguments must be assigned Case to satisfy the visibility condition. In feature-checking theory, Case is not assigned to arguments but rather intrinsically specified in the lexicon. Case-features are not interpretable (i.e., [-Interpretable]), so they must be checked off and eliminated at LF.

\( \Phi \)-features such as gender, person and number are encoded on DPs, and they are checked by heads such as T or v. Consider the following examples from Swahili, which exhibits rich morphological system:

(12) *Swahili*

\[
\text{Juma a-li-(ki)-ata kidole cha Asha}
\]

\[
1\text{Juma 1-PST-(7)-cut 7finger 7-of 1Asha}
\]

\[
'\text{Juma cut Asha's finger.'}
\]

Morphological \( \Phi \)-features of a subject DP *Juma* and an object DP *kidole* ‘finger’ appear on the verb, as indicated by the noun class affixes.\(^1\) This indicates that \( \Phi \)-features of each DP have been checked by functional heads T and v. Given these FFs, let us consider how a DP which has

\(^1\) In Swahili, a verb V moves overtly onto T.
the GF of a subject satisfies feature-checking.

Adopting the VP internal Hypothesis (Sportiche 1988a, Koopman and Sportiche 1991), a subject DP is base-generated at Spec of vP in a simple transitive verb. Suppose that T has a strong NOM Case-feature. The subject DP is forced to move to the Spec of TP before Spell-Out to check off this strong Case-feature as shown in (13):

(13) $\begin{array}{c}
    \text{TP} \\
    \text{DP,} \\
    \text{T} \\
    [\text{NOM}] \\
    t_i \\
    \text{vP} \\
    \text{v} \\
    \text{VP}
\end{array}$

If T has no strong FFs (e.g. weak NOM feature), then the subject DP in Spec, vP is not forced to move overtly. At LF the bundle of FFs of the DP moves onto T as in (14):

(14) $\begin{array}{c}
    \text{TP} \\
    \text{T} \\
    [\text{NOM}] \\
    t_i \\
    \text{DP} \\
    \text{VP} \\
    \text{v} \\
    \text{DP}
\end{array}$

Let us compare overt movement in (13) and covert movement of (14), especially as it relates to the position of the subject DP. The subject DP ends up in a Spec of TP in overt movement, whereas it stays in its base position (i.e., at a Spec of vP) in covert movement. However, the DP enters into a feature checking relation with the functional head T in both cases, therefore the DP in a Spec of TP and the DP in a Spec of vP bear the GF of subject; e.g. they both check NOM
Case. Consequently, a DP bears the GF of subject when it enters into a feature-checking relation with T.

2.4 Overt vs. Covert Movement

A minimalist approach postulates two representations, a phonetic representation (PF) and a semantic representation (LF). The point where a derivation branches off to PF is referred to as Spell-Out, as illustrated in (15):

(15) LEXICON
    ↓
    SPELL-OUT
    ↓
    PF    LF
    "overt movement"
    "covert movement"

Feature-checking drives movement. Movement which occurs before Spell-Out is overt, whereas movement which occurs after Spell-Out is covert. Movement is subject to economy conditions. For example, movement should only take place when necessary (Last Resort), so there should be no optional movement in the grammar. Movement is delayed as late as possible (Procrastinate); Chomsky (1995b) proposes that overt movement is a more costly operation than covert movement because it always violates Procrastinate, which states that movement is delayed as late as possible. Procrastinate is violable only if it is the only way for the derivation to converge. Therefore, if overt movement is not required, then covert movement will always be preferred.

Recall that a DP bears the Subject-GF if it enters into a feature-checking relation with the FFs of T. Feature-checking takes place either overtly or covertly, depending on the feature strength of the FFs of T. Overt and covert movements place the subject in different positions,
i.e., at Spec, TP and Spec, vP, respectively. However, in both derivations the DP bears the same Subject-GF. According to Procrastinate, overt movement is less economical than covert movement. If so, a subject DP should not move overtly to Spec, TP if it is not necessary. It can only move if T has a strong FF to be checked before Spell-Out. This issue will become crucial to the analysis of the subject position in Japanese and to the analysis of PR.

2.5 Multiple Feature-Checking

So far, we have considered cases where there is a one-to-one relation between DP and GF. Now, we have to consider cases where two DPs bear the same surface GF, i.e., a many-to-one relation such as occurs with Japanese PR. This section discusses how two DPs can bear the same GF and how this can be captured by the notion of multiple feature-checking (MFC).

As we discussed in the previous section, a DP bears the GF of subject when it enters into a feature-checking relation with the FFs of T. Extending this approach, we predict that if two DPs enter into a feature-checking relation with the FFs of T, then both DPs would bear the GF of subject. It remains to specify the conditions under which T can enter into a MFC relation with more than one DP. According to Chomsky (1995b), there are two ways of deriving multiple feature-checking:

(16) Multiple feature-checking (MFC) is possible only if:

(i) a strong FF of a head can escape deletion or;
(ii) a strong FF of a head tolerates unforced violations of Procrastinate.

Suppose a strong FF of a head can escape deletion. Since a strong FF must be checked before Spell-Out, it forces overt movement of a DP to Spec of the head. In an ordinary case, FFs are deleted when they are checked. However, given the assumption that a strong FF of a head can
escape deletion, the checked strong FF escapes deletion and hence triggers another DP to move to the outer Spec of the head. Consequently, MFC of a strong FF is derived.

Another way of deriving MFC is to allow a strong FF of a head to tolerate unforced violations of Procrastinate. That is, a strong FF forces a DP to move to satisfy its feature-checking requirement. Given the assumption that the strong FF tolerates unforced violations of Procrastinate, the strong FF can force another DP to move and be checked again. The second feature-checking is not forced and hence violates the economy condition *Procrastinate*, which minimizes the number of overt operations necessary for convergence.

Either way, more than one argument (namely, DP) is attracted and moved to multiple Specs of a single head, deriving multiple Specs projected by a single head. As illustrated in (17), a FF with a single strikethrough (i.e., [FF]) indicates that the FF has been checked once, and a FF with a double strikethrough (i.e., [FF]) indicates that the FF has been checked more than once:

![Diagram](17)

Checking the same strong FF of T, the DPs in multiple Specs of T are assumed to bear the same GF, here that of a subject. What is crucial in the formulation of MFC proposed by Chomsky is that it must take place in overt syntax. Thus Chomsky's version of MFC always derives multiple specifiers. A specifier position can only be derived by overt movement of a DP which is forced by a strong FF, as shown in (18). In order to derive multiple specifiers, a functional head must
have a strong FF. If a head has only weak FFs, then specifier positions of the head can never be derived, as shown in (18b):

(18)  a. T with a strong FF
      TP
        DP
          T [FF]s
            ti
            VP

      b. T with no strong FF
      TP
        T
          vP
            [FF]w
            v
            VP

Thus MFC suggested by Chomsky is possible only if a functional head has at least one strong FF which can either escape deletion or tolerate unforced violations of Procrastinate.

In addition to such overt MFC, there is another way of deriving MFC which derives two DPs bearing the same GF. Here I propose that in addition to overt MFC, there is also covert MFC. Let us see how this is possible.

Suppose that the FFs of T are all weak. Since no overt movement is forced, the FFs of T are checked by a covert movement of the bundle of FFs of a subject DP at LF, as in (19):

(19)  TP
      T
          vP
            FF
              T
                  [FF]w
                  ti
                  VP

Suppose that the FFs of T can be checked multiply at LF, i.e. a (weak) FF can escape deletion. It allows another bundle of FFs of some DP to move at LF, adjoining to T, as shown in (20):
(20) Multiple Adjunction of FF-bundles to T

Allowing MFC in covert syntax (at LF), the FFs of T can be checked multiply by more than one bundle of FFs of a DP. Such covert MFC will predict that DPs whose (sets of) FFs have entered into feature-checking with the same set of FFs of T will behave as if they have the same GF. In this way, a covert MFC also allows two DPs to have the same GF. Therefore, I propose the following:

(21) Multiple feature-checking is possible only if a FF of a head can escape or delay deletion.

Notice that in (21) the strength of a FF is not specified as strong or weak, whereas it must be strong in original formulation (Chomsky 1995b). This opens up the possibility of MFC in either the overt or the covert syntax.

As discussed above, both covert and overt MFC analyses can capture how the same GF associated with more than one DP is derived. However, in the next chapter, I argue that Japanese PR must be accounted for by covert multiple feature-checking, given the evidence that subjects do not have to move overtly in Japanese.
3.0 Introduction

This chapter examines PR in Japanese in a minimalist framework, in light of the following questions:

Q1. Why does Japanese allow PR?

Q2. Why is PR possible only from subject position in Japanese?

Q3. Why do both the possessor and host DPs bear the same grammatical function (GF) in Japanese PR?

In order to answer these questions, I propose the following:

A1. Japanese allows multiple feature-checking (MFC), and it is MFC which permits PR.

A2. Only the formal features (FFs) of T can be checked multiply in Japanese, so only DPs whose features are checked by the FFs of T can participate in PR. This derives the subject restriction.

A3. The FFs of T are all weak (∀FFs) in Japanese, so these weak FFs are checked by FFs of the possessor and host DPs at LF. This derives the same GF of the possessor and host DPs in Japanese PR.

I first survey the syntactic properties of Japanese PR (section 3.1) and propose a multiple feature-checking analysis for Japanese PR (section 3.2). Given the evidence that subjects do not have to move overtly in this language, I argue that Japanese PR involves covert movement, in particular covert MFC at LF. Lastly, I show that Japanese only allows PR from subject position but bot from object position (section 3.3).
3.1 The Surface Syntax of Japanese PR

In this section, we will see how the multiple feature-checking (MFC) analysis accounts for Japanese PR. We will first observe the syntactic properties of Japanese PR. In Japanese PR, both the possessor and its host DPs bear the same grammatical function (GF). This can be accounted for by either overt or covert MFC, since both versions of the analysis allow the same GF to be assigned to distinct DPs. However, I argue that Japanese PR must be accounted for by covert MFC, given the evidence that subjects do not have to move overtly in Japanese.

3.1.1 The Case Alternation

A superficial property of Japanese PR is the case alternation of the possessor DP. In an ordinary possessive construction, a possessor DP is marked with genitive Case, whereas in a PR construction a possessor DP is marked with nominative Case.¹

(1) a. Mary-no kami-ga nagai.
   -GEN hair-NOM long-be
   'Mary's hair is long.'

   b. Mary-ga kami-ga nagai.
   -NOM hair-NOM long-be
   'same meaning as (1a).'

(2) a. John-no chichioya-ga souridaijin-da.
   -GEN father-NOM Prime Minister-be-IND
   'John's father is a Prime Minister.'

   -NOM father-NOM Prime Minister-be-IND
   'same meaning as (2a).'

¹ In Kumamoto dialect, the nominative case marker -ga in standard Japanese is replaced by -no which happens to be the same form as a genitive case marker -no in standard Japanese (and also in Kumamoto dialect). Therefore in the following example -no attached to a possessor is ambiguous between nominative or genitive in Kumamoto dialect:

   (i) Mary-no kami-no naga-ka.
   -NOM/GEN hair-NOM long-be-IND 'Mary's hair is long.'
The syntactic structures for an ordinary possessive construction and a PR construction proposed by Ura (1996) are illustrated as follows:

(3) a. **Ordinary Possessive Construction**

```
TP
   /\      \        T vP
  / \      \       /  \
Host DP(NOM)  POSS-DP(GEN) N
          / \   / \   /
 t_k   t_j  v'  v  VP
```

b. **Possessor Raising**

```
TP
   /\      \        T vP
  / \      \       /  \
POSS-DP(NOM) Host DP(NOM) N
          / \   / \   /
 t_j   t_k  v'  v  VP
```

[Ura 1996:128]

In an ordinary possessive construction (3a), the subject DP is moved overtly from its base-generated position, i.e., at Spec of vP to Spec of TP. A possessor DP marked as genitive is base-generated within the subject DP (hereafter the host DP), and it stays there in overt syntax. In a PR construction (3b), however, the possessor DP marked as nominative is raised out of the host DP and moved to an outer Spec of TP. As the structure in (3b) shows, both the possessor and its host DPs are in Spec of TP, which is a surface position of subject. This predicts that the possessor and host DPs both bear the same subject GF. This prediction is borne out: in a PR context, both the possessor and host DPs have the same subject properties. We will discuss this
3.1.2 Subject Properties

In Japanese two diagnostics for subjecthood include the ability to induce subject (honorific) agreement and to bind a subject-oriented anaphor *zibun*. In Japanese PR, a possessor and a host both have subject properties: both can trigger subject agreement and bind a subject-oriented anaphor *zibun*. Let us first examine honorific agreement.

In Japanese, subjects which are honorable trigger honorific agreement on the verb. In (4a), an ordinary possessive construction (4a), the head noun *gakuchoo* ‘president’ triggers honorific agreement on the verb. The head noun also triggers honorific agreement in a PR construction as shown in (4b):²

(4)  a. *Handai-no gakuchoo-ga o-isogasi-i.*
    Osaka Univ.-GEN president-NOM HON-busy-is
    'The president of Osaka Univ. is busy.'

    b. *Handai-ga gakuchoo-ga o-isogasi-i.*
    Osaka Univ.-NOM president-NOM HON-busy-is
    'same meaning as (4a)'  [Ura 1996:139 & 141]

Since the possessor *Handai* ‘Osaka Univ.’ is inanimate and not honorable, it cannot trigger honorific agreement even if it is marked as Nominative. The next set of examples shows that an animate possessor triggers honorific agreement, but only in the PR construction where the possessor is Nominative-marked:

² In Japanese a honorific marker is *-o* and it is prefixed to a verb.
Taken together, (4) and (5) show that Nominative-marked possessors have the ability to induce honorific (subject) agreement under PR.

The ability to bind a subject-oriented anaphor zibun provides additional evidence that the Nominative-marked possessors have subject properties under PR. In Japanese, the anaphor zibun ‘self’ must be bound by a subject. With this in mind, consider the following set of examples:

(6) a. Johnj-no imootoj-ga zibun *ij-no heya-de koros-are-ta.
   -GEN sister-NOM self-GEN room-at kill-PASS-PAST
   (i) ‘John’s sisterj was killed in herj room.’
   *(ii) ‘Johni’s sister was killed in hisi room.’

   b. Johnj-ga imootoj-ga zibun ij-no heya-de koros-are-ta.
      -NOM sister-NOM self-GEN room-at kill-PASS-PAST
      (i) ‘John’s sisterj was killed in herj room.’
      (ii) ‘Johni’s sister was killed in hisi room.’

In an ordinary possessive construction (6a), the anaphor zibun must be bound by a subject John-no imooto ‘John’s sister’. It cannot be bound by a genitive-marked possessor John. However, once the possessor John is marked by the nominative case marker, the anaphor zibun can be bound by either the subject possessee John’s sister or the possessor John, as in (6b). Therefore this sentence is ambiguous in meaning.

The evidence from honorific agreement and binding of subject-oriented anaphor show that the possessor DP and the host DP have the same subject properties in Japanese PR.
following section, I will show how Japanese PR is accounted for by means of multiple feature-checking, and also why the multiple feature-checking must be covert.

3.2 Analysis of Japanese PR

In this section, I provide an analysis of Japanese PR based on the following proposals:

2. Formal features of T can be checked multiply in Japanese.
3. MFC of Japanese PR takes place in covert syntax.

As discussed earlier in chapter 2, in principle Japanese PR may be accounted for by either overt or covert MFC, since both correctly predict that a possessor DP and its host DP can bear the same grammatical function. However, I argue for a covert MFC analysis to account for Japanese PR. Given the absence of subject-verb agreement and overt expletives, I argue that DPs do not have to move overtly to Spec of TP in Japanese. Extending this argument to PR, I further argue that in Japanese PR from subject position the FFs of the possessor and host DPs move at LF and enter into multiple feature-checking relation with the FFs of T.

3.2.1 Does the Subject move in Japanese?

As already discussed, if T has a strong FF, a subject DP must move from its base position (namely, Spec of vP) to a Spec of TP to check off the strong FF:
In English, a subject is assumed to move overtly to a Spec of TP, given the following properties associated with the inflectional category T:

(8) (i) English exhibits subject-verb agreement; T and Spec of TP agree with respect to the person and number of the subject in a non-past clause.

(ii) English exhibits overt expletives such as *it* or *there*; Spec of TP must be filled by an overt element.

Japanese lacks both subject-verb agreement and overt expletives. Therefore it is not clear whether a subject must move overtly to a Spec of TP in Japanese. Let us examine each property in English and Japanese.

English has subject-verb agreement, but Japanese does not. In English, the verb ending is determined by the person and number:

(9) a. He speaks English.

b. They speak English.

c

\[
\text{He[sg]} -s \quad \text{They[pl]} \quad \emptyset \quad \text{speaking English}
\]
Given the assumption that \( T \) is specified for \([\text{AGR}]\), \( T \) and Spec of \( \text{TP} \) agree with respect to the person and number, as shown in (9c). That is, a subject in Spec of \( \text{TP} \) induces Spec-head agreement in person and number in English.

In contrast, Japanese lacks subject-verb agreement. That is, there is no morphological distinction in the verb ending, irrespective of the person and number of the subject.\(^3\)

(10) Japanese

a. \textit{kare-ga eigo-o hanasu.}
   he-NOM English-ACC speak
   ‘He speaks English.’

b. \textit{karera-ga eigo-o hanasu.}
   they-NOM English-ACC speak
   ‘They speak English.’

c. \[
\begin{array}{c}
\text{TP} \\
\text{DP} \\
\text{T'} \\
\text{VP} \\
\text{T} \\
\text{DP} \\
\text{V} \\
\text{kare[sg]-ga eigo-o hanasu} \\
\text{karera[pl]-ga eigo-o hanasu}
\end{array}
\]

As in (10), there is no overt person and number agreement between subject and verb. That is, no Spec-head agreement in Japanese. This indicates that a subject does not move to Spec of \( \text{TP} \) in Japanese.

Regarding the second diagnostic for overt subject movement to Spec of \( \text{TP} \), English exhibits overt expletives, whereas Japanese lacks them. In English, an overt expletive \textit{it} is required, as in (11a). In contrast, Japanese does not require an overt expletive, as in (11b):

\(^3\) Honorific agreement in Japanese is usually assumed to be subject-verb agreement. In this sense, Japanese does have subject-verb agreement. However, Japanese honorific agreement is not obligatory, as opposed to an obligatory agreement in English (9). Therefore I argue that \( \Phi \)-feature of \( T \) in Japanese is weak.
(11)  a. *English

 *(It) is sunny.

 b. Japanese

 (Ø) hare-te-iru
 sunny-te-PRES
 'It is sunny.'

 English requires Spec of TP to be filled by overt elements such as *it and *there as in (12a), whereas Japanese does not require this position to be filled by an overt element, as shown in (12b):^4

(12)  a. English

  TP
   (Spec)
     It
     T
     is
     sunny

 b. Japanese

  TP
   (Spec)
     Ø
     VP
     hare
     te-iru

 Given these distinctions in the properties of T between English and Japanese, Kuroda (1988) has argued that AGR of T is strong in English, therefore a subject must move overtly to a Spec of TP in this language. In Japanese, however, whereas AGR of T is weak, therefore a subject is not forced to move overtly in this language. In terms of feature checking theory, we can say that the EPP-feature (i.e. D-feature) of T is strong in English, therefore a subject must move to Spec of TP to check the strong EPP-feature of T as in (13a). In contrast, the EPP-feature of T in Japanese is weak. Thus a subject stays in situ before Spell-Out and the FFs of a subject move onto T at LF as in (13b):

^4English is head-initial, whereas Japanese is head-final.
The claim that Japanese subjects are VP-internal is further supported by the fact that a subject does not have to precede the manner adverb *yukkuri* 'slowly':

Assuming that the manner adverb *yukkuri* 'slowly' is adjoined to vP, a subject *John* which is base-generated in Spec of v is correctly predicted to be lower in the structure if it does not move, as in (15):

---

5 Dechaine (p.c.) pointed out that the sentence in (14a) could be equivalent to the following English sentence:

(i) Slowly, John talked.

However, Japanese has two forms to describe 'slowly', namely, *yukkuri* and *yukkurito*. For the equivalent sentence to (i), the latter form *yukkurito* is used as in (ii):

(ii) Yukkurito John-ga hanasi-ta.

Furthermore, the sentence in (36a) is usually uttered without any pause. Therefore I assume that (36a) is not equivalent to (i).
If the subject did move overtly in Japanese, it would be higher than a vP-adjointed adverb in the structure, and the sentence (14a) would be impossible. However, it is in fact perfectly grammatical. The sentence in (14b), where the subject John precedes the manner adverb, can be derived by scrambling the subject over the adverb, which is independently motivated for Japanese (Saito 1985, 1989, 1992). Thus I conclude that the FFs of T are weak in Japanese and that there is no overt movement in subject position.

Japanese also lacks Subject-auxiliary inversion in (16) and overt wh-movement in (17), which indicates that the question feature of C in Japanese is weak:

    John-NOM soon come
    ‘John will come soon.’

    John-NOM soon come Q
    ‘Will John come soon?’

    John-NOM book-ACC buy-PAST
    ‘John bought a book’

    b. John-ga nani-o kat-ta no?
    John-NOM what-ACC buy-PAST Q
    ‘What did John buy?’
This may suggest that Japanese never has overt feature-checking, i.e., overt movement (other than scrambling).

This will lead the conclusion that PR from subject position must be covert movement in Japanese. In the following, I will show how Japanese PR can be accounted for by covert multiple feature-checking.

### 3.2.2 A Covert Movement Analysis of Japanese PR

In order to account for Japanese PR, I make the following claims:


2. Formal features (FFs) of T can be checked multiply in Japanese.

3. MFC in Japanese PR takes place in covert syntax.

First, PR is possible in Japanese because multiple feature checking is allowed. Second, PR from subject position is possible in Japanese because the FFs of T can be checked multiply. Third, PR is covert in Japanese because the FFs of T are all weak. Since no overt movement is forced, only FFs of arguments move onto a functional head T at LF. I have already shown that covert multiple feature-checking allows more than one DP to have the same GF in 2.1.4. Given the claims in (18), I will show how Japanese Subject PR is derived by covert MFC.

First, a possessor DP is merged as a complement of N as in (19a). The host DP is merged at Spec,vP and then vP merges with T, as in (19b). Since the FFs of T are all weak in Japanese, the host DP is not forced to move overtly. The possessor DP is not forced to move, either. Thus there is no overt movement before Spell-Out.

---

6 We will examine the DP-internal structure of possessives in chapter 5.
Since the FFs of T can be checked multiply in Japanese PR, the bundles of FFs of the possessor DP and the host DP move at LF and enter into a feature-checking relation with the FFs of T, as illustrated in (20). This covert MFC derives multiple adjunction of FFs to T.

\[(20)\] LF Multiple Feature Checking

In this covert MFC, both the FFs of the possessor DP and the FFs of the host DP check the FFs of T, therefore the two DPs must have the same grammatical function.

This is the covert movement analysis of Japanese PR from subject position. Given the
absence of subject-verb agreement and the absence of overt expletives, I have argued that the
FFs of T are all weak in Japanese and that no overt movement is forced. Only the FFs of the
possessor and host DP move at LF and enter into multiple feature-checking relations with T.

Given that overt movement is less economical than covert movement (Procrastinate), the
overt movement analysis proposed by Ura (1996) is less economical than the covert movement
analysis that I have shown above. For reasons of economy, Japanese PR is best analyzed in
terms of covert MFC.

3.3 No Object PR in Japanese

Given the assumption that the FFs of T in Japanese can be checked multiply, PR from subject
position is possible in this language. However, Japanese does not allow PR from object position
as shown in (21):

     -NOM -GEN arm-ACC grab-PST
     ‘Mary grabbed John’s arm.’

       -NOM -ACC arm-ACC grab-PST
       ‘Mary grabbed John’s arm.’

(21a) contains an ordinary possessive object DP John-no ude ‘John’s arm’, in which a possessor
John is genitive-marked. If the possessor DP John is marked by an accusative Case marker -o,
the sentence is ungrammatical as shown in (21b). What does this fact indicate in terms of
multiple feature checking? For PR from subject position, I have argued that it is possible only
if the FFs of T can be checked multiply. Then we expect that PR from object position is possible
if the FFs of v can be checked multiply. If multiple feature-checking of FFs of v takes place
overtly, it will derive the structure in (22):

First the host DP which base-generates as a complement of V moves to Spec, vP to check the strong FF of v. Allowing this strong FF to be checked multiply, the possessor DP moves to an outer Spec of vP to check the strong FF of v.

Now, consider covert MFC of the FFs of v. This is possible if the functional head v does not have any strong FFs. Allowing the weak FFs of v to be checked multiply, the bundles of FFs of the host and possessor DPs move onto v at LF, which derives the structure in (23):

Since PR from object position is not possible in Japanese, we must conclude that the FFs of v cannot be checked multiply either overtly or covertly in Japanese. In the following chapter, I
will examine a language that allows PR from object position, namely Korean. I will argue that the FFs of $v$ can be checked multiply in Korean. I will also argue that this multiple feature-checking takes place at LF; i.e., Korean PR involves covert movement.
4.0 Introduction

This chapter examines PR in Korean, in light of the following questions:

Q1. Why does Korean allow PR?
Q2. Why is PR possible from both subject and object position in Korean?
Q3. Why do both the possessor and host DPs bear the same GF in Korean PR?

In order to answer these questions, I propose the following:

A2. Formal features (FFs) of both T and v can be checked multiply in Korean.
A3. MFC of Korean PR takes place in covert syntax.

This chapter is divided into two parts. Part 1 (4.1 and 4.2) is concerned with Korean PR from subject position. Part 2 (4.3 and 4.4) is concerned with Korean PR from object position. Given the evidence that neither a subject nor an object is forced to move overtly, I argue for a covert movement analysis of Korean PR.

4.1 The Surface Syntax of Korean Subject PR

In this section, I discuss the surface syntactic properties of Korean PR from subject position, namely, the case-alternation in PR and subject properties of the possessor and host DPs under PR.

4.1.1 The Case Alternation

In Korean, a possessor is marked with the genitive case marker 

\(-uy\) in an ordinary possessive
construction (1a). However, it is also marked with the nominative case marker –*ka/i* in a PR construction (1b):

   Chelsoo-GEN brother-NOM exam-at pass-PAST-IND
   'Chelsoo's brother passed the exam.'

   Chelsoo-NOM brother-NOM exam-at pass-PAST-IND
   'same meaning as (1a).'</

This is the same case alternation pattern that is found in Japanese PR. Given this similarity, Ura (1996) proposes that Korean Subject PR is accounted for by overt MFC in the same way as in Korean PR. Thus he proposes that the syntactic structures for an ordinary possessive construction and a PR construction in Korean look like (2):

(2) a. *Ordinary Possessive Construction*

```
TP
   Host DP(NOM)_k
      POSS-DP(GEN)  N
                     T
                        vP
                              tk
                                v
                                 VP
```

b. *Possessor Raising Construction*

```
TP
   POSS-DP(NOM)_j
      Host DP(NOM)_k
         T
            vP
                 tk
                  v
                   VP
```

---

1 When a word that a nominative case marker is suffixed to ends with consonants, -*ka* is used. When it ends with vowels, then -*i* is used.
In (2a), a genitive-marked possessor DP stays within the subject (host) DP. In (2b), a nominative-marked possessor DP moves from the host DP to an outer Spec of TP. In (2b), both the possessor DP and the host DP are in Spec of TP, so we predict that the two DPs bear the same grammatical function of a subject. In the following section, we will see if this prediction in borne out, by examining the ability of binding a subject-oriented anaphor.

4.1.2 Subject Properties

The ability of binding a subject-oriented anaphor caki is one the diagnostics for subjecthood in Korean. Given the assumption that a possessor and its host bear the same GF in Korean PR, we would expect that both can trigger honorific agreement and bind a subject-oriented anaphor. Consider the example in (3):

(3) a. Johnj-uy enni-j-i caki*-kʃj -uy pang-eše cuk-esso-ta
   -GEN sister-NOM self-GEN room-at kill-PAST-IND
   (i) ‘John’s sister was killed in her room.’
   *(ii) ‘John’s sister was killed in his room.’

      -NOM sister-NOM self-GEN room-at kill-PAST-IND
      (i) ‘John’s sister was killed in her room.’
      (ii) ‘John’s sister was killed in his room.’

In an ordinary possessive construction (3a), the subject-oriented anaphor caki ‘self’ must be bound by a subject John-uy enni ‘John’s sister’. It cannot be bound by a genitive-marked possessor John. In a PR construction (3b), however, a nominative-marked possessor John can bind the anaphor caki as well as the subject (host) enni ‘(John’s) sister’. This fact indicates that the possessor and the host DP bear the same subject GF in Korean Subject PR.

Recall that honorific agreement can be used to test for the subjecthood of a possessor DP
in Japanese PR. Korean also has honorific agreement induced by a subject. However, Korean honorific agreement cannot be used to test for the subjecthood of possessor DPs in Korean PR since it obeys the honorific hierarchy more strictly than Japanese does. Consider the example in (4):

(4)  a. Kim-kyosu-nim-i-uy emen-i-m-i-1 phenchanh-u-si1-ta.
    Kim-prof.-HON-GEN mother-HON-NOM sick-inf.-HON-DEC
    ‘Prof. Kim’s mother is sick.’

    b. Kim-kyosu-nim-i emen-i-m-i-1 phenchanh-u-si1-ta.
    Kim-prof.-HON-NOM mother-HON-NOM sick-inf.-HON-DEC
    ‘same meaning as (4a).’

The nominative-marked possessor fails to trigger honorific agreement if its host is higher than the possessor in honorific hierarchy. In a Japanese equivalent sentence to (4b), it is ambiguous whether honorific agreement is triggered by the possessor or the host.

However, once the host is an inanimate N, the nominative-marked possessor can trigger honorific agreement as shown in (5b):

(5)  a*Kim-kyosu-nim-uy nun-i aphu-si-ta
    Kim-prof.-HON-GEN eye-NOM sick-HON-DEC
    ‘Prof. Kim’s eyes are hurt’

    b. Kim-kyosu-nim-i nun-i aphu-si-ta
    Kim-prof.-HON-NOM eye-NOM sick-HON-DEC
    ‘same meaning as (5a)’

Therefore this indicates that the possessor has the subject GF, namely the ability to trigger honorific agreement under PR.

In the following section, I will show the evidence that a subject is not forced to move overtly in Korean from absence of subject-verb agreement and overt expletives. Then I extend
the covert MFC analysis of Japanese PR to Korean PR.

### 4.2 Analysis of Korean Subject PR

In this section, I propose the following:

2. Formal features of T can be checked multiply in Korean.
3. MFC of Korean PR takes place in covert syntax.

I argue that Korean PR from subject position can be accounted for by covert MFC. In order to support my analysis, I will show that a subject is not forced to move overtly in Korean. The evidence for this comes from the absence of subject-verb agreement and overt expletives.

#### 4.2.1 Does the Subject move in Korean?

This subsection examines whether a subject moves overtly or not in Korean. In chapter 3, I have argued that a subject is not forced to move overtly in Japanese, since this language lacks subject-verb agreement and overt expletives. Let us see how Korean behaves with respect to these properties.

First, Korean also lacks the subject-verb agreement. As shown in (6), there is no overt morphological person and number agreement between subject and the verb:

   John-NOM walk-IND
   ‘John walks.’

b. John kwa Mary-ka korokan-da.
   John and Mary-NOM walk-IND
   ‘John and Mary walk.’
Second, Korean lacks overt expletives such as 'it' or 'there' as shown in (7):

(7) *No overt expletives*

\[
\begin{array}{c}
\phi \text{ he han-da} \\
\text{ sunny be-IND} \\
\text{ 'It is sunny.'}
\end{array}
\]

With respect to subject-verb agreement and the absence of overt expletives, Korean behaves as Japanese does. Therefore, I argue that a subject is not forced to move overtly in Korean. That is, the FFs of T in Korean are weak and checked at LF by covert movement of FFs of an argument, as shown in (8):

(8)

\[
\begin{array}{c}
\text{TP} \\
T \quad \text{vP} \\
\text{FF}_1 \quad \text{T} \\
[F]_w \quad \text{DP}_{\text{SUBJ}} \\
[ t_i ] \quad \text{VP}
\end{array}
\]

Since overt movement of subject is not forced in Korean, I argue that PR from subject position involves no overt movement. In the following, I extend the covert multiple feature-checking analysis to Korean Subject PR.
4.2.2 A Covert Movement Analysis of Korean Subject PR

In order to account for Korean PR, I make the following claims:

(9) 1. Korean allows multiple feature-checking (MFC).
2. Formal features of T can be checked multiply in Korean.
3. MFC in Korean PR takes place in covert syntax.

In Korean, PR from subject position is possible because MFC of the FFs of T is allowed. Since the FFs of T are weak, no overt movement is forced. Therefore the bundle of FFs of the possessor and host DPs move at LF and enter into feature-checking relation with the FFs of T. The covert MFC in Korean PR takes place in the same way as in Japanese PR:

(10) LF Multiple Feature-Checking

As shown in (10), the bundles of FFs of the possessor DP and the host DP move at LF and enter into feature checking relation with FFs of T. In this covert feature checking, both the FFs of the possessor DP and the FFs of the host DP check the FFs of T. This correctly predicts that the two DPs can bear the same grammatical function in Korean PR.
In the following sections, we will examine the properties of Korean Object PR in terms of the grammatical function of a possessor and its host DPs under PR. Assuming that an object is not forced to move overtly in this language, I will argue that Korean Object PR is an covert movement by means of the covert multiple feature checking at LF.

4.3 The Surface Syntax of Korean Object PR

So far, we have seen that both Korean and Japanese exhibit PR from subject position which is accounted for by the covert multiple feature-checking. In 2.4, I showed that Japanese does not allow PR from object position, as in (11):

   -NOM -GEN arm-ACC grab-PST
   ‘Mary grabbed John’s arm.’

   -NOM -ACC arm-ACC grab-PST
   ‘Mary grabbed John’s arm.’

In contrast to Japanese, Korean allows PR from object position. Exploring the properties of Korean Object PR and the position of object in this language, I propose the covert movement analysis for Object PR in Korean.

4.3.1 The Case Alternation

In an ordinary possessive construction, a possessor is marked with the genitive case marker -uy. However, in a PR construction, a possessor is marked with the accusative case marker -lul as well as its host noun. Let us look at the example in (12):
   -NOM -GEN head-ACC catch-PAST-IND
   'John caught Mary's head'

   -NOM -ACC head-ACC catch-PAST-IND
   'same meaning as (12a).'

[ J.-S. Lee 1992: p268]

The syntactic structures for an ordinary possessive construction and a PR construction proposed
by Ura (1996) are illustrated as follows:

(13) a. Ordinary Possessive Construction

   \[ \text{vP} \]
   \[ \text{Host DP(ACC)}_k \]
   \[ \text{POSS-DP(GEN)} \]
   \[ N \]
   \[ \text{v} \]
   \[ \text{VP} \]
   \[ t_k \]

b. Possessor Raising Construction

   \[ \text{vP} \]
   \[ \text{POSS-DP(ACC)}_l \]
   \[ \text{Host DP(ACC)}_k \]
   \[ t_j \]
   \[ N \]
   \[ \text{v} \]
   \[ \text{VP} \]
   \[ t_k \]

In (13a), the object DP is moved overtly. A genitive-marked possessor DP is base-generated
within the object (host) DP and it stays there in overt syntax. In a PR construction (13b),
however, an accusative-marked possessor DP is raised out of the object (host) DP and moved to
an outer Spec of vP. Since in (13b) the accusative-marked possessor DP and its host DP are
both in Spec of vP, the two DPs are expected to bear the same grammatical function. In fact, the
possessor and host DPs do have the same grammatical function of a direct object under PR in Korean. In the following, we will observe a diagnostic test for an object, namely, the possibility of passivization.

### 4.3.2 Object Property

If a DP can undergo passivization, then this indicates that it is an object in a simple transitive clause. In an ordinary possessive structure like (14a), a possessor DP is genitive case marked. When such a sentence is passivized, the object of the sentence *Mary-uy elkwul* 'Mary’s face' becomes a surface subject, as shown in (14b):

\[
\begin{align*}
(14) & \quad \text{a. John-i } [\text{DP Mary-uy elkwul }]_{ul} \text{kuli-ess-ta} \\
& \hspace{1cm} -\text{NOM} \quad -\text{GEN} \text{ face} \quad -\text{ACC} \text{ draw-PST-IND} \\
& \quad \text{‘John drew Mary’s face.’} \\
& \quad \text{b. } [\text{DP Mary-uy elkwul }]_{i} (\text{John-ekay}) \text{kuli-eci-ess-ta} \\
& \hspace{1cm} -\text{GEN} \text{ face} \quad -\text{NOM} \quad \text{by} \quad \text{draw-PASS-PAST-IND} \\
& \quad \text{‘Mary’s face was drawn by John.’}
\end{align*}
\]

We predict that an accusative-marked possessor can undergo passivization, since it is assumed to bear the grammatical function of an object. This prediction is borne out as shown in the following set of examples in (15):

\[
\begin{align*}
(15) & \quad \text{a. John-i Mary-lul elkwul-ul kuli-ess-ta} \\
& \hspace{1cm} -\text{NOM} \quad -\text{ACC} \text{ face-ACC draw-PST-IND} \\
& \quad \text{‘John drew Mary’s face.’} \\
& \quad \text{b. Mary-ka (John-ekay) elkwul-i kuli-eci-ess-ta} \\
& \hspace{1cm} -\text{NOM} \quad -\text{by} \quad \text{face-NOM draw-PASS-PAST-IND} \\
& \quad \text{‘Mary’s face was drawn.’}
\end{align*}
\]

(15a) is a PR sentence where a possessor DP *Mary* is accusative-marked. In (15b), both DPs
must undergo passivization. If only a possessor is passivized, a sentence is ungrammatical as shown in (16):

(16) *Mary-ka (John-ekay) elkwul-ul kuli-eci-ess-ta  
    -NOM -by face-ACC draw-PASS-PAST-IND  
    ‘same meaning as (15b)’

The ungrammaticality of this sentence indicates that in Korean PR both DPs have the same GF. This property is exactly the same as what we have observed in Japanese and Korean PR from subject position. That is, more than one DP bears the object GF, involving a many-to-one relation.

We have seen that this many-to-one relation between DPs and GFs can be accounted for by either overt or covert multiple feature-checking (MFC). Syntactic structures derived by overt and covert MFC of object DPs are given in (17):

(17) a. Overt MFC

\[
\begin{array}{c}
\text{vP} \\
\text{DP}_i \\
\text{DP}_j \\
\text{v} \\
[\text{FF}]_S \\
\text{VP} \\
\text{V} \ldots t_i \ldots t_j \ldots
\end{array}
\]

b. Covert MFC

\[
\begin{array}{c}
\text{vP} \\
\text{v} \\
\text{FF}_i \\
\text{v} \\
[\text{FF}]_S \\
\text{V} \ldots \text{DP} \ldots \text{DP} \\
[\text{t}_i] [\text{t}_j]
\end{array}
\]
In overt MFC, v has a strong FF that can be checked more than once. This means that more than one argument can move overtly to Specs of vP, deriving multiple specifiers as in (17a). In covert MFC, the FFs of v are all weak and do not force overt movement at all. But they can be checked multiply at LF, therefore more than one bundle of FFs can move onto a functional head v, deriving multiple adjunction of FFs as in (17b). Thus both versions of feature-checking correctly account for the possibility of Korean Object PR. However, I argue that the covert MFC is preferable because the object in Korean does not move overtly to a Spec of vP in a simple transitive clause.

4.4 Analysis of Korean Object PR

In order to account for Korean Object PR, I propose the following:

1. Korean allows multiple feature checking.
2. Formal features of v can be checked multiply in Korean.
3. Multiple feature checking of Korean PR takes place in covert syntax.

In the following, I will first show that an object of a simple clause does not move overtly in Korean. I will argue that the FFs of v are weak and do not force overt movement of an object in Korean. Extending covert multiple feature checking to Korean Object PR, I further argue that the FFs of v in Korean can be checked multiply, allowing PR from object position.

4.4.1 Does the Object move in Korean?

I argue that Korean has covert movement of FFs in object position. In order to show that an object is not forced to move in overt syntax in this language, I will start by considering optional overt object shift in Korean discussed by Ura (1996).

Ura (1996) observes that Korean has optional object shift but Japanese does not:
In Japanese and Korean, floated quantifiers mark the base-generated position of the DP that they are associated with (Miyagawa 1989 and Koizumi 1993, Park & Son 1993). Therefore if an object undergoes overt object shift, then it moves beyond the base position of subject. As shown in (18a), Japanese does not allow overt object shift since the object sake cannot move beyond the base position of the subject which is marked by the floated quantifier san-nin ‘three-CL’. In contrast, Korean allows overt object shift. As shown in (19b), the object maykewu ‘beer’ can move beyond the base position of subject marked by the quantifier sey-myeng ‘three-CL’. The example in (19b) indicates that an object may move in Korean. However, we cannot say that an object must move in this language since the sentence (19a) which involves no overt object movement is also grammatical. Therefore I conclude that an object is never forced to move in overt syntax in Korean. I assume that the sentence (19b) is derived by scrambling, which is not an obligatory movement at all.

The claim that Korean objects do not have to move is further supported by the fact that a object does not have to precede the instrumental adverb kal-lo ‘with a knife’:
(20) a. \[[TP [\_ \_ John-i [VP kal-lo [VP keik-ul cal-lass-ta ]]]]  
John-NOM knife-with cake-ACC cut-PAST-IND  
'John cut the cake with a knife.'

b. \[[TP [\_ \_ John-i [VP keik-ul [VP kal-lo [VP t cal-lass-ta ]]]]  
John-NOM cake-ACC knife-with cut-PAST-IND  
'same meaning as (20a)'

Assuming that the instrumental adverb *kal-lo* is adjoined to VP, an object DP *keik* 'cake' which is base-generated as a complement of V is correctly predicted to be lower in the structure if it does not move, as in (21):

\[  
\begin{array}{c}
  (21) \\
  \text{TFP} \\
  \text{vP} \\
  \text{T} \\
  \text{lass-ta} \\
  \text{DP} \\
  \text{John-i} \\
  \text{VP} \\
  \text{v} \\
  \text{AdvP} \\
  \text{VP} \\
  \text{kal-lo} \\
  \text{DP} \\
  \text{V} \\
  \text{cal} \\
  \text{keik-ul} \\
\end{array}  
\]

If the object did move overtly in Korean, it would be higher than a VP-adjoined adverb in the structure, and the sentence (21a) would be impossible but in fact it is perfectly grammatical. Since the sentence in (21b), where the object precedes the instrumental adverb, is less preferable to the sentence (21a), I argue that it is derived by scrambling, which is independently motivated for Korean.

The fact that an object is not forced to move in overt syntax indicates that the FFs of \( v \) are weak and checked by the FFs of an object DP at LF. If the FFs of \( v \) can enter into feature-
checking relation with more than one bundle of FFs, more than one argument whose FFs have undergone feature-checking with v will bear the same grammatical function of object. In the following, I will argue that this is the analysis for Korean PR from object position.

4.4.2 A Covert Movement Analysis of Korean Object PR

I propose the following claims for Korean PR from object position below:

1. Korean allows MFC.
2. Formal features of v can be checked multiply in Korean.
3. MFC of Korean PR takes place in covert syntax.

Since the FFs of v do not force overt movement of an object in Korean, an object (host) DP and a possessor DP stay in their base positions as shown in (22):

(22) Before Spell-Out

```
       vP
      /   \\
     vP   \\
    /     \\
   VP    \\
  /      \\
HostDP  \\
 /       \\
  NP     \\
 /       \\
   D     \\
  /     \\
PossDP  \\
 /      \\
  N
```

Allowing the FFs of v to be checked multiply at LF, PR from object position is derived in Korean. The covert MFC is illustrated as follows:
(23) *LF Multiple Feature-Checking*

Since the FFs of \( v \) can be multiply checked in Korean PR, the bundles of FFs of the possessor DP and the host DP move at LF and enter into feature-checking relation with FFs of \( v \). In this covert feature-checking, both the FFs of the possessor DP and the FFs of the host DP check the FFs of \( v \). Therefore it is correctly predicted that the two DPs bear the same grammatical function.

4.5 Summary

We have so far examined languages that exhibit PR with covert movement, namely, Japanese and Korean. PR in these languages is accounted for by a covert multiple feature-checking analysis. In the following chapter, I will refine the multiple feature-checking analysis of PR and extend it to Kinyarwanda and Swahili PR. I will propose an overt multiple feature-checking analysis for PR in these languages.
CHAPTER 5: Multiple Feature-Checking & Feature Strength

5.0 Introduction

The goal of this chapter is to refine the multiple feature-checking (MFC) theory that has been established through the previous chapters 2, 3 and 4.

So far, we have seen covert MFC which takes place in Japanese and Korean PR. Since the FFs of T and ν are weak in these languages, I have argued that no overt movement is forced and hence all feature-checking takes place at LF. Therefore in Japanese and Korean PR only FFs of the possessor and host DPs move at LF, and both sets of FFs check the same set of weak FFs. This accounts for why the possessor and host DPs bear the same GF under PR in Japanese and Korean.

In spite of the similarity between the two languages, they show a significant difference in terms of the target of PR. Japanese allows only Subject PR, whereas Korean allows both Subject and Object PR. In order to account for this difference, I have argued that Subject PR is possible only if the FFs of T allow MFC, whereas Object PR is possible only if the FFs of ν allow MFC. This predicts three possible types of PR languages:

(1)

<table>
<thead>
<tr>
<th>PR</th>
<th>only Subject</th>
<th>only Object</th>
<th>Subj &amp; Obj</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>MFC</td>
<td></td>
<td>MFC</td>
</tr>
<tr>
<td>v</td>
<td>MFC</td>
<td>MFC</td>
<td>MFC</td>
</tr>
<tr>
<td>Language</td>
<td>Japanese</td>
<td>??</td>
<td>Korean</td>
</tr>
</tbody>
</table>

Japanese belongs to the first column where only Subject PR is possible, Korean belongs to the third column where both Subject and Object PR is possible. What is missing in (1) is a language that allows only Object PR. In this chapter, I examine two such languages, namely Kinyarwanda and Swahili. Examples of Object PR in each language are given in (2):
(2) **Kinyarwanda**

a. Umugore y-a-vun-nye ukuboko k'u-umwaana.

woman she-PAST-break-ASP arm of-child

'The woman broke the arm of the child.'

b. Umugore y-a-vun-nye umwaana ukuboko.

woman she-PAST-break-ASP child arm

'same meaning as (2a)' [Kimenyi 1980:97(1)]

(3) **Swahili**

a. Juma a-li-(ki)-ata kidole cha Asha

1Juma 1-PST-(7)-cut 7finger 7-of 1Asha

'Juma cut Asha's finger.'

b. Juma a-li-m-kata Asha kidole

1Juma 1-PST-1-cut 1Asha 7finger

'same meaning as (3a).' [Keach and Rochemont 1992:83(2)]

What is common between Kinyarwanda and Swahili is that PR is restricted to object position. What is different between them is that the possessor DP and the host DP bear the same GF in Kinyarwanda PR, whereas they do not bear the same GF in Swahili PR. I will discuss these differences in more detail in 5.2.

The reminder of the chapter is organized as follows. I will argue that Kinyarwanda/Swahili PR involves overt movement. This contrasts with Japanese/Korean PR, which involves covert movement. In so doing, the MFC analysis will be further refined to capture the overall typology of PR. After enriching the MFC analysis, I will show how it can account for Kinyarwanda and Swahili PR.

5.1 **Feature-Checking and Feature Strength**

In this section, we will consider how feature-checking interacts with the strength of Formal Features (FFs). To clarify the difference between strong and weak FF-checking, we will first consider how feature-checking of a single FF proceeds. Then we will discuss how homogeneous and heterogeneous sets of FFs are checked. A homogeneous set of FFs is composed of the same strength of FFs, i.e., all FFs are strong (\(\forall \text{FF}^S\)) or all FFs are weak (\(\forall \text{FF}^W\)). A heterogeneous set of FFs is composed of distinct strength of FFs, i.e., only some FFs are strong (\(\exists \text{FF}^S\)). Finally we will consider how homogeneous and heterogeneous sets of FFs undergo multiple feature-checking (MFC) and the consequences that this distinction has for the grammatical function (GF) of DPs.
5.1.1 How are Strong/Weak FFs checked?

Functional heads such as $T$ or $v$ are associated with Formal Features (FFs), which must be checked in the course of a derivation. FFs of checker and checkee must match for the value of the feature, e.g., a [NOM] Case-feature of $T$ must be checked by a [NOM] Case-feature of a DP. Furthermore, FFs are checked differently, depending on the strength of the FFs as stated in (3). Feature-checking of strong and weak FFs is illustrated in (4):

(3) a. If a FF is strong, it must be checked before Spell-Out, which triggers overt movement of a matching feature with pied-piping of a DP (due to a PF requirement). If a strong FF remains unchecked at PF, the derivation crashes.

   b. If a FF is weak, then it does not have to be checked before Spell-Out. It is checked at LF by covert movement of FFs of a category. The FFs must move as a bundle at LF (LF pied-piping). Covert movement of FFs is by adjunction to a functional head.

(4) a. $\text{HP}$

   \[
   \begin{array}{c}
   \text{DP}_i \\
   \text{[FF]} \\
   \text{H} \\
   \text{[FF]}_s \\
   \end{array}
   \begin{array}{c}
   t_i \\
   \end{array}
   \]

   b. $\text{HP}$

   \[
   \begin{array}{c}
   \text{H} \\
   \text{[FF]}_i \\
   \end{array}
   \begin{array}{c}
   \text{DP} \\
   \text{[FF]}_w \\
   \end{array}
   \]

In (4a) a strong FF forces a DP to move overtly to be checked before Spell-Out. In (4b) a weak FF is checked by LF movement of a FF of a DP. Thus strong and weak FFs differ in the stage when it is checked (before Spell-Out or at LF) and how it is checked (by overt movement of a DP or by covert movement of FFs).

5.1.2 How is a Bundle of FFs checked?

Functional heads are associated with a bundle of FFs. The FFs that are relevant for DPs are $D$-, Case-, and $\Phi$-features. Each FF may be specified either weak or strong, thus a functional head $H$ may have a homogeneous set of FFs (i.e., $\forall \text{FF}_s$ or $\forall \text{FF}_w$), or a heterogeneous set of FFs (i.e., $\exists \text{FF}_s$). In the following, we will consider how homogeneous and heterogeneous sets of FFs are checked in different ways.

Suppose that a head $H$ has a homogeneous set of FFs: $[D, \text{Case}, \Phi]_s$. All the FFs are
strong and hence they must be checked before Spell-Out. Thus a DP is forced to move overtly to Spec of H, where it checks all the strong FFs as shown in (5):

(5)

\[
\begin{array}{c}
\text{HP} \\
\text{DP}_i \\
\left[ \begin{array}{c}
D \\
\text{Case} \\
\phi
\end{array} \right] \\
\text{H} \\
\left[ \begin{array}{c}
D \\
\text{Case} \\
\phi
\end{array} \right] \\
t_i \\
\end{array}
\]

If FFs of H are homogeneously weak, i.e., \([D, \text{Case}, \phi]_w\), then these weak FFs are checked by LF movement of FFs of a DP. At LF only FFs move and they must move as a bundle to a position adjoined to H, which is shown in (6):

(6)

\[
\begin{array}{c}
\text{HP} \\
\text{H} \\
\left[ \begin{array}{c}
D \\
\text{Case} \\
\phi
\end{array} \right]_w \\
\text{DP} \\
\left[ t_i \right]
\end{array}
\]

As seen in (5) and (6), a homogeneous set of FFs is checked at one stage of derivation, either before Spell-Out or at LF, depending on the strength of FFs.

In contrast, a heterogeneous set of FFs requires two stages to satisfy all checking requirements, namely before Spell-Out and at LF. Let us see how feature checking takes place in this case.

The relevant FFs are D-, Case-, and \(\phi\)-features. For each three FFs, there are two possibilities (strong or weak), yielding a total of six possible sets of heterogeneous FFs. These are given in (7):
In (I)–(III), there is only one strong FF within a set, whereas in (IV)-(VI) there are two strong FFs. Given these six logical possibilities, we should ask whether they are all attested in natural languages.

According to Chomsky (1995b), a strong FF is necessary to motivate overt movement. Chomsky assumes that overt movement is forced by a strong D-feature of a functional head. Thus a subject DP is forced by a strong EPP-feature of T, which must be checked by a D-feature of a DP, whereas an object DP is forced to move by a strong D-feature of v. If Chomsky is right, then the most unmarked heterogeneous set of FFs would be the first set (I) in (7) where only a D-feature is strong, i.e., [D, Case, O]. Let us take this as an example to see how a heterogeneous set of FFs undergoes feature-checking.

Feature-checking of [D, Case, O] will take place in the following way. First, the strong D-feature must be checked before Spell-Out, so that a DP is forced to move overtly to Spec of H as shown in (8):

In (8), the strong D-feature of H has been checked by the DP. How about the other weak FFs, namely Case and Φ-features? Are they checked at the same time as the strong D-feature?

One hypothesis proposed by Chomsky (1995b) is that weak FFs are checked as free riders when a strong feature is checked. According to Chomsky, weak Case and Φ-features are checked
when the strong D-feature is checked. That is, both the strong and weak FFs of H are checked, as shown in (9):

(9) \[
\begin{array}{c}
\text{HP} \\
\text{DP}_i \\
[D] \\
\text{Case} \\
[\Phi] \\
\end{array}
\]

However, in general weak FFs do not have to be checked before Spell-Out, so such unnecessary “free rider” feature-checking violates Procrastinate, since it is an instance of overt movement.

As an alternative, I propose that weak FFs are never checked as free riders and that Procrastinate is never violated. Thus the weak Case and Φ-features remain unchecked when the strong D-feature is checked before Spell-Out, as in (10):

(10) \[
\begin{array}{c}
\text{HP} \\
\text{DP}_i \\
[D] \\
\text{H} \\
[D]_S \\
[\text{Case}] \\
[\Phi]_w \\
\end{array}
\]

At LF the FFs of a DP move onto H to check the weak Case and Φ-features of H, as in (11):

(11) \[
\begin{array}{c}
\text{HP} \\
\text{DP}_i \\
[t_j] \\
[t_k] \\
\text{Case}_j \\
\Phi_k \\
[\text{Case}] \\
[\Phi]_w \\
\end{array}
\]
Notice that the hypothesis that weak FFs are not checked as free riders does not violate Procrastinate, since the weak FFs are checked at LF. In contrast, the hypothesis proposed by Chomsky (1995b) that weak FFs are checked as free riders, does violate Procrastinate. Since a derivation without a violation of Procrastinate is preferable, I abandon the notion of ‘free rider’ feature-checking and conclude that strong FFs must always be checked before Spell-Out and that weak FFs must always be checked at LF.

As we saw above, a homogeneous set of FFs can satisfy all the requirements of feature-checking at one stage: either all FFs are checked before Spell-Out or all are checked at LF. In contrast to this, a heterogeneous set of FFs requires two stages: strong FFs are checked before Spell-Out, weak FFs are checked at LF. This is summarized in (12):

(12)

<table>
<thead>
<tr>
<th>Homogeneous FF-set</th>
<th>$\forall FF_w$</th>
<th>FC at LF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homogeneous FF-set</td>
<td>$\forall FF_s$</td>
<td>FC before Spell-Out</td>
</tr>
<tr>
<td>Heterogeneous FF-set</td>
<td>$\exists FF_s$</td>
<td>FC before Spell-Out &amp; at LF</td>
</tr>
</tbody>
</table>

In the following, we will see how the distinction between MFC of a homogeneous set of FFs and MFC of a heterogeneous set of FFs derives different consequences for the GF of DPs.

5.1.3 How is a Bundle of FFs multiply checked?

In this subsection, I will consider the distinction between MFC of a homogeneous FF set and MFC of a heterogeneous FF-set. The homogeneous/heterogeneous distinction makes different predictions about the grammatical function (GF) of DPs whose FFs have undergone MFC. I will argue that MFC of a homogeneous FF set derives identical GFs of DPs, whereas MFC of a heterogeneous FF-set derives distinct GFs of DPs. This is summarized in (13):

(13)

| $\forall FF_w$ + MFC | uniform GF | covert movement |
| $\forall FF_s$ + MFC | uniform GF | overt movement |
| $\exists FF_s$ + MFC | distinct GF | overt movement |
In its original formulation, MFC is restricted to strong FFs (Chomsky 1995b). Ura (1996) extends the possibility of MFC to weak FFs and argues that weak FFs allow MFC, tolerating unforced violations of Procrastinate. This means that, for Ura, MFC of weak FFs may take place before Spell Out. In this thesis, I propose that MFC applies to either strong or weak FFs. If it applies to strong FFs, then it derives multiple overt movement of a DP. If it applies to weak FFs, then it derives multiple covert movement of a FF bundle. This MFC is different from Chomsky’s MFC in that not only strong but also weak FFs allow MFC. It is also different from Ura’s (1996) proposal, in that MFC of weak FFs does not force overt movement and hence Procrastinate is not violated. Ura’s MFC of weak FFs must always violate Procrastinate. These three hypotheses for MFC are summarized in (14):

(14)  

H1: MFC applies only to strong FFs (Chomsky 1995b), which always requires overt movement.

H2: MFC applies to strong and weak FFs (Ura 1996), which always requires overt movement and violates Procrastinate.

H3: MFC applies to strong and weak FFs (herein), which does not require overt movement for MFC of weak FFs, so respects Procrastinate. MFC applies overtly and covertly with predictable consequences for GF.

In chapters 3&4, I argued that Japanese/Korean PR instantiates MFC of ∀FF_w. The covert MFC of PR, where more than one bundle of FFs of a DP can move at LF, adjoining to H, is illustrated in (15):

(15)

\[
\text{HP} \rightarrow \text{H} \rightarrow \begin{cases} \text{DP} [t_j] & \text{Case} \end{cases}
\]

Now, let us consider the case where all the FFs of H are homogeneously strong and permit MFC.
These strong FFs force overt movement of a DP more than once as in (16):

(16) \[
\begin{array}{c}
\text{HP} \\
\text{DP}_j \\
[\D, \text{Case}] \\
[\Phi] \\
\text{DP}_i \\
[\D] \\
[\text{Case}] \\
[\Phi] \\
\text{H} \\
... t_i .. t_j ... \\
\end{array}
\]

Under MFC, the DPs have checked the same set of FFs of H. As a consequence, these DPs will bear the same GF.

Finally, let us consider the case where a head H has a heterogeneous set of FFs. That is, H has both strong and weak FFs. Suppose that H has a heterogeneous set of FFs: [D_s, Case_w, Φ_o]. Since there is a strong D-feature, there must be overt movement of a DP as in (17):

(17) FF = [D_s] [Case, Φ_w] + MFC

\[
\begin{array}{c}
\text{HP} \\
\text{DP}_i \\
[\D] \\
[\text{Case}] \\
[\Phi] \\
\text{H} \\
... t_i ... \\
\end{array}
\]

Since we rejected free rider checking of weak FFs as proposed by Chomsky (1995b), Procrastinate dictates that the weak Case and Φ-features in (17) must not be checked before Spell-Out. That is, at this stage, the DP checks only the strong D-feature of H.

If the strong D-feature permits MFC, another overt movement can be forced by this strong D-feature as in (18):
Again, weak FFs of H respect Procrastinate; thus they remain unchecked before Spell-Out. Since the weak FFs must be checked at some point, they undergo feature-checking at LF. The weak FFs of H would be checked by either the FFs of the higher DP as in (19a) or the FFs of the lower DP as in (19b):

The question of whether it is the higher or lower DP which checks the weak FFs of H will become crucial when we discuss Swahili PR. However, for now we simply assume that LF feature checking of weak FFs could be checked by either one of the DP's FFs. What is crucial here is that the DPs in (19) do not check the same set of FFs of H. As shown in (19b), if the weak FFs of H are checked by the FFs of the lower DP, then the DP has checked all the FFs of H, namely $[D_s, \text{Case}_w, \Phi_w]$. The higher DP, however, has checked only a strong D-feature of H. Recall that under MFC of a homogeneous set of FFs, DPs check the same set of FFs and hence bear the same GF, no matter whether a homogeneous FF set is strong or weak. In the MFC of a heterogeneous FF, DPs do not check the same set of FFs of H, so they are expected to have distinct GF properties. Therefore MFC makes different predictions on the GF of DPs, depending on whether the set of FFs is homogeneous or heterogeneous:
Recall that PR may take place in either subject or object position, depending on which FFs of a functional head (T or v) allow MFC. If the FFs of T allow MFC, then PR from subject position is possible. If the FFs of v allow MFC, then PR from object position is possible. If the FFs of both T and v allow MFC, then PR from both subject and object position is possible. This derives three possible patterns of PR as in (21):

If we now combine the possibility of MFC with the possibility of homogeneous/heterogeneous feature bundles, namely ∀FF_w, ∀FF_s, and ∃FF_s, this yields nine possible patterns of MFC, illustrated in (22):

This is the typology of PR that the MFC theory proposed in this thesis predicts. Thus, languages with PR would be classified into the following nine types:
(23) Type I: PR is possible only from subject position by covert movement, and possessor and host DP have the same GF.

Type II: PR is possible only from object position by covert movement, and possessor and host DP have the same GF.

Type III: PR is possible from both subject and object position by covert movement, and possessor and host DP have the same GF.

Type IV: PR is possible only from subject position by overt movement, and possessor and host DP have the same GF.

Type V: PR is possible only from object position by overt movement, and possessor and host DP have the same GF.

Type VI: PR is possible from both subject and object position by overt movement, and possessor and host DP have the same GF.

Type VII: PR is possible only from subject position by overt movement, and possessor and host DP have distinct GFs.

Type VIII: PR is possible only from object position by overt movement, and possessor and host DP have distinct GFs.

Type IX: PR is possible from both subject and object position by overt movement, and possessor and host DP have distinct GFs.

So far, I have shown two types of PR out of nine in (22). Japanese belongs to Type I since this language only allows Subject PR and the FFs of T are all weak. Korean belongs to Type III since this language allows both Subject and Object PR and all the FFs of T and v are weak. Both types of PR instanciate MFC of a homogeneous set of FFs. As a consequence, possessor and host DP bear the same GF under PR.

Although I cannot show all types of PR that the MFC theory would predict, I will show that there are languages which only allow Object PR, namely Kinyarwanda and Swahili. PR in these languages is classified into different types, since they have different properties in terms of the GF of a possessor DP and a host DP under PR. In the following section, I will account for PR in these language by the MFC analysis which has been developed in this thesis.

5.2 PR with Overt Movement

In this section, we examine languages which only allow Object PR, namely Kinyarwanda and Swahili. These two languages belong to the Bantu language family and show similar properties in terms of PR. However, there is a significant difference between Kinyarwanda and Swahili PR in terms of the GF that a possessor DP and a host DP bear under PR. In Kinyarwanda PR, the two
DPs have the same GF, whereas in Swahili PR they have distinct GFs. The discussion of Kinyarwanda and Swahili PR will be guiding by the following questions:

Q1. Why do Kinyarwanda and Swahili allow PR?
Q2. Why is PR possible from only object position?
Q3. Why do the possessor and the host DPs have an identical GF in Kinyarwanda PR, whereas they have distinct GFs in Swahili PR?

In order to answer these questions, I will propose the following:

A1. Kinyarwanda and Swahili allow MFC.
A2. The FFs of only v can be checked multiply in these languages.
A3. v in Kinyarwanda has a homogeneous FF set (i.e., ∃FF_U) and all FFs permit MFC in Kinyarwanda PR, whereas v in Swahili has a heterogeneous FF set (i.e., ∃FF_S) and only strong FFs in the set of FFs permit MFC.

Thus Kinyarwanda and Swahili belong to Type V and Type VI, respectively, in the typology of PR in (24):

I present the analysis of Kinyarwanda PR in 4.2.1 and the analysis of Swahili in 4.2.2. For both languages, the MFC analysis, in combination with the distinction between homogeneous and heterogeneous sets of FFs, provides an account of PR.

5.2.1 PR with Overt Movement and Uniform GF: Kinyarwanda

In the following, I will first provide the basic properties of Kinyarwanda PR and then show how it
is accounted for by the MFC proposed in this thesis.

5.2.1.1 Basic Properties

In Kinyarwanda, a possessor DP is ordinarily marked by the possessive marker and follows its host DP, as shown in (25a). When the possessor DP undergoes PR, it does not require the possessive marker and precedes the host DP, which is shown in (25b):

(25) a. Umugore y-a-vun-nye ukuboko \[possDP k’u-umwaana].
    woman she-PAST-break-ASP arm of-child
    ‘The woman broke the arm of the child.’

    woman she-PAST-break-ASP child arm
    ‘same meaning as (25a)’ [Kimenyi 1980:97(1)]

In Kinyarwanda, a canonical direct object immediately follows the verb, hence in (25a), which is an ordinary possessive sentence, the direct object of the clause *ukuboko* ‘arm’ follows the verb immediately. However, in a PR sentence (25b), it is the possessor *umwaana* that immediately follows the verb. Kimenyi (1980) argues that the possessor is raised in (25b) and acquires the GF of a direct object. Given the ability of passivization, which is one of the object properties of Kinyarwanda, Kimenyi concludes that the true (direct) object, i.e., the host DP, also retains the GF of an object since it can undergo passivization. Consider the following passive sentence provided by Kimenyi (1980):

(26) Umusatsi w-a-sho-koj-w-e umugabo n’umugore.
    hair it-PAST-comb-PASS-ASP man by woman
    The man’s hair is combed by the woman.’ [Kimenyi 1980:104(27)]

In (26) the host DP *umusatsi* ‘hair’ has been passivized and become a subject of the clause. The possessor *umugabo* ‘man’ is not marked by the passive marker, and hence it has undergone PR. An example in which a possessor is passivized is not provided in Kimenyi (1980), though he mentions that it is possible.
Given this evidence from word order and passivization, I conclude that in Kinyarwanda the possessor DP and the host DP both have the GF of a direct object under PR. Now let us see how we can account for this by the MFC analysis.

5.2.1.2 MFC Analysis of Kinyarwanda PR

In order to account for Kinyarwanda PR, I propose the following:

1. Kinyarwanda allows MFC, and it is MFC which permits PR.
2. Only the FFs of v can be checked multiply, so only DPs whose FFs are checked by v can participate in PR. This derives the OBJECT restriction.
3. All the FFs (Case-, D-, and Φ-features) of v are homogeneously strong and all the strong FFs permit MFC; this derives the fact that Kinyarwanda PR is by overt movement and that under PR the possessor and the host bear the same GF.

Given these claims, let see how Kinyarwanda PR is derived.

First, a possessor DP is base-generated as a complement of N within its host DP, which is shown in (27):

(27)

\[
\text{HostDP} \\
\downarrow \\
\text{D} \quad \text{NP} \\
\downarrow \\
\text{N} \quad \text{PossDP}
\]

Then the host DP is merged with V, creating VP. Then the VP is merged with a functional head \(\nu\) which is associated with a set of FFs \([D, \text{Case}, \Phi]_S\), as shown in (28):

(28)

\[
\nuP \\
\downarrow \\
\left[ \begin{array}{c} \nu \\ \text{D} \\ \text{Case} \\ \Phi \end{array} \right]_S \quad \text{VP} \\
\downarrow \\
\text{V} \quad \text{HostDP} \\
\downarrow \\
\text{D} \quad \text{NP} \\
\downarrow \\
\text{N} \quad \text{PossDP}
\]
Strong FFs must be checked before Spell-Out, so the host DP is forced to move overtly to Spec of vP to check all the strong FFs of v, i.e., [D, Case, Φ]s.¹

Since the host DP is the closest element to v which can satisfy all the feature checking requirements of v, it is attracted to Spec of vP. This derives the non-PR sentence in (29a). The syntactic structure for the non-PR sentence is shown in (29b):

(29)  a. Umugore y-a-vun-nye ukuboko [possDP k'umu-mwaana].
   woman she-PAST-break-ASP arm of-child
   ‘The woman broke the arm of the child.’

b.  
\[
\begin{array}{c}
\text{vP} \\
\mid  \\
\text{HostDP} \\
\mid  \\
\text{possDP} \\
\mid  \\
\text{D} \\
\mid  \\
\text{Case} \\
\mid  \\
\Phi  \\
\mid  \\
\text{D} \\
\mid  \\
\text{Case} \\
\mid  \\
\Phi  \\
\mid  \\
\text{s}  \\
\end{array}
\]

Since the strong FFs of v permit MFC in Kinyarwanda, another DP, namely the possessor DP, can be forced to move overtly by these strong FFs of v. Thus the possessor is moved out of the host DP to an outer Spec of vP to check the strong FFs of v as shown in (30). This derives the PR sentence, repeated in (30a). The syntactic structure for the PR sentence is shown in (30b):

¹ The possessor DP cannot be forced to move before the host since it is contained within the host DP and hence more distant from v than the host DP. The following derivation violates the locality condition (Shortest Move) and hence it is prohibited:

\[
\begin{array}{c}
\text{vP} \\
\mid  \\
\text{possDP} \\
\mid  \\
\text{D} \\
\mid  \\
\text{Case} \\
\mid  \\
\Phi  \\
\mid  \\
\text{V} \\
\mid  \\
\text{HostDP} \\
\mid  \\
\text{D} \\
\mid  \\
\text{NP} \\
\mid  \\
\text{N} \\
\mid  \\
\text{ti}  \\
\end{array}
\]
Notice that the host and possessor DPs have checked the same set of FFs of v in (29) and (30). This derives the fact that Kinyarwanda PR is an overt movement and under PR the possessor and the host bear the same GF. This also derives the correct word order, in which the possessor DP precedes the host DP under PR. When a functional head T is merged with vP, V-raising takes place because of T's strong V-feature. V moves onto T, and as a consequence the possessor comes immediately after the verb, as shown in (31):

Kinyarwanda PR must take place in overt syntax. That is, the FFs of v must be all strong allow overt MFC, which forces overt movement of the possessor and host DPs. Suppose that all the FFs of v were weak in Kinyarwanda, namely [D, Case, Φ]w, and that these FFs permit MFC.
No overt movement would be forced, so that the bundle of FFs of the possessor DP and the bundle of FFs of the host DP move onto \( v \) at LF and enter into an MFC relation with the FFs of \( v \) as shown in (32):

\[
\text{(32)} \quad \begin{array}{c}
\text{vP} \\
\text{v} \\
\text{vP} \\
\text{v} \\
\text{V} \\
\text{D} \\
\text{NP} \\
\text{N} \\
\end{array}
\]

This covert MFC analysis would make the correct prediction in terms of the same GF of the possessor and host DPs, since the FFs of these DPs could have checked the same set of FFs of \( v \). However, this MFC cannot derive the right word order of the possessor and host DPs. Under PR, the possessor DP precedes the host DP, as you can see in (31a). Since in (32) the possessor stays in its base position, it would follow the host DP in overt syntax, which is not the right word order. Therefore I conclude that Kinyarwanda PR is an overt movement forced by the homogeneously strong FFs of \( v \), which permits MFC.

### 5.2.2 PR with Overt Movement and Distinct GF: Swahili

In this subsection, we will examine PR in Swahili, in light of the following question:

Q1. Why does Swahili allow PR?
Q2. Why is PR possible from only object position?
Q3. Why do the possessor DP and the host DP have the distinct GFs in Swahili PR?

In order to answer these questions, I propose the following:

A1. Swahili allows MFC.
A2. Only the FFs of \( v \) can be checked multiply in Swahili.
A3. Only 3FFs of v allow MFC in Swahili PR (i.e. Swahili has a heterogeneous set of FFs).

Given these proposals, I will first illustrate the basic properties of Swahili PR and then show how they are accounted for by the MFC analysis.

5.2.2.1 Basic Properties

In Swahili, a possessor DP is ordinarily marked by a possessive marker and it follows its host DP, (33a). When PR applies, the possessive marker is absent, and the possessor DP precedes the host DP, (33b):

(33) a. Juma a-li-(ki)-ata kidole cha Asha
   1Juma 1-PST-(7)-cut 7finger 7-of 1Asha
   'Juma cut Asha's finger.'

b. Juma a-li-m-kata Asha kidole
   1Juma 1-PST-1-cut 1Asha 7finger
   'same meaning as (33a).' [Keach and Rochemont 1992:83(2)]

In an ordinary possessive sentence (33a), object agreement is induced by the host *kidole 'finger' since it is a direct object of the clause. In a PR sentence (33b), however, object agreement is induced by the possessor *Asha, which is not a true object of the clause. Under PR, the host fails to induce object agreement as shown in (34):

(34) *Juma a-li-(ki)-ata Asha kidole
   1Juma 1-PST-7-cut 1Asha 7finger
   'Juma cut Asha's finger.' [Keach and Rochemont 1992:83(2)]

This indicates that under PR the host DP does not have the same GF, and specifically lacks the ability to induce object agreement, which the possessor DP has. In other words, the possessor DP and the host DP do not have the same GF in Swahili PR.

Passivization, which is another object property, provides further evidence for the distinct GFs of the possessor and host DPs under PR. Consider the following examples:
As this contrast shows, the possessor DP Asha can be passivized in (35a), whereas the host DP kidole cannot be passivized in (35b). This fact also indicates that the possessor DP and the host DP do not have the same GF under PR.

Given the evidence from object-agreement and passivization, I conclude that in Swahili PR the possessor DP and the host DP have distinct GFs. In the next subsection, I will show how the MFC analysis can account for Swahili PR.

5.2.2.2 MFC Analysis of Swahili PR

In order to account for Swahili PR, I propose the following:

1. Swahili allows MFC, and it is MFC which permits PR.
2. Only the FFs of v can be checked multiply, so only DPs whose FFs are checked by v can participate in PR. This derives the OBJECT restriction.
3. v has a heterogeneous FF set: [Dₙ, Caseₙ, 3ₙ], and only the strong FFs permit MFC but a weak FF does not; this derives the fact that Kinyarwanda PR is an overt movement and also that under PR the possessor and the host bear the distinct GFs.

Given these assumptions, let see how Swahili PR is derived.

First, a possessor DP is base-generated as a complement of N within its host DP:

(36) HostDP
     /   \
    D    NP
   /     \
  N      PossDP

Then the host DP is merged with V, creating VP. Then the VP is merged with a functional head v which is associated with a set of FFs [Dₙ, Caseₙ, 3ₙ] as shown in (37):
Since \( v \) has strong FFs in Swahili, the host DP is forced to move overtly to Spec of \( vP \) and check off the strong FFs of \( v \) as shown in (38):

(38) 
\[
\begin{array}{c}
\text{(37)} \\
\quad vP \\
\quad \text{VP} \\
\quad \text{[D]_s} \\
\quad \text{[Case]_s} \\
\quad \text{[w]_w} \\
\quad \text{V} \\
\quad \text{HostDP} \\
\quad \text{D} \\
\quad \text{NP} \\
\quad \text{N} \\
\quad \text{PossDP}
\end{array}
\]

Since a weak FF cannot be checked as a free rider (see 5.1.2), the weak \( \Phi \)-feature remains unchecked at this stage of the derivation. Therefore the host checks the strong D and Case-features of \( v \) only. Given the assumption that the strong FFs of \( v \) permit MFC in Swahili, the possessor DP can be forced to move overtly to check the strong D and Case-features of \( v \). The possessor DP moves out of its host DP to an outer Spec of \( vP \), deriving multiple specifiers of \( vP \):

(39) 
\[
\begin{array}{c}
\text{PossDP} \\
\quad \text{[D]} \\
\quad \text{[Case]} \\
\quad \text{[w]} \\
\quad t_j \\
\quad \text{V} \\
\quad \text{t_i}
\end{array}
\]

Since \( v \) has strong FFs in Swahili, the host DP is forced to move overtly to Spec of \( vP \) and check off the strong FFs of \( v \) as shown in (38):
Again, the weak Φ-feature of v cannot be checked in this feature-checking, so that the possessor DP checks only the strong D and Case-features of v.

So far, the possessor DP and the host DP have checked the same set of FFs, namely the strong D- and Case-features. One might think that this MFC is almost the same as the MFC in Kinyarwanda PR, and that the possessor DP and the host DP would bear the GF. However, as we saw in 5.2.2.1, the two DPs do not have the same GF in Swahili PR. Now I will show how such distinct GFs of the two DPs is derived.

Recall that the weak Φ-feature of v remains unchecked before Spell-Out. This feature, though it need not be checked before Spell-Out, must be checked at LF since the Φ-feature of verbs is assumed to be [-Interpretable] (Chomsky 1995b). [-Interpretable] FFs must be checked, deleted and erased, so the weak Φ-feature of v is checked by a Φ-feature of the possessor DP at LF. Let us see how the derivation proceeds after the possessor DP moved to Spec of v.

After the possessor DP moves to an outer Spec of vP, a SUBJECT DP is merged at Spec of vP, which is a canonical subject position (Chomsky 1995b). Then T is merges with vP. T has a strong EPP-feature which forces a SUBJECT DP to move to Spec of T and also a strong V-feature which forces V to move along with v onto T. Such feature-checking derives the syntactic structure in (40):

\[
(40) \quad \text{TP} \\
\quad \text{DP}_m \\
\quad \text{T-}V+v_k \\
\quad vP \\
\quad [\text{Φ}]_w \\
\quad t_m \\
\quad \text{Pos}_{DP_j} \\
\quad \left[ \begin{array}{c} \text{D} \\ \text{Case} \end{array} \right]_{hostDP_i} \\
\quad [\text{Φ}] \\
\quad t_j \\
\quad \text{VP} \\
\quad t_k' \\
\quad t_k \\
\quad t_i
\]

The weak Φ-feature of v is checked by a Φ-feature of the possessor DP which moves onto v at LF. The Φ-feature of the host DP does not move at LF, and it remains unchecked. This does not
cause the derivation to crash because a \( \Phi \)-feature of a nominal is [+Interpretable] and hence need not be checked and deleted (Chomsky 1995b). This derives the fact that the possessor DP triggers object agreement but not the host DP as shown in (41):

(41) a. Juma a-li-m-kata Asha kidole  
  1Juma 1-PST-1-cut 1Asha 7finger  
  'Juma cut Asha’s finger'

b. *Juma a-li-(ki)-ata Asha kidole  
  1Juma 1-PST-7-cut 1Asha 7finger  [Keach and Rochemont 1992:83(2)]

But why is it the \( \Phi \)-feature of the possessor DP but not the \( \Phi \)-feature of the host DP that checks the \( \Phi \)-feature of \( v \)? I propose that the \textit{Shortest Move} prohibits the LF movement of the \( \Phi \)-feature of the host DP. That is, the LF movement of the \( \Phi \)-feature of the possessor DP is a shorter (i.e., more economical) LF movement than the LF movement of the \( \Phi \)-feature of the host DP. In order to move onto \( v \), the \( \Phi \)-feature of the host DP must pass two Specs of \( vP \), whereas the \( \Phi \)-feature of the possessor DP passes only one Spec of \( vP \). Therefore I conclude that the \( \Phi \)-feature of \( v \) must be checked by the \( \Phi \)-feature of the possessor DP for reasons of economy.

Let us summarize what we have examined in this section. First, I have argued that PR in Kinyarwanda and Swahili is an overt movement in which the strong FFs of \( v \) permit MFC in these languages. Second, I proposed distinct FF sets of \( v \) for the two languages to account for why the possessor and host DPs have the same GF in Kinyarwanda PR, but not in Swahili PR. I have argued that \( v \) in Kinyarwanda has a homogeneous FF set (i.e., \( \forall \)FFs) and all FFs permit MFC in Kinyarwanda PR, whereas \( v \) in Swahili has a heterogeneous FF set (i.e., \( \exists \)FFs) and only strong FFs in the set of FFs permit MFC. The distinct GFs between the possessor DP and the host DP follow from the abandonment of \textit{free rider checking} of weak FFs.

### 5.3 Summary

In this chapter, I have developed a MFC theory which aims to capture the cross-linguistic variation of PR in natural languages. I proposed that there are nine possible “types” of PR languages:
In Relational Grammar, PR is analyzed as “Possessor Ascension”, where the possessor is promoted and bears the GF of its host, but the host is demoted and loses its GF. Thus PR in Japanese, Korean and Kinyarwanda, where the possessor and host DPs bear the same GF, is treated as an exceptional case (Blake 1990). In Baker’s Noun Incorporation analysis (1988), only PR from object position can be derived by NI, but PR from subject position such as in Japanese and Korean is predicted not to occur or to be derived by a different mechanism.

In contrast to these previous analyses of PR, the MFC analysis of PR proposed in this thesis can capture the cross-linguistic variation of PR by means of a single notion of ‘multiple feature-checking (MFC)’. In terms of the subject/object asymmetry in PR, I proposed that PR from subject position is possible if the formal features (FFs) of T allow MFC, whereas PR from object position is possible if the FFs of v allow MFC. In terms of the identical/distinct GF in PR, I proposed that the possessor and host DPs have the same GF if MFC applies to a homogeneous set of FFs, whereas the possessor and host DPs do not have the same GF if MFC applies to a heterogeneous set of FFs. I further proposed that Japanese and Korean PR is derived by covert MFC, whereas Kinyarwanda and Swahili PR is derived by overt MFC.

There is still an open question. The MFC analysis of PR predicts nine possible “types” of PR languages, but not all types of PR languages are given in this thesis. Then the question is whether the gaps in (42) is accidental and hence would be filled by some PR languages, or they are systematic and hence predicted for some reason. Though it is an interesting question, I will leave this task for further research.
CHAPTER 6: The Relational Noun Restriction

6.0 Introduction

In the previous chapters, we have seen cross-linguistic variation of PR in Japanese, Korean, Kinyarwanda and Swahili. In this chapter, we explore a universal restriction that holds of all PR languages, namely, PR is possible only with relational nouns. We examine the DP-internal syntactic structure of possessive DPs, in light of the following question:

Q. Why is PR possible only with relational nouns?

In order to answer this question, I will propose the following:

1. Only a possessor DP which is introduced as a complement to N is a potential target for PR.

2. Only relational Ns introduce their possessors as complements, whereas other nouns do not.

Relational nouns are nouns that denote the existence of another entity that stands in a certain relation to them. For example, body-part nouns like arm are understood with respect to a typical individual, that is, arm typically requires a body to belongs to. Similarly, kinship terms such as mother or father require someone for whom the specified relation holds, that is, mother must be someone's mother. In addition to body-part nouns and kinship terms, the following nouns are considered as relational nouns in this thesis (Stockwell, Schachter and Partee 1972, Déchaine 1993, Barker 1995):

1 I include picture nouns and inalienably possessed nouns such as body parts in relational nouns. However, these nouns behave like non-relational nouns in some contexts. That is, they are half-way relational nouns. I will discuss three-way division of nouns later in this chapter.
(1) **Relational Nouns**

a. *kinship terms*: aunts, brother, cousin, father, grandfather, grandmother, husband, mother, sister, uncle, spouse, wife  
b. *other social relations*: addict, aide, ally, arch-enemy, assistant, boss, client, doctor, enemy, foe, friend, king, lawyer, neighbor, patient, president, queen, rival, schoolmate, student, teacher  
c. *picture nouns*: article, biography, book (about), bulletin, bust (of), cartoon, data, drama, epic, evidence, facsimile, fact, falsehood, fiction, history (of), idea, illusion (of), image (of), joke, letter, likeness (of), magazine, map, material, memories, model (of), movie (about), notion, novel (about), opera, opinion, painting, pamphlet, paper, parable, paragraph, periodical, perspective, photograph, picture (of), play, poem, portrait, statistics, story  
d. *inherent properties*: someone’s size, age, health, weight, intelligence, talent, the crater’s depth, the ocean’s temperature, the region’s climate, the cloth’s color  
e. *inalienably possessed*: someone’s arm, foot, hand, head, leg, eye, the pig’s tail, snout, hoofs  
f. *part-whole expressions*: the book’s jacket, title, contents, the foot of the mountain, the mouth of the river, the arm of the chair, broom handle, car fender, castle gate, door handle, door key, mountain top, river bank, table top, chair leg  
g. *classifier nouns*: a number of, a bunch of, a bushel of, a kind of, a sort of, a cup of, a group of  

These nouns are the only nouns that can host PR. If a noun is not a relational noun, then PR is not possible. Consider the following set of examples from Korean:

(2) **Korean**: Non-relational N²

a. John-ka Mary-uy yenphil-ul pwulettuli-ess-ta  
   -NOM -GEN pencil-ACC break-PST-IND  
   ‘John broke Mary’s pencil.’  

b. *John-ka Mary-lul yenphil-ul pwulettuli-ess-ta  
   -NOM -ACC pencil-ACC break-PST-IND  
   ‘same as (2a)’

Since a head N yenphil ‘pencil’ in (2) is not a relational noun, PR is not possible, i.e., the possessor DP *Mary* cannot be marked with accusative Case (-uy) as shown in (2b). Compare

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² A first consonant l of a Korean accusative case marker is deleted when it is suffixed to a word which ends with a consonant.
this to the following set of examples where a host noun is a relational noun, e.g. *son* ‘head’:\(^3\)

(3) **Korean: Relational N**

   \[-NOM \ -GEN head-ACC catch-PAST-IND\]
   'John caught Mary’s head’

   \[-NOM \ -ACC head-ACC catch-PAST-IND\]
   'same meaning as (3a).’  
   [J.-S. Lee 1992: p268]

Since *son* ‘head’ is a relational noun, PR is possible. Hence a possessor *Mary* can be marked with accusative Case, as shown in (3b).

The restriction that PR is possible only with relational nouns is not peculiar to Korean: it holds of all languages with PR. Swahili also does not allow PR with non-relational nouns. Consider the following examples:\(^4\)

(4) **Swahili: Non-relational N**

a. Ni-li-(i)-vunja kalamu [poss\_DP ya Juma]
   I-PST-(9)-break 9pencil 9of 1Juma
   'I broke Juma’s pencil.’

b.*Ni-li-m-vunja [poss\_DP Juma] kalamu
   I-PST-1-break 1Juma 9pencil
   'same meaning as (4a).’  
   [Hinnebusch and Kisner 1980:2(2) and (3)]

Since *kalamu* ‘pencil’ is not a relational noun, a possessor DP *Juma* cannot undergo PR, as in (4b). However, once a host noun is a relational noun, PR is possible:

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\(^3\) There seems cross-linguistic variation in the possibility of PR with respect to relational Ns. For instance, Korean object PR is possible only with body terms and part-whole expressions.

\(^4\) The numbers in (4) indicate noun class affiliation.
(5) **Swahili:** Relational N
   a. Juma a-li-(ki)-ata kidole \( [\text{PossDP cha Asha}] \)
      1Juma 1-PST-(7)-cut 7finger 7of 1Asha
      'Juma cut Asha’s finger.'

   b. Juma a-li-m-kata \( [\text{PossDP Asha}] \) kidole
      1Juma 1-PST-1-cut 1Asha 7finger
      'same meaning as (5a).'

[Keach and Rochemont 1992:83(2)]

The remainder of the chapter is organized as follows. In 6.1, I examine some syntactic and semantic differences between relational and non-relational nouns and argue that relational and non-relational nouns introduce their possessor in different positions. Distinct syntactic behaviors between these nouns naturally follow from the distinct syntactic structures associated with these nouns. In 6.2, I show how possessors of relational and non-relational nouns are introduced within possessive DPs. In 6.3, I discuss why PR does take place with relational nouns and why it does not take place with non-relational nouns. Lastly, in 6.4 we examine the so-called “major subject” in Japanese. I propose that possessors of non-relational nouns never undergo PR but can be introduced as a major subject, marked with nominative. I show how a major subject is introduced into a derivation.

### 6.1 Relational vs. Non-relational Nouns

In this section, I examine the semantic and syntactic differences between relational and non-relational nouns (Stockwell, Schachter and Partee 1972, Barker 1991, Vergnaud and Zubizarreta 1992, Belvin 1993, Déchaine 1993, etc.). First, I examine some semantic differences between relational and non-relational nouns. Then I propose distinct syntactic structures for the possessive DPs associated with relational and non-relational Ns, which naturally account for the distinct syntactic behaviors of each type.
6.1.1 Semantic Difference

In the semantic approach to possessives, Barker (1991) defines relational nouns as nouns whose denotation can be best expressed as relations over pairs of entities. His approach is based on the idea that nouns denote relations having different valences. Hence non-relational (ordinary) nouns such as tree or chair are translated as one-place predicates, whereas typical relational nouns such as mother or father are translated as two-place predicates. The logical translations of those nouns are represented as follows:

(6) a. Relational N: [[mother]] = \( \lambda x \lambda y [\text{mother}(x, y)] \)
   b. Non-relational N: [[chair]] = \( \lambda y [\text{chair}(y)] \)

(6a) expresses that the extension of mother is the set of all pairs of entities \( x \) and \( y \) such that \( y \) is the mother of \( x \). (6b) expresses that the extension of chair is a set of entities \( y \) such that \( y \) is a chair. That is, a relational noun mother has lexical entailments requiring the existence of an entity that stands in a specific role towards mother. In contrast, a non-relational noun such as chair does not have any lexical entailments requiring the existence of any other entity that stands in a specific role towards chair. Therefore, John's chair can be the chair owned by John or the chair which is being sit by John. But John's mother must be interpreted as a mother of John.

6.1.2 Syntactic Differences

On the assumption that there is a connection between the semantic valency of relational nouns as two-place predicates and the syntactic distribution of relational nouns, I propose that they introduce their possessors as complements, whereas other nouns do not. Possessors of non-relational nouns are introduced later in the derivation. That is, possessors are introduced in distinct positions, depending on whether host nouns are relational or not. This derives distinct
possessive DPs, depending on whether nouns are relational or not, as shown in (7):

(7) a. DP with Relational N  
    DP  
    D  
    NP  
    N  
    PossDP  

b. DP with Non-relational N  
    DP  
    D  
    NP  
    N  
    PossDP

In the following, I discuss the differences between relational and non-relational nouns in their syntactic behaviors. We will examine the syntactic differences between the two kinds of nouns in terms of their nominal argument and the behavior as a nominal predicate. These differences naturally follow from the distinct syntactic structures of possessive DPs, which I propose in (7).

6.1.2.1 Arguments of Relational Ns

In English, an argument of a relational noun does not behave like that of a non-relational noun. That is, a relational noun licenses an "of-phrase" as shown in (8), whereas a non-relational noun does not as in (9). This licensing of an of-phrase is used as a test to determine whether a noun in question is relational or not (Stockwell, Schachter and Partee 1972):^5

(8) Relational Ns
    a. kinship terms  the father of the child  the child's father
    b. other social relations  the teacher of the child  the child's teacher
    c. picture nouns  the picture of the child  the child's picture
    d. inherent properties the height of the child  the child's height
    e. inalienably possessed  the leg of the child  the child's leg

(9) Non-relational Ns
    'chair'  ??the chair of the child  the child's toy
    'flower'  ??the flower of the child  the child's flower

^5 Heavy NP-shift appears in a complement position, even if a noun is not relational. For instance, in 'the chair of the minister who came from Japan', the non-relational N chair seems to license an 'of-phrase'. I argue that heavy NP-shift is not licensed by non-relational Ns but independently motivated for English.
The above contrast in (8) and (9) follows from the distinct syntactic structures, proposed in (7). Given that relational nouns introduce their possessors as complements, in (10) an ‘of-phrase’ which contains a possessor *the child* can be licensed as a complement of a relational noun *father*. Since non-relational nouns do not introduce their possessors as complements, an ‘of-phrase’ cannot be licensed as a complement of *chair* as in (11):

(10) *Relational N: ‘the father of the child’*

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(11) *Non-relational N: ‘??the chair of the child’*
```

6.1.2.2 Predicate genitive

Stockwell et al. note that a possessor of non-relational nouns can appear as a predicate genitive, that is, non-relational nouns can appear in the construction of the form “A is B” in English as shown in (12). In contrast to non-relational nouns, most relational nouns cannot appear in that
construction, as shown in (13):\(^6\)

(12) Non-relational Ns
   a. This is Sal’s team.          This team is Sal’s.
   b. This is the boy’s dog.       This dog is the boy’s.
   c. This is the child’s toy.     This toy is the child’s.

(13) Relational Ns
   a. This is Sal’s sister.        *This sister is Sal’s.  (kinship terms)
   b. This is Sal’s friend.         *This friend is Sal’s.  (other social relations)
   c. This is Sal’s movie.         This movie is Sal’s.      (picture nouns)
   d. This is Sal’s height.        *This height is Sal’s.     (inherent properties)
   e. This is Sal’s arm.           This arm is Sal’s.        (inalienably possessed)
   f. This is the book’s title.    *This title is the book’s. (part-whole expressions)

   [Déchaine 1993: pp129-130]

This contrast follows from the distinct structures between relational and non-relational nouns.

The relevant structures for (12) are given in (14):

(14) Non-relational Ns
   a. This is the boy’s dog.       b. This dog is the boy’s.

   According to Lobeck (1991), pro must be governed by a X° that is [+Kase], [+Q] or [+plural].
   An English possessive morpheme’s as a [+Kase] Determiner can be a governor of pro, so pro is

\(^6\)Picture nouns and body parts do not have relational reading in (13). The discussion of this issue is in the main text.
licensed in (14b). However, an equivalent sentence to (14b), which is given in (13), is not possible if it involves a relational noun. The relevant structures are given in (15):

(15) Relational Ns

a. This is Sal’s sister.
   IP
   This
   I
   VP
   is
   V
   DP
   Sal
   D
   NP
   ’s
   sister

b. *This sister is Sal’s.
   IP
   DP
   I
   VP
   this
   D
   NP
   is
   V
   DP
   pro
   N
   sister
   Sal
   D
   NP
   ’s
   N
   t
   pro

In (15b), pro in a genitive predicate is licensed by a determiner ‘s. However, pro in a complement of a relational noun sister, which is in a subject position, cannot be licensed by a determiner this, since this is [-Q, -plural] and hence it is not a licit governor of pro (Lobeck 1991).

With a picture noun movie in (13c) and an inalienably possessed noun arm in (13e), a possessor can appear as a predicate genitive unlike other relational nouns. However, the interpretation of those sentences are more restricted than the ones in which the genitive phrase appears as a predicate. For instance, the sentence where the genitive phrase Sal’s movie appears as a predicate is ambiguous, that is, Sal’s movie can be either the movie owned (possessed) by Sal or the movie directed by Sal. However, when Sal appears as a genitive predicate, the sentence can only allow possession reading and the ambiguity disappears. Similarly, in the case

7 Barker (1991) argues that an English possessive morpheme ‘s is not associated with Case, but is a phrase-final clitic. However, I argue that ‘s is a determiner D, which is associated with a Case-feature.
of an inalienably possessed noun arm (13e), Sal's arm can have alienable and inalienable possession readings, whereas the genitive predicate case only allows alienable possession reading (i.e., Sal has amputated her arm and the surgeon is pointing at the arm which is no longer inalienably possessed by Sal). Since picture nouns and body-parts sometimes behave like relational nouns but also like non-relational nouns, nouns must be distinguished in three-way division, namely, relational Ns, non-relational Ns, and picture Ns (which have both properties).

In this section, I have proposed that relational nouns introduce their possessors as complements but other nouns do not, which derives the distinct syntactic structures for possessive DPs associated with relational and non-relational nouns. In the following section, I show how possessors of relational and non-relational nouns are introduced into a derivation.

### 6.2 How are Possessors introduced?

In this chapter, I will show how possessors are introduced into the derivation. I propose that possessors are introduced in distinct positions, depending on whether host nouns are relational or not. Specifically, I argue that relational nouns are the only nouns that introduce their possessors as complements in the derivation; other nouns do not introduce their possessors as complements, but they may introduce their possessors in Spec of DP at a later point in the derivation. The syntactic structures of possessive DPs for relational and non-relational nouns are given in (16):

\[
\text{(16) } \begin{align*}
\text{a. } & \text{DP with Relational } N \\
& \text{DP} \\
& \text{D} \\
& \text{NP} \\
& \text{N} \\
& \text{PossDP}
\end{align*}
\]

\[
\begin{align*}
\text{b. } & \text{DP with Non-relational } N \\
& \text{DP} \\
& \text{D} \\
& \text{N} \\
& \text{PossDP}
\end{align*}
\]

Let us see how a possessor DP is introduced in a possessive DP in each case.
6.2.1 Possessor of Relational N

Relational nouns introduce their possessors as complements. A possessor of a relational noun is introduced into the derivation in the following way.

First, a possessor DP is merged with a relational N as its complement, deriving a new syntactic object NP, as in (17a). Then a functional head D is introduced into the derivation by Merge with the NP, as in (17b):

\[
\begin{align*}
\text{(17) a.} & \quad \text{NP} & \text{b.} & \quad \text{DP} \\
& \quad \text{N} & \quad \text{D} & \quad \text{NP} \\
& \quad \text{PostDP} & \quad \text{PostDP} & \quad \text{PostDP}
\end{align*}
\]

Functional heads such as T or v are associated with Formal Features (FFs), and these FFs must be checked in the course of a derivation. Similar to T and v, a functional head D may also be associated with a FF, namely a Case-feature, which must be checked by a Case-feature of a possessor DP. If a Case-feature of D is strong, then a possessor DP is forced to move overtly to Spec of D to check the strong Case-feature, as shown in (18a). If it is weak, then feature checking takes place at LF by covert movement of FFs of a possessor DP, as shown in (18b):

\[
\begin{align*}
\text{(18) a.} & \quad [\text{Case}]_s & \text{b.} & \quad [\text{Case}]_w \\
& \quad \text{DP} & \quad \text{DP} \\
& \quad \text{PostDP}_i & \quad \text{PostDP} \\
& \quad [\text{Case}] & \quad [\text{Case}]_w \\
& \quad \text{D} & \quad \text{N} & \quad \text{N} \\
& \quad [\text{Case}]_s & \quad t_i & \quad \text{PostDP} \quad [\text{Case}]
\end{align*}
\]

I propose that a possessive morpheme 's in English is a determiner D which is associated with a strong Case-feature (Lobeck 1991). A possessive DP such as John's sister is derived as
illustrated in (19):

(19) \[
\text{DP} \quad \begin{array}{c}
\text{Poss} \text{DP}_{i} \\
\text{John} \quad \text{`}s \\
[\text{Case}] \quad [\text{Case}]_{\text{s}} \\
\text{NP} \\
\text{sister}
\end{array}
\]

A possessor DP *John* is merged as a complement to a relational noun *sister*, forming NP. Then a functional head D, where a possessive morpheme `s is realized, is merged this NP, deriving a possessive DP. Given the assumption that `s is associated with a strong Case-feature, the possessor DP is forced to move to Spec of DP to check the strong Case-feature, and hence *John’s sister* is derived.

In the following, I show how possessors of non-relational nouns are introduced into the derivation.

### 6.2.2 Possessor of Non-relational N

I propose that non-relational nouns do not introduce their possessors as complements. Thus a non-relational N merges immediately with a functional head D:

(20) \[
\text{DP} \quad \begin{array}{c}
\text{D} \\
\text{N}
\end{array}
\]

Though a possessor DP is not introduced as a complement of N, non-relational nouns can appear with their possessors such as *the child’s chair* or *John’s bag*. Now, let us consider how a
possessor of a non-relational N is introduced in the derivation.

In the discussion of possessors of relational nouns, I proposed that the functional head D may be associated with a Case-feature. Suppose D in (20) has a strong Case-feature, which must be checked by a Case-feature of a possessor DP:

\[
(21) \quad \text{DP} \\
\text{D} \quad \text{N} \\
[\text{Case}]_s
\]

In the case of relational nouns, a possessor DP in a complement of N moves to Spec of D and checks the strong Case-feature. Notice that in (21) there is nothing that can check a strong Case-feature of D, since a possessor DP has not been introduced in the derivation. If this feature remains unchecked, the derivation would crash (Chomsky 1995b).\(^8\) In order for the derivation to converge, a possessor DP must be introduced into the derivation to check a strong Case-feature of D. Suppose that a possessor DP is introduced by Merge, as shown in (22):

\[
(22) \quad \text{DP} \\
\text{PostDP} \\
[\text{Case}] \quad \text{D} \quad \text{N} \\
[\text{Case}]_s
\]

The derivation would converge, since a strong Case-feature of D would be checked by the possessor DP. However, this feature-checking is not allowed, according to the following assumptions in a minimalist approach; (i) feature-checking involves movement; (ii) adjunction by Merge is not restricted since Merge is cost-free, whereas substitution by Merge is restricted to

\(^8\) According to Chomsky (1995b), a Case-feature is [-Interpretable], which must be checked, deleted and erased.
subject DPs, which is theta-role driven.

According to Chomsky (1995b), feature-checking drives movement. Feature-checking of strong FFs drives overt movement of a category before Spell-Out, whereas feature-checking of weak FFs drives covert movement of a bundle of FFs at LF. Therefore, feature-checking must involve movement. Consider feature-checking of D’s strong Case-feature by a possessor DP in (22). This feature checking does not involve movement, which contradicts to the assumption that feature-checking involves movement.

Another problem regards the position where the possessor is merged. The possessor DP in (22) is merged at a specifier position. A specifier position can be created only by overt movement of a DP, which is forced by a strong FF, as in (23). The only exception is a subject DP, which is merged at Spec of v, as in (24):

\[
\text{(23) a. Before Feature-Checking} \quad \text{b. After Feature-Checking}
\]

\[
\begin{aligned}
\text{(24)} & \quad \begin{array}{c}
\text{vP} \\
\text{DP}_{\text{SUBJ}} \\
\text{VP} \\
\text{V} \\
\text{DP}_{\text{OBJ}}
\end{array}
\end{aligned}
\]

The possessor DP in (22) is not moved from anywhere, hence (22) is not the same as (23b). Merge of a possessor DP in (22) is not theta-role driven, since it is not introduced as an argument of the non-relational N. Thus it is not the same as (24), either. Suppose that the possessor DP is merged as an adjunct to its host DP. Since Merge is cost-free, adjunction by Merge is not restricted. On these grounds, it seems plausible to merge the possessor DP as an adjunct, as
shown in (25):

(25) \[ DP \\
  \text{Pos} \rightarrow DP \\
  [\text{Case}] \\
  DP \\
  [\text{Case}]
\]

However, this Merge operation also raises a problem. In (25), a possessor DP and a head D are not in a Spec-head relation, but feature-checking of strong FFs requires a checker and checkee to be in a Spec-head relation. Therefore feature-checking of a strong Case-feature of D by a possessor DP under Merge is impossible for either substitution or adjunction.

In order to enable a possessor DP to check a strong Case-feature of D under Merge, let us consider Chomsky’s suggestions for feature-checking under Merge.

Chomsky (1995b:312) gives the following examples in (26) and (27) and suggests that feature-checking under Merge may be possible:

(26) a. I wonder \[ CP \] whether Q [ he left yet]].  
b. I wonder \[ CP \] if Q [he left yet]].

(27) There is a book on the table.  

In (26) and (27), whether, if, and there remain in their base position, but satisfy the strong feature of C (i.e. question-feature) and T (i.e. D (EPP-) feature). The operations are closely analogous to raising of a wh-phrase or DP to Spec of CP or Spec of TP in order to check the strong features.

Given these cases, Chomsky suggests that only non-arguments (i.e. non-theta-marked arguments) can enter into a checking relation by Merge, and it is possible only if a feature is
strong. Following Chomsky, I propose the following conditions on feature-checking under Merge:

\[(28) \text{Feature checking under Merge is possible only if;}\]
\[\text{i) A feature of a functional head is strong;}\]
\[\text{ii) An element introduced by Merge is not a } \theta \text{-marked argument;} \text{ and} \]
\[\text{iii) An element is merged at a specifier position of } H \text{ but not an adjunct position to } HP.\]

Given these conditions, let us again consider feature-checking under Merge by a possessor DP in (22), which is repeated in (29):

\[(29) \text{DP} \]
\[\text{[Case]} \text{D} \text{N} \]
\[\text{[Case]_s} \]

The feature-checking in (29) meets all the conditions in (28). A Case-feature of D is strong, a possessor DP is not an argument of N, and the possessor DP is merged at Spec of D. As a consequence, a possessor DP of a non-relational N can check a strong Case-feature of D. I propose that a possessor DP of a non-relational noun is introduced into the derivation only if D has a strong D-feature, which must be checked by a possessor DP.

Recall that relational nouns license an ‘of-phrase’ but non-relational nouns do not. The only way the non-relational nouns introduce their possessors is by means of a possessive morpheme ‘s, which is associated with a strong Case-feature, as I proposed in 6.2.1 (see (19)).

6.3 Why does PR (not) take place?

In this section, I discuss why PR is possible with relational Ns and what prevents PR with non-
relational Ns. In order to account for why PR is possible, I have argued that the FFs of functional heads such as T and v allow multiple feature-checking (MFC). I further claim that PR must take place if D of a host DP lacks a Case-feature. The possibility of PR naturally follows from the distinct syntactic positions of possessor DPs between relational and non-relational Ns.

6.3.1 Why does PR take place with Relational Ns?

In order to account for PR, I have argued that PR is possible if Formal Features (FFs) of functional heads allow multiple feature-checking (MFC). In addition to this, I further propose that PR is possible only if a possessor DP does not enter into a feature-checking within its host DP.

In the previous sections, I have proposed that D of a host DP may be associated with a Case-feature, which must be checked by a Case-feature of a possessor DP. Since nouns do not always appear with their possessors, D need not have to have a Case-feature. If D were always associated with a Case-feature, then a possessor DP would always be required to check the strong feature. In the following, I show why the lack of a Case-feature derives PR, by taking Kinyarwanda PR as an example.

Suppose that D is not associated with a Case-feature. A possessor DP merged as a complement of a relational N would never enter into feature checking relation with D, since D lacks a Case-feature:

(30)
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The host DP is merged with V as its complement, creating VP. Further, the VP is merged with a functional head v. Recall that in Kinyarwanda v is associated with a homogeneous set of FFs such as [FF]. The strong FFs of v must force the host DP to move overtly to be checked, as in (31a). Since the FFs of v allow MFC in Kinyarwanda, a possessor DP can also undergo feature-checking with FFs of v, as in (31b):

Since the possessor DP has not entered into a feature-checking within its host DP in (31), it can check the FFs of v. As a consequence, PR is derived.

I conclude that PR is possible only if there is no feature-checking within the possessive DP. This means that PR is not obligatory, since a possessor DP can check a FF of D within the DP. Consider the derivation where PR does not take place even with relational Ns. Suppose that a possessor DP checks a Case-feature of D, as in (32):

Since the possessor DP has its FF checked against the FF of D, it can no longer check a FF of another head. Thus, although the FFs of v allow MFC, only a host DP checks these FFs, but the
possessor DP cannot, as in (33):

(33)  

Therefore I conclude that PR is not obligatory but possible only if a possessor DP has no feature-checking relation with D within the host DP.

6.3.2 Why does PR not take place with non-relational Ns?

As argued in 6.2.2, non-relational nouns do not introduce their possessors as complements. Possessors of such nouns can be introduced only if D of a host DP is associated with a strong Case-feature:

(34)  

Recall that a possessor DP of a non-relational N always checks a FF of D within its host DP, as in (35):

(35)  

Since PR is possible only if a possessor DP does not enter into a feature-checking relation with D within a host DP, the possessor of non-relational Ns can never be the target for PR. Therefore only relational Ns that may not check a FF of D can be the target for PR.

6.4 Major Subject in Japanese

This section examines the so-called “major subject” in Japanese. Major subject is defined as an initial nominative-marked DP, which is base-generated as an adjunct to TP (Kuroda 1986, Tateishi 1991). Given this definition, consider the following examples:

(36) a. John-no kuruma-ga seibifuryoo-da
   -GEN car-NOM ill-conditioned-be-IND
   ‘John’s car is ill-conditioned.’

   b. John-ga kuruma-ga seibifuryoo-da
   -NOM car-NOM ill-conditioned-be-IND
   ‘John is such a person that his car is ill-conditioned.’

In an ordinary possessive sentence (36a), a possessor John is marked by a genitive case marker -no. In (36b), John is nominative-marked and this sentence has almost the same meaning as (36a). One might think that (36b) is a PR sentence since it looks exactly the same as the PR sentence, as in (37):

(37) Mary-ga kami-ga nagai.
    -NOM hair-NOM long-be
    'Mary's hair is long.'
    (cf. Mary-no kami-ga nagai.
     -GEN hair-NOM long-be
     'same meaning as above.')

Notice that the host noun kuruma ‘car’ is a non-relational noun in (34b). As we discussed in
6.3.2. PR is not possible with non-relational nouns. Thus it should not be possible for a possessor of a non-relational noun to be marked with nominative, just like a nominative-marked possessor under Subject PR.

It has been argued that the nominative-marked possessor in (36b) is a major subject, which is base-generated as an adjunct to TP (Kuroda 1986, Tateishi 1991, Ura 1996). Tateishi argues that there must be only one major subject in a clause in Japanese. That is, a sentence which contains more than one major subject must be ungrammatical. This prediction is borne out as in (38):

(38) a. **John-ga** kuruma-ga seibifuryoo-da
    -NOM car-NOM ill-conditioned-be-IND
    ‘John is such a person that his car is ill-conditioned.’

b. *Fuyu-ga **John-ga** kuruma-ga seibifuryoo-da
    winter-NOM -NOM car-NOM ill-conditioned-be-IND
    ‘It is in winter that John is such a person that his car is ill-conditioned.’

[Ura 1997: p104]

The sentence (38a) contains only one major subject, namely *John*, and hence it is grammatical as predicted. The sentence (38b) contains two major subjects, namely *fuyu-ga* and *John-ga*, and hence it is ungrammatical. Let us compare this to the sentence which involves PR as in (39):

(39) a. Mary-ga kami-ga nagai.
    -NOM hair-NOM long-be
    ‘Mary’s hair is long.’

b. **Fuyu-ga** Mary-ga kami-ga nagai.
    winter-NOM -NOM hair-NOM long-be
    ‘It is in winter that Mary’s hair is long.’

Since the nominative-marked possessor in (39) is not a major subject, (39b) only contains one
major subject and hence this is grammatical as predicted. Given the contrast between (38b) and (39b), we conclude that nominative-marked possessors of non-relational nouns are not the same as nominative-marked possessors which undergoes PR, but they are so-called major subjects.

Now, let us ask how a major subject is introduced into the derivation and why there can be only one major subject in a clause. If a major subject is an adjunction to IP, what prevents more than one major subject to adjoin to IP? In order to answer the first question, I propose that a major subject is introduced by Merge to check a strong Case-feature of a functional head M. The answer for the second question will naturally follow from this proposal. Recall that the condition on feature-checking under Merge in (28), which is repeated in (40):

\[(40) \textit{Feature checking under Merge} \text{ is possible only if;}
\]
\[\text{ i) A feature of a functional head is strong;}
\[\text{ii) An element introduced by Merge is not a } \emptyset \text{-marked argument; and}
\[\text{iii) An element is merged at a specifier position of } H \text{ but not an adjunct position to } HP.\]

Given this condition, I first show how a major subject is introduced into the derivation.

A functional head M is merged with TP. M is associated with a strong Case-feature, which must be checked before Spell-Out. In order to check the strong Case-feature, a major subject is introduced by Merge at a Spec of M, as shown in (41):
Feature-checking by a major subject under Merge satisfies all the conditions in (40), since (i) a Case-feature of M is strong; (ii) a major subject is not an argument; and (iii) a major subject is merged at Spec of M. Given the condition in (40), a major subject can be introduced into the derivation. That is, a nominative-marked possessor of a non-relational noun is introduced in this way.

Now, let us consider the second question; why there can be only one major subject in a clause. Notice that a feature that forces a major subject to merge is a Case-feature, which is [-Interpretable]. Since [-Interpretable] features must be deleted and erased when checked, a strong Case-feature of M is also deleted and erased when it is checked by a major subject under Merge. M has no features to force another major subject to merge. As a consequence, there can be only one major subject which is forced to merge to check a strong Case-feature of M.

6.5 Summary

In this chapter, we have explored the universal feature of PR that holds all the languages, namely PR is possible only with relational nouns. I have argued that only relational nouns introduce their possessors as complements and only these possessors can undergo PR. The structural distinctions between the two type of Ns proposed in this thesis accounts for why PR takes place and why PR is not possible with non-relational nouns.
CHAPTER 7: CONCLUSION

In this thesis, I have proposed a multiple feature-checking (MFC) analysis of Possessor Raising (PR). The primary questions and proposals for the issues raised in this thesis are summarized as follows:

I. Q1: Why is PR possible in some languages but not in others?

A1: a. If a language allows *multiple feature-checking* (MFC), then PR is possible (e.g. Japanese, Korean, Swahili, Kinyarwanda, etc.).
   b. If a language does not allow MFC, then PR is not possible (e.g. English).

II. Q2: Why do some languages allow PR only from subject position, whereas other languages allow it from both subject and object position?

A2: a. If a language allows PR from subject position, the formal features (FFs) of T can be checked multiply.
   b. If a language allows PR from object position, the FFs of v can be checked multiply.

III. Q3: Why in some PR languages do the possessor and host DPs have the same grammatical function (GF)? Why in other PR languages do they not have the same GF?

A3: a. If MFC applies to a homogeneous set of FFs (i.e. $\forall FF_s$ or $\forall FF_w$), then the possessor and host DPs have the same GF.
   b. If MFC applies to a heterogeneous set of FFs (i.e. $\exists FF_s$), then the possessor and host DPs do not have the same GF.

IV. Q4: Why is PR possible only with relational nouns?

A4: a. If a possessor is merged as a complement to N, then it can be the target for PR. Only relational Ns introduce their possessors as complements.
   b. If a possessor is merged as a specifier to N, then it cannot be the target for PR. Nouns that are not relational introduce their possessors as a specifier of DP and thus do not host PR.

The MFC theory that has been developed in this thesis is devoted to the analysis of PR, where more than one DP is associated with a single GF. As further extension, the MFC can applied to the analyses of other syntactic phenomena. For example, double object constructions in Bantu
languages (e.g. Kinyarwanda), which also involve a many-to-one mapping relation between DP and GF, will be derived in a manner similar to PR constrictions. Furthermore, applying MFC to a functional head C(omplementizer), the MFC theory can also be extended to multiple wh-constructions, which apply in overt syntax (e.g. Hungarian), in covert syntax (e.g. Japanese, as we have seen), or in both overt and covert syntax (e.g. English, which allows only a single overt wh-movement but multiple covert wh-movement). This analysis can also be extended to capture optional movement of DPs such as scrambling (e.g. Japanese and Korean), since movement of an extra DP can be derived by MFC.

Though there are a number of interesting syntactic phenomena to be explored in the MFC approach, I leave these issues for future research.
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