A Fragment of Korean Phrase Structure Grammar

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ABSTRACT

This dissertation attempts to provide a phrase structural account of the Korean language within a restricted syntactic framework which dispenses with multi-stratal representations of sentences. It is shown that the major portions of the Korean syntax can be accounted for by a slight extension of the currently prevailing theory of Generalized Phrase Structure Grammar. The findings obtained in this thesis are two-pronged. One is related to the way in which some Korean language facts are analyzed: this aspect of our results led us to conclude that an adequately restricted descriptive model serves as a heuristic in the analysis of languages. The other involves the formal aspect of the theory which necessitated a slight relaxation of restrictions imposed on the grammar.

It is shown in Chapter 2 that what is traditionally known as a subject marker in Korean is also a focus marker in the sense that it encodes exclusiveness of given information; it is also claimed that two types of multiple nominative constructions are identifiable. Chapter 3 is devoted to justifying the existence of two separate structures of similar appearance: the missing object construction and the stative sentential subject construction. Chapter 4 analyzes the Korean honorific system, especially the subject honorific system as a control-agreement phenomenon. Chapter 5 provides an unified account of two linguistic phenomena known as scrambling and topicalization. Focusing is included in our account

in addition to topicalization and scrambling. These three phenomena are captured by a single generation mechanism, while differences in subjacency and the use of resumptive pronouns are explained through parochial statements.

If the framework employed here is claimed to be a universal linguistic model, some of the restrictions imposed on the theory should be relaxed. Based on the analysis of Korean, the following changes are suggested: metarules should be able to apply to their own output and in non-lexical environments; extraction from fillers should be allowed; the unbounded dependency feature (or SLASH) should be able to take a set of categories as its value. We believe that implementation of these suggestions into the grammar will increase the generative capacity of our model beyond that of the context-free grammar.

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CONTENTS

Abstract ii

Contents iv

Acknowledgements vii

Dedication ix

Abbreviations x

Introduction xii

Chapter 1: Theoretical Framework and Object Language 1

1.1 Theoretical Framework 1
1.1.1 Syntactic Categories 1
1.1.2 Immediate Dominance Rules and Linear Precedence Rules 4
1.1.3 Metarules 7
1.1.4 Feature Instantiation Principles 9
1.1.4.1 Foot Feature Principle 10
1.1.4.2 Control Agreement Principle 12
1.1.4.3 Head Feature Convention 15
1.1.4.4 Feature Specification Defaults and Tree Admissibility 17
1.2 Basic Description of Korean 19
1.2.1 SOV Word Order 19
1.2.2 Postpositional Language 20
1.2.2.1 Nominal Particles 21
1.2.2.2 Verbal Particles 30
1.2.2.3 Morpho-Syntactic Features 33
1.2.3 Head-Final Language 36
1.2.4 Some Other Characteristics 37
1.3 VP Constituency and Word Order 42
1.4 Conclusions 64

Chapter 2: Multiple Case Markers in Korean **65**

2.1 Multiple Nominative Construction 65
2.1.1 Pragmatic Particles in Korean 68
2.1.2 Two Types of Multiple Nominative Constructions 80
2.2 The Feature System and Feature Clash 90
2.2.1 Feature Specification Defaults 92
2.2.2 Feature Cooccurence Restrictions 93

2.2.3 Immediate Dominance Rules 96
2.3 Desiderative Auxiliary Verbs and Particle Alternation 98
2.3.1 Morphemic Status of the Desiderative AUX 101
2.3.2 Particle Alternation 106
2.3.3 Case Clash 114
2.3.4 The Status of [+NOM] in the Desiderative AUX Construction 120
2.3.5 Further Data 127
2.4 Double Accusative Constructions 132
2.5 Conclusions 144

Chapter 3: Missing Object Constructions and Stative Verbs. 149

3.1 Quasi-Tough Construction 154
3.2 Missing Object Construction 161
3.2.1 Two Sub-types of the Missing Object Constructions 167
3.2.2 Too/Enough Optional Missing Object Constructions 176
3.2.3 Some Other Details 180

Chapter 4: Honorific Agreement and Control 182

4.1 Introduction 182
4.2 Korean Honorific System 183
4.3 GPSG Analysis 191
4.4 Universal Principle 200
4.5 Further Data 203
4.6 Conclusions 209

Chapter 5: Scrambling and Coordination 210

5.1 Introduction 210
5.2 Scrambling and Topicalization 211
5.3 Topicalization, Focusing, and Scrambling as Sub-Cases of Extraction 220
5.4 Relative Clauses 229
5.5 Some Asymmetries in the Unbounded Dependency Construction 231
5.6 Coordination 233
5.6.1 Introduction 233
5.6.2 Simple Coordinate Structures 234
5.6.3 Coordinate Structure as an Island 242
5.6.4 ATB Extraction 246
5.6.5 Non-ATB Extraction 249
5.7 Conclusions 254

Chapter 6: Conclusions **255**

Bibliography **259**

Appendix A: The Formal Theory of Grammar **269**

A.1 Syntactic Categories 269
A.2 Formal Theory of Feature Instantiation Principles 270

Appendix B: List of Features and Rules **272**

Appendix C: Honorific Classes of Nouns **277**

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DEDICATION

To My Parents

ABBREVIATIONS

ACC	Accusative
ADN	Adnominal
ADV	Adverbial
AGR	Agreement
ATB	Across-The-Board
AUX	Auxiliary
BAR	Bar Level
BSE	Base Form
CAP	Control Agreement Principle
CAT	Category
CF	Case Feature
CHFC	Coordination Head Feature Convention
COMP	Complementizer
CONJ	Conjuction
DAT	Dative
DCL	Declarative Marker
DEG	Degree
DM	Discourse Marker
DOM	Domain
DPN	Dependent
EXCLM	Exclamation
FCR	Feature Cooccurrence Restriction
FFP	Foot Feature Principle
FIN	Finite
FOC	Focus
FSD	Feature Specification Default
GEN	Genitive
HCC	HON Calculation Convention
HFC	Head Feature Convention
HON	Honorofic
HRT	Hortative
HUMB	Humble
ID	Immediate Dominance
IMP	Imperative Marker
INF	Infinitive
LP	Linear Precedence
MDF	Modifier Suffix
MDL	Modal
NACT	Non-Active

NFIM	Nominative Feature Introduction Metarule
NFORM	Noun Form
NOM	Nominative
NORM	Normal
NPRT	Nominal Particle
OBJ	Object
OM	Object Marker
PAS	Passive
PER	Person
PFORM	Postposition Form
PLU	Plural
POL	Politeness
PRD	Predicative
PRP	Present Participle
PRS	Present Tense
PRT	Particle
PSP	Past Participle
PST	Past Tense
Q	Question Marker
RE	Reflexives
REL	Relativized
RESMP	Resumptive
SFC	SLASH Feature Constraint
SHAP	Subject Honorific Agreement Principle
SM	Subject Marker
STM	Slash Termination Metarule
STV	Stative
SUBCAT	Subcategorization
SUBJ	Subject
TNS	Tense
TOP	Topic
TYP	Type
VFORM	Verb Form
VEMBD	Verbal Phrase-Embedding Suffix
VPRT	Verbal Particle
VTERM	Verbal Phrase-Terminating Suffix
WHMOR	Wh-morphology

INTRODUCTION

Generative grammar has been, virtually since its inception, the dominant approach in the linguistic community. In the formulation of generative grammars, the syntactic portion has generally consisted of two subcomponents: a phrase structure component and a transformation component. In Chomsky (1957) which invokes "transformation" as a device for the description of human languages, phrase structure rules were considered incapable of generating a large subset of natural languages, or at least unable to describe human languages elegantly or economically. Introductory textbooks on generative grammar often claim that syntactic concord or long distance dependencies cannot be encoded in an adequately constrained type of phrase structure grammar.[1] A brief look at recent developments in phrase structure grammar, however, will show such claims to be false and will reveal that many aspects of natural languages can be more adquately described through phrase structure grammar than they have been in the Government-Binding model. An outstanding example is the theoretical framework developed in Gazdar et al. (1985, GKPS, hereafter) which describes English syntax successfully by means of context-free grammar. This thesis provides support for phrase-structural approaches in syntax by showing that another language can be adequately analyzed within Generalized Phrase Structure Grammar (henceforth,

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[1] For example, van Riemsdijk and Williams (1986: 9) argues that a phrase structure rule can express dependencies between sisters but not between subparts of sisters. Also see Gazdar and Pullum (1982) for criticism.

GPSG) or a similar framework.

A transformational component, seen from the viewpoint of formal language theory, is rather exotic, since it does not fall within the criteria through which grammars are classified[2]. The dilemma of early generative grammar apparently is that type 2 (or context-free) grammar looks too weak and type 1 (or context-sensitive) grammar or higher level grammar is too unconstrained. Therefore, from a formal point of view, the elimination of a transformational component is desirable if we can construct an adequately constrained phrase structure model. Although we are aware of some claims that some natural languages are not properly accounted for by context-free grammar,[3] we consider that it is still worthwhile to constrain the descriptive power of a grammar to an optimal degree. In other words, the more restricted the descriptive model is, the more interesting the claim of the theory becomes liguistically. Thus, we attempt to show in this dissertation that the Korean language can be described by a phrase structure grammar.

In the next chapter we will briefly introduce some basic ideas of GPSG and basic sentence structures of the Korean language. Chapter two will start by discussing double nominative constructions in Korean. It will be argued that multiple appearances of nominative particles are not multiple instances of subject markers but of focus markers. Some syntactic features involving postpositions and relevant structures will be discussed as well as some Immediate Dominance Rules and

---

2 Peters and Ritchie (1973) have proven that every recursively enumerable language is generated by some transformational grammar based on Chomsky (1965) and conversely. This amounts to saying that transformational grammar is literally unrestricted with respect to weak generative capacity.

3 See Shieber (1985) and Culy (1985).

Linear Precedence Rules. Chapter 3 will be devoted to the discussion of missing object constructions and stative verbal sentential subject constructions. It will be claimed that the two constructions are similar in appearance but do not have the same structure. In chapter four, we will discuss the subject honorific agreement phenomenon found in Korean. The Korean honorific agreement will be analyzed as a subcase of what is described by the Control Agreement Principle in GKPS. Chapter five will examine scrambling and coordination. The topic and the focus constructions will be identified and analyzed as independent of scrambling, under the assumption that scrambling is an extraction phenomenon. Some peculiarities in these two constructions involving subjacency and the use of resumptive pronouns will be accounted for through feature cooccurrence restrictions. Substantial parts of Korean coordinate structure will also be described through coordination schemata analogous to the ones in GKPS.

Chapter 1

THEORETICAL FRAMEWORK AND OBJECT LANGUAGE

This chapter is intended to give a basic description of the theoretical framework which I assume in analyzing natural languages, and also to give the readers a general idea of the Korean language. Even though GPSG may not be totally new to the readers, I will avoid detailed formalism wherever possible in introducing the framework and the Korean data. A more formal presentation of the grammar will appear in Appendix A.

1.1 Theoretical Framework

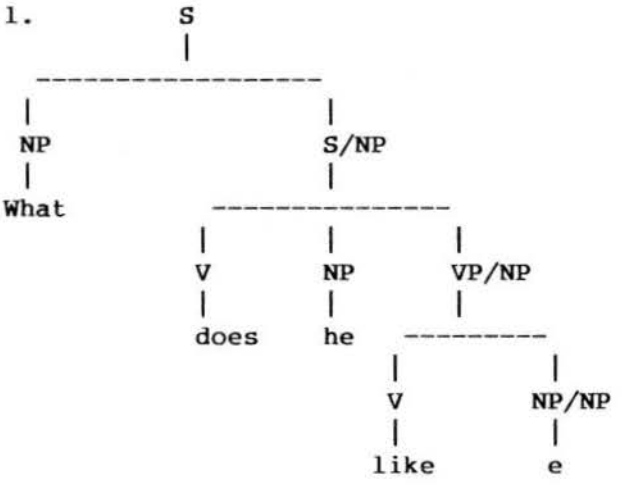
The theoretical model introduced below is largely based on GKPS and its extensions, although substantial parts of the theory are a recapitulation of the ideas presented in important articles such as Gazdar (1981), Gazdar (1982), Gazdar and Pullum (1982), Gazdar and Sag (1981), and so on.

1.1.1 Syntactic Categories

Syntactic categories, or equivalently node labels in a tree configuration are treated as feature bundles in GPSG, just as a phoneme is represented by a bundle of feature specifications. In actual practice, those feature specifications are viewed as constituting a set in a mathematical sense. Thus, syntactic categories are treated as a set whose elements are ordered pairs of feature names and fea-

ture values. For instance, a singular noun phrase can be equated with {<N, +>, <V, ->, <BAR, 2>, <PLU, ->}. Feature names range over a finite set { N, V, PLU, AGR, SLASH, BAR, ..., WH }. Feature values can be atomic as in the previous example of a singular noun phrase; they can be binary as for N, V, PLU; they can be ternary as in values of BAR (0, 1, 2); some features (e.g., VFORM) have { BSE, FIN, INF, PAS, PRP, PSP } as their value range. There are also category-valued features: SLASH, AGR, RE, WH.

Most of the feature names in GKPS are familiar to us although GKPS treats feature name-value pairs as elements of a certain set which constitutes a category. One of the innovations of GKPS is the use of SLASH feature[4] (represented as '/') which encodes unbounded dependencies. The following tree will show what is meant by the feature SLASH.



If a SLASH feature is present in a certain category, that is, if a category contains as an element the SLASH feature specification, it means that the category lacks what is denoted by the value of the SLASH. For instance, 'S/NP' represents a sen-

---

[4] The featural status of SLASH in GPSG originates from Bear (1981).

tence which has an NP missing somewhere internally. Thus, S/NP represents a partial string of S and becomes complete with the filler NP adjoined to S/NP.

Another category-valued feature which is important in the discussion of syntactic concord or agreement is AGR. It handles syntactic agreement on its own, and does so with the help of SLASH in some cases. AGR is usually instantiated on predicate categories in which the lexical head is morphologically dependent on a prominent NP, usually the subject of S. VP[AGR[NP[-PLU][PER 3]]][5], for instance, is a VP which will agree with third person singular NPs.

Syntactic categories need not be fully specified. X^2, in 'S ---> X^2, H/X^2', is a syntactic category (which is a set) which contains only one element <BAR, 2>. This extremely underspecified category represents bar-2 phrasal categories in general, and further specification in actual trees is executed in accordance with feature instantiation principles to be introduced later. In GPSG, thus, syntactic categories are seen as internally structured rather than as undecomposable.

There are some restrictions on co-occurrence of syntactic features. For instance, the feature VFORM is used to specify whether the verb (or VP) in question is FIN(ite), INF(initive), PAS(sive), etc. Since GKPS assume free instantiation of features, there must be some restriction which prevents some features from occuring in wrong categories, e.g., VFORM from appearing on other categories than verbal categories. This kind of constraint is stated in the from of Feature Co-occurrence Restrictions (FCRs, hereafter); FCR 2: [VFORM] ⊃ [-N, +V].[6] The

---

5 This is not a formal notation. More accurate notation is {<N,->, <V,+>, <BAR, 2>,<SUBJ,->, <AGR, {<N, +>, <V, ->, <BAR, 2>, <PLU, ->, <PER, 3>}>}.

6 This FCR says that if a certain category contains a VFORM specification, the category must contain among its elements <N, -> and <V, +> as well. Informally, the VFORM feature is specified for verbal categories only.

FCR constitutes an absolute constraint on the distribution of syntactic features.

GKPS also employ a kind of markedness convention to the effect that certain features should be treated as default cases. That is, the default feature value should be chosen, unless specified otherwise. Thus, this device enables categories to have unmarked values for features in a normal configuration. For instance, an ordinary verb takes as its subject a normal NP (as opposed to pleonastic **it** or **there**). To capture this type of generalization Feature Specification Default (FSD) 10: [+V, BAR 0] ⊃ [AGR NP[NFORM NORM]] is introduced. This informally translates as the following: if a category is a verbal category of bar-0 level it will agree with normal NP subject in unmarked cases. Thus, (2b) and (2c) are not admitted, where **it** and **there** are dummy place-holders.[7]

2.a. **Sam** loves his son.
  b.*There loves his son
  c.*It loves his son.

1.1.2 Immediate Dominance Rules and Linear Precedence Rules

In the previous section, we discussed some category-internal structures and restrictions. There are also rules which regulate basic relations among syntactic categories: Immediate Dominance Rules and Linear Precedence Rules (ID rules and LP rules, henceforth). ID rules are similar to traditional phrase structure rules in some sense. What differs is that the former represent a large collection of PS rules rather than a single rule. Therefore ID rules are seen as highly abstract rule schemata which are to be individuated through principles which will be intro-

---

[7] The FSD simplifies grammar to a considerable degree. The feature value of NFORM ranges over {NORM, it, there} and any one of these values could be picked up without FSD 10. 'VP[AGR NP[NORM]] ---> H, NP' can be reduced to 'VP ---> H, NP' for the verb 'love' due to the FSD.

duced in the following sections. Another difference is that there is no linear order among the categories written on the righthand side of the ID rule.

In principle, ID rules may be seen as conditions on well-formed trees, given syntactic categories since[8]

> An ID rule C_0 ---> C_1, ..., C_n admits a local tree **t** if and only if the root of **t** is labeled C_0', and C_0' immediately and exhaustively dominates nodes labeled C_1', ..., C_n', and for each i $1 < i < n$, C_i' is an extension of C_i. (GKPS, p76)

Thus, an ID rule 'X ---> A, B, C', for instance, admits a set of phrase structure markers shown below:

3.a. X ----> A + B + C
  b. X ----> A + C + B
  c. X ----> B + A + C
  d. X ----> B + C + A
  e. X ----> C + A + B
  f. X ----> C + B + A

Linear orders are taken care of by LP rules. One of the main reasons for having separate LP rules is that there are a certain regularities to be stated about linear order among categories in general. For instance, in English lexical categories precede phrasal categories in every local tree.[9]

---

[8] Category B is an **extension** of category A if and only if
(i) for all f ∈ Atom, if f ∈ DOM(A) then B(f) = A(f), and
(ii) for all f ∈ (F - Atom), if f ∈ DOM(A) then B(f) is an extension of A(f). See GKPS (p39) for further details.
DOM(A) is an notation for 'feature names specified in category A' and **Atom** is a set of feature names whose value is atomic such as '+', '-'. or '2' in '{<N, ->, <V, +>, <BAR 2>, <AGR NP[+NOM]>}; 'F-Atom' is a set of feature names whose value is non-atomic such as NP[+NOM] for AGR in the example.

[9] A **local tree** is a tree of depth one in which every node other than the root is immediately dominated by the root.

Now, let us consider how ID/LP format accounts for a syntactic concord which is unduly claimed to be a phenomenon which lies beyond the generative capacity of context free grammar. Let us take 'subject-verb agreement' as an illustration. Let us consider the following simple examples:

4.a. He eats fish.
  b. They eat fish.

We need two ID rules to generate the trees corresponding to the above sentences: 'S ---> NP, VP' and 'VP ---> V, NP'.[10]. An ID rule 'S ---> NP, VP', for instance, is an abstract schema which admits a collection of trees. Now, if we introduce into the tree some features and principles which force NP and VP to covary with each other in the relevant features, (See footnote 22 of this chapter for 'covariation'.) the rule can be seen as admitting the structure 'S ---> NP[...F...] + VP[...F...] where **F** ranges over features related to agreement. In this way, 'S ---> NP, VP' can licence the following two structures:

5.a. S ---> **NP**[...[-PLU]...] + **VP**[...[-PLU]...]
  b. S ---> **NP**[...[+PLU]...] + **VP**[...[+PLU]...]

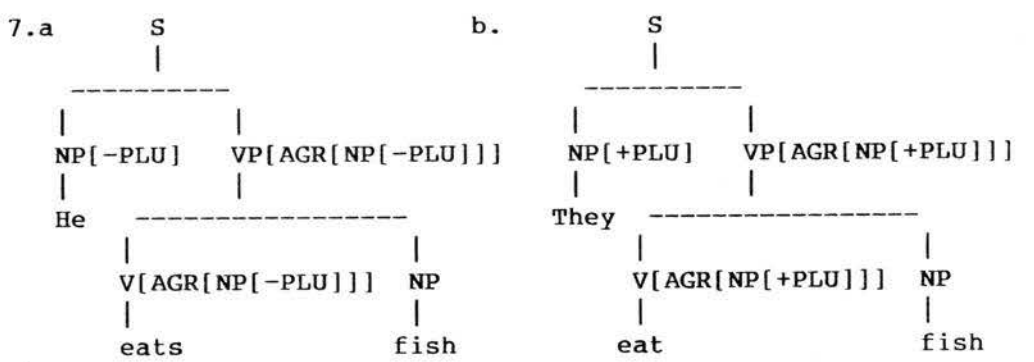
Now, the other ID rule 'VP ---> V, NP' also licences the following structure in a similar manner:

6.a. VP[...[-PLU]...] ---> V[...[-PLU]...] + **NP**
  b. VP[...[+PLU]...] ---> V[...[+PLU]...] + **NP**

---

10 In fact, these rules are 'S ---> X^2, H[-SUBJ]' and 'VP ---> H, NP' in GKPS. GKPS's notation for trees will be replaced by a rule-type notation since the former is space consuming. We, however, insert '+' between categories to distinguish our notation from ID rules.

The lexical head (V, in the above example) shares some features including the AGR(eement) feature with the mother. Thus, the following trees are two instances of many legitimate trees.



This approach taken by GKPS captures generalizations which are not expressible in terms of extensionally equivalent context-sensitive grammar, still rendering the framework context-free.

1.1.3 Metarules

GKPS employs a kind of redundancy elimination device which is called a metarule.[11] For instance, relations between passive and active sentences are predictable enough to be captured by some form of rule. In order to achieve this type of generalization, the following metarule is proposed.[12]

---

11 Although the status of metarules in GPSG is somewhat controversial, we will assume that they are still a useful device for a formulation of a simpler grammar. See Uszkoreit and Peters (1986) for some formal problems.

12 A **multiset** is a set in which repetition of elements counts. For instance, **multiset** {A, A, B} (usually written as $\{A, A, B\}_m$) is different from $\{A, B\}_m$, whereas ordinary set {A, A, B} is not distinct from {A, B}.

8. Passive Metarule (GKPS:59)
   VP ---> W, NP (W: multiset variable)

   ===>

   VP[PAS] ---> W, (PP[by])

What this rule says is that if we have a rule VP dominating NP and some other categories, we can derive another ID rule VP[PAS] dominating the same categories except NP and optional PP[by]. For instance 'VP ---> V, NP, VP' ([$_{VP}$ persuade him to go] induces another rule 'VP[PAS] ---> V, VP' ([$_{VP[PAS]}$ persuaded to go]).

Another example of a metarule is the Slash Termination Metarule 1 (STM 1, hereafter). GKPS's version of STM 1, as Hukari and Levine (1987) pointed out, allows some ill-formed constructions with respect to parasitic gaps.[13] Since metarules are restricted so as to apply to lexical rules STM 1 generates a gap for each relevant lexical ID rule, as shown below.

9. Slash Termination Metarule 1 (Hukari and Levine (1987b: 207))

   X ---> W, α[BAR 2]
   ===>
   X/α ---> W, e

   where W is a multiset variable and
   e is the identity element of the terminal vocabulary

---

13 For instance, STM 1 in GKPS would admit both (a) and (b), whereas Hukari and Levine's STM will disallow (b):

a. Who$_i$ did you persuade $\_\__i$ to kill himself?
b. Who$_i$ did you persuade $\_\__i$ to kill $\_\__i$?

We will assume their version of STM 1 for English. The Korean SLASH Introduction Rule in (44i) of Chapter 2 is not a metarule and introduces gaps more freely than English STM 1.

The STM 1 says that if a lexical head has a phrasal sister the sister can be e(mpty). Thus, 'VP ---> V, NP' induces 'VP/NP ---> V, e ' as shown in (10):

10.a. I know he [$_{VP}$ met John].
b. I know who he [$_{VP/NP}$ met e].

For **n** lexical ID rules, we obtain another set of **n** ID rules by applying one metarule under the assumption that metarules do not apply to their own output.

1.1.4 Feature Instantiation Principles

The whole program of GKPS may be thought of as a rigorous formalization of a set of well-formedness conditions which control the distribution of syntactic features and their relations. One component may allow a large number of structures while some other components rule out incompatible outputs. ID rules[14] are permissive in the sense that they admit local trees if the categories in the tree extend the ones in the rule. A local tree is said to be a **legal projection** of an ID rule if the latter admits the former and the categories in the trees satisfy relevant Feature Co-occurrence Restrictions. Shown below are two of the legal projections of an ID rule 'S ---> X^2, VP'.

11.a. S[FIN] ---> NP[-PLU] + VP[FIN, AGR[NP[-PLU]]] (He slept)
b. S[FIN] ---> NP[+PLU] + VP[FIN, AGR[NP[-PLU]]] (*They was ill)

Although the ID rule and FCRs permit (11b), we want to eliminate it somehow. The constraint to be invoked should be of a relational character since plural NPs are to be matched up with plural VPs. There are a few conditions of this type: the Foot Feature Principle, the Head Feature Convention, and the Control Agreement

---

14 ID rules themselves may be construed as conditions on dominance relations among syntactic categories, as may LP rules be on precedence relations.

Principle.

As these principles involve different sets of features, some preliminary remarks are needed. Some features are called Foot features and are subject to the Foot Feature Principle (FFP, hereafter). SLASH, WH, and RE are Foot features. Some others are called Head features and obey the Head Feature Convention. Some of the frequently used head features are AGR, SLASH, N, V, etc. Features on a category are said to be **inherited** if the feature is specified in the ID rule. Otherwise, they are **instantiated.** For instance, NP[-PLU] in (11a) has <BAR, 2> as an inherited feature, and <N, +>, <V, ->, and <PLU, -> as instantiated features, since it is a projection of the ID rule 'S ---> H[-SUBJ], X^2' where X^2 denotes { <BAR 2> }.

1.1.4.1 Foot Feature Principle

The Foot Feature Principle in GKPS is an absolute constraint on the percolation or precipitation of **FOOT** features. It scans one local tree at a time checking whether (the union of) instantiated Foot features of the daughters also appear on the mother.[15] The FFP is informally translated as follows:

12. The FOOT Feature Principle (FFP)

> The **FOOT** features instantiated on the mother in a tree fragmant are identical to the unification[16] of the **FOOT** features instantiated on the daughters. (Sag et al. 1985: 146)

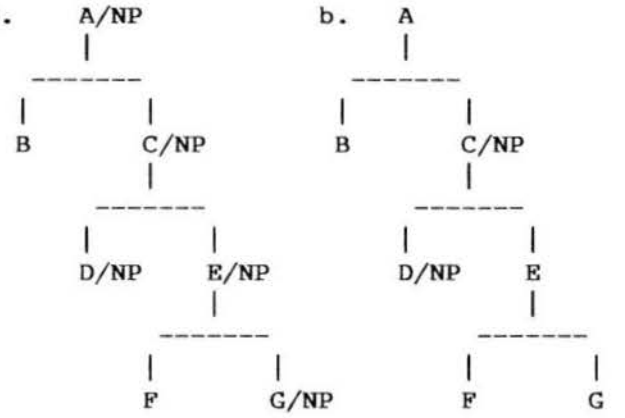
---

15 The FFP as it is seems to be too prohibitive. Hukari (1987) reformulates the FFP in connection with the RE(reflexive) feature. Jacobson (1987) also points out that the FFP is not compatible with FCR 22: VP ⊃ ~[WH].

16 C, a set consisting of 'feature name - feature value' pairs, is the unification of S a set of categories if and only if C is an **upper bound** for all S and for all C', C' is an upper bound for S, then C' is an extension of C. (C is an **upper bound** for S if and only if for all C' ∈ S, C is an extension of C'. (adopted from GKPS, p39)

For instance, let us consider the structures in (13).

13.a.

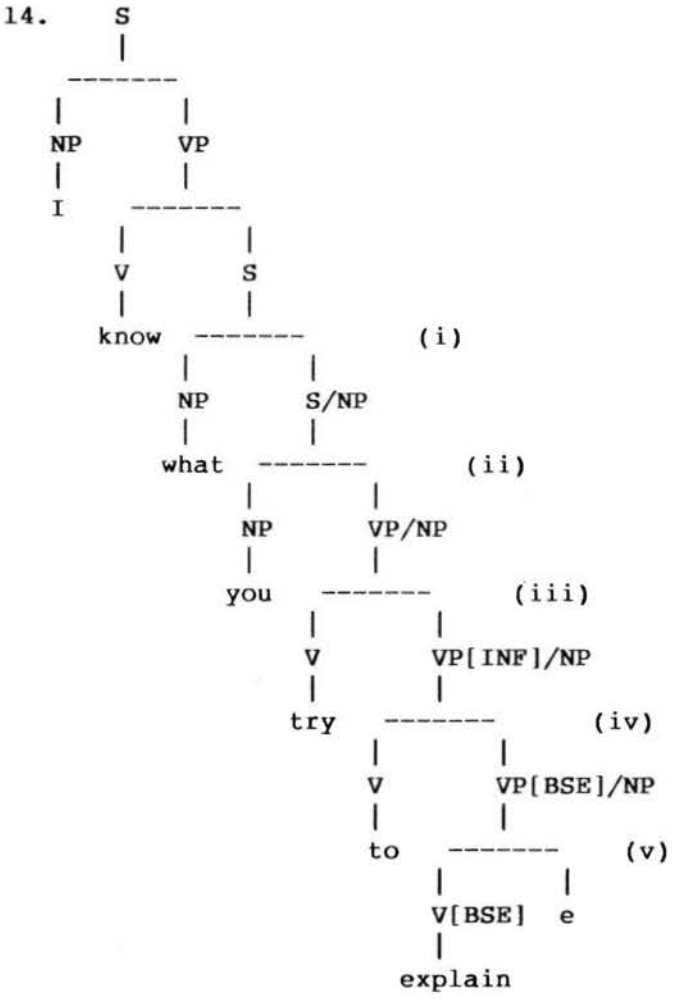


b.

If all the SLASH features are instantiated in (13a) and (13b), only the former is wellformed with respect to the FFP: if SLASH is inherited in category C only in the top local trees then only (13b) is wellformed.

A more concrete example would be the English unbounded dependency construction. The top part of the construction is licenced by 'S ---> X^2, H/X^2'. One of the legal projections of this rule is the local tree (i) in (14) below. In local tree (i), the mother must not have a SLASH feature specification, since its daughter has an inherited one. Local tree (ii), contrastingly, is licenced by an ordinary ID rule 'S ---> X^2, H[-SUBJ]'. Since the SLASH feature is not specified in this rule, all the occurrences of SLASH in (ii) are instantiated. Therefore local tree (ii) satifies the FFP. Local trees (iii) and (iv) also carry instantiated Foot features since they are induced by ordinary VP generation rules which have no SLASH feature. Local tree (v) is admitted by the output of STM 1 (See (9).) and the mother has an instantiated SLASH feature, which must not be present on the daughter.

14.



1.1.4.2 Control Agreement Principle

As informally discussed in section 1.1.2, what is traditionally called agreement (or concord) has often been used as evidence that languages which have agreement phenomenon cannot have a context-free grammar. In this section we discuss the principle which captures control and agreement phenomena using context-free rules, falsifying such a claim. GKPS, following Keenan (1974) assume as a universal principle that "function symbols may present a morpheme whose form is determined by the noun class of the argument expression" (GKPS,

p84). That is, functor categories (usually predicate or modifier type) will agree with a nominal argument. The functor categories are assumed to contain an AGR obligatorily and inherited SLASH optionally the values of which are linked to some other category in the same local tree. AGR and inherited SLASH are designated as members of the set called control features.[17] Type-theoretically, functors are of the form <a, b> which denotes functions from type 'a' to type 'b'. We will use **TYP(C)** to mean the semantic type associated with a syntactic category **C**. For instance, **TYP(VP)** = <**TYP(NP)**, **TYP(S)**> = a function from NP-type objects to S-type objects. In this case, we say that NP controls VP. The Control Agreement Principle (CAP) can be informally stated as follows:

> (i) The value of a control feature on a functor category must be identical to the feature specifications of the functor's argument if there is any. (ii) Otherwise, the value of the control feature must be identical to the mother's control feature.

It should be noted that SLASH becomes the control feature if it is inherited and that AGR is a control feature in other cases. Let us consider the following:

15.a. I wonder which boys he thinks are/*is clever.

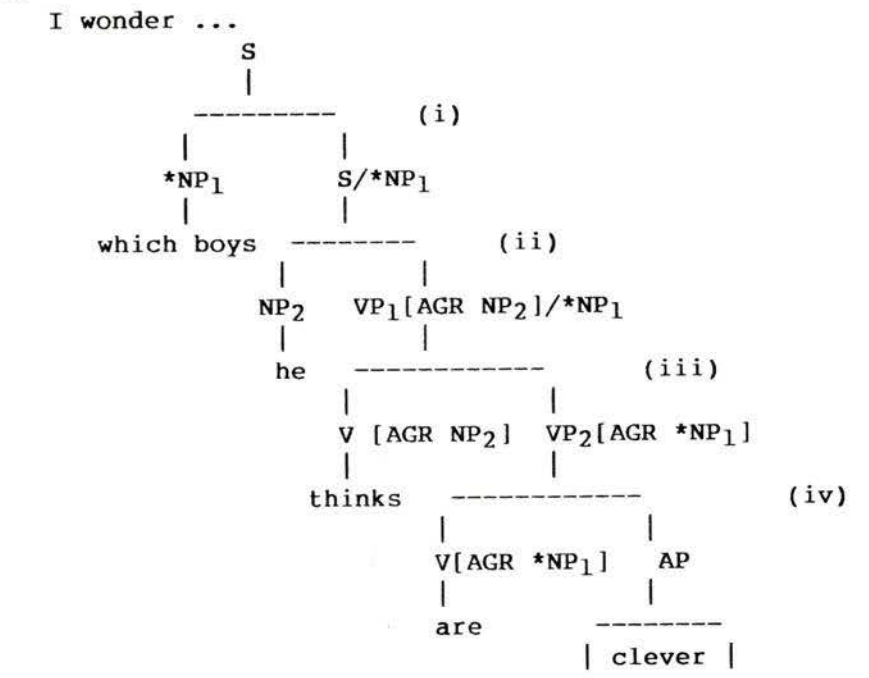
---

17 WH[+R], when inherited, should be included in the control feature set to account for the following examples.

> a. I like apples which are sour.
> b.*I like apples which is sour.

It is assumed that wh-words are inserted under α[WH α[WHMOR R/Q]]. See section 3.2.1 for the relevant discussion.

b.



The local tree (i) in (15b) originates from an ID rule 'S ---> X^2 , S/X^2', where SLASH is inherited and thus becomes a control feature. So its value is identical to its sister argument, namely *NP_1. Local tree (ii) is sanctioned by an ordinary S expansion rule 'S ---> X^2, VP' and VP_1 contains no inherited SLASH. Thus, AGR becomes the Control feature and its value must be identical to the sister. Local tree (iii) has no NP argument; thus, the value the control feature of VP_2 should be identical to the counterpart of VP_1. This tree is licensed by the Slash Termination Metarule 2:

16. X ---> W, V^2[+SUBJ, FIN]
    ===>
    X/NP ---> W, V^2[-SUBJ].

Since VP_1/NP, which is an extension of X/NP, has an inherited SLASH, this SLASH becomes an control feature in VP_1. VP_2, which is an extension of V^2[-SUBJ], on the other hand, has no inherited SLASH, and AGR becomes the control feature. Now, since there is no NP argument in the local tree (iii), the clause (ii) of the CAP becomes relevant and requires that the value of AGR on VP_2 should be identical to the value of SLASH of VP_1.[18] It should be noted that the values of SLASHs of S and VP_1 are the same owing to the FFP.

1.1.4.3 Head Feature Convention

In Jackendoff's (1977) system, the 'head' of a phrase is usually defined in a PS rule as one of the daughter categories whose major features (i.e., N, V) agree with the mother's and whose bar level is not greater than mother's. In GKPS, every ID rule contains H(ead) on the right side of the rule. **H** is a 'metagrammatical place holder' and it simply stands for locations where HEAD features are stored. The scheme of GKPS is apparently to extract out all the predictable feature contents from the syntactic category and to instantiate features in accordance with what is considered to be universal conventions or principles and this sometimes results in some extreme cases where no feature specification is stated for H(ead). We can freely instantiate any HEAD features on **H** unless the following condition is violated.

17. **Head Feature Convention (HFC, Sag et al. 1985: 131)**

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18 The CAP as in GKPS is too strong for some cases and fails to generate some subset of wellformed constructions. A relativized version of the CAP is suggested by Hukari and Levine (1987a). This revision requires the mutual extension of features of different kinds rather than an absolute identity. This revision allows for feature discrepancy when it is required elsewhere. Thus, it permits case features of fillers and gaps to disagree in tough-constructions, for instance. See Hukari and Levine (1987a) and later discussions in Section 3.2.1 for further details.

(i) The **HEAD** feature specifications on each head are an extension of the **HEAD** features of the category created by taking the intersection of the mother with the free feature specifications on the head.[19]
(ii) The **HEAD** feature specifications on the mother are an extension of the **HEAD** features of the category created by taking the intersection of the heads with free feature specifications on the mother.

This convention says that the mother's HEAD feature specifications must be identical to the HEAD feature specifications on the head daughter(s) to a maximal degree as possibly as they can. This can be illustrated in a single-head construction more easily.[20] We illustrate the HFC using (18b) which is sanctioned by (18a):

18.a. VP ---> H[SUBCAT 8], NP, VP
b. VP/NP ---> V^0[8] + NP + VP/NP
c. (VP/NP)|HEAD = {<N ->, <V +>, <BAR 2>, <SLASH NP>}
d. V^0[8]|HEAD = {<N ->, <V ->, <BAR 0>, <SUBCAT 8>}

The mother's HEAD feature specifications are shown in (18c) and the head daughter's HEAD feature specifications are in (18d). Although the HFC insists the two feature specifications agree with each other, FCR 7: [BAR 0] = [N] & [V] & [SUBCAT] requires that if a category has the [SUBCAT] specification (as in (18d)), then it must have [BAR 0]. Since [SUBCAT 8] is mentioned in the ID rule in question and FCRs are absolute constraints, the HFC should condone the discrepancy in the BAR specification. Likewise, FCR 6: [SUBCAT] ⊃ ~[SLASH] requires that categories containing the [SUBCAT] feature specification (i.e., BAR-0 level categories (due to FCR 7)) must not include the SLASH feature specification. Thus,

---

19 Informally speaking, 'free feature specification' of a category in a tree is the set of all the feature specifications which can freely appear in a category, yielding no violation of the FCRs, FFP and CAP. Thus, the HFC is a constraint on HEAD features which are not narrowed down by the previous principles. See footnote 8 on p5 for the definition of 'extension'.

20 Coordination is treated in GKPS as a case of multiple headedness.

(18d) does not contain SLASH, although the mother contains it. The other HEAD feature specifications in (18c) and (18d) should agree with each other since there is no such constraint involved. Thus, the local tree (18b) satisfies the HFC, although there are discrepancies in the HEAD feature specifications between the mother the head daughter.

We say a local tree is a **candidate** projection of an ID rule **r** if and only if

(i) the tree is LP-acceptable, and
(ii)the tree meets the HFC, CAP, and FFP. (GKPS, p100)

1.1.4.4 Feature Specification Defaults and Tree Admissibility

GKPS have incorporated into their theory a type of **marking** convention for syntactic features: the Feature Specification Defaults. Some feature specifications are treated as default feature values. For instance, FSD 7: [BAR 0] ⊃ ~[PAS][21] says that lexical categories do not contain [VFORM PAS] in ordinary cases. Thus, this FSD will accept (19a) but reject (19b):

19.a. John ate some apples. ([VFORM FIN] & [PAST +])
b.*John eaten some apples (VFORM PAS])

This mechanism is needed because features are in principle freely instantiated on categories, e.g., on the lexical head, in a rule such as 'VP ---> H, NP'. This convention simplifies our grammar since it saves us from specifying unmarked specifications in a category in a redundant manner.

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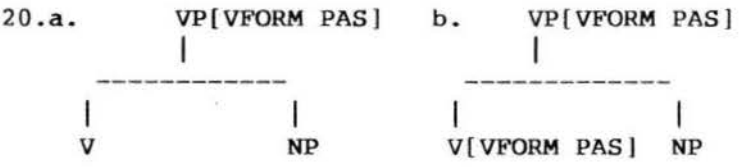
21 More accurately this FSD should be stated as [BAR 0] ⊃ ~[VFORM PAS], where PAS is mnemonic for '[Verb FORM PASsive]'.

Tree admissibility involving FSDs may be complicated slightly because of the possibility of feature covariation.[22] In GKPS, FSDs are formulated so that their violation should be forgiven if some other components of the grammar require a non-default specification. For instance, we have a rule 'VP ---> H, NP' which sanctions the partial structure of sentence (19a) and we freely instantiate [VFORM PAS] on VP without violating FSD 7 which regulates BAR 0 level categories only, as shown in (20a):



Now, since [VFORM PAS] is a HEAD feature specification, the HFC will force the feature specifications on the mother to appear in the HEAD feature specifications of the lexical head daughter, possibly yielding a structure (i.e., 20b) responsible

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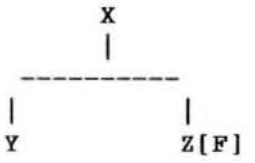
22 Feature covariation among categories takes place due to the feature instantiation principles discussed above. For instance, an ID rule 'X ---> Y, Z' where Y is the head admits the following tree where feature F is a HEAD feature and a FOOT feature at once and no FCR is involved with [F]:



Free instantiation of [F] on Z only would violate the FFP and the HFC because the FFP requires that the instantiated FOOT features of the mother be identical to the unification of the instantiated FOOT features of the daughters and because the HFC insists that the HEAD feature specifications of the mother be identical to those of the intersection of the daughters' HEAD feature specifications unless forced otherwise. Thus [F] ought to be present on X via the FFP and on Y via the HFC. That is, the FFP and the HFC force X, Y, and Z to covary with respect to [F] in the example.

(19b). That is, a lexical head can harmfully violate the FSD any time when its mother has a non-default head feature specification, and vice versa.

To cope with this situation, a distinction is made between lexical categories and non-lexical categories by the notion 'privileged' in GKPS: lexical categories are allowed to take on non-default values only if they covary with any of their sisters; phrasal categories are allowed to bear marked feature specifications if they covary with any other category in a local tree--including the mother. Thus, (21a) is correctly rejected but (21b) is accepted by our grammar --both local trees given here in phrase structure rule format-- where [PAS] is not mentioned in the licensing ID rules:[23]

```
21.a. VP[PAS] ---> V[PAS] + NP
   b. VP[PAS] ---> VP[PAS] + ADVP
```

1.2 Basic Description of Korean

In this section we will briefly overview some characteristics of the object language, comparing it with English. The overall review will center around typological peculiarities of Korean and the formulation of basic ID/LP rules

1.2.1 SOV Word Order

Basically, Korean has an SOV word order although a scrambled word order is allowed among argument NPs and PPs as long as the verb of a sentence is placed at the end of the sentence. Thus, sentence (22a) has five variants (22b - f) shown below:[24]

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[23] See GKPS (pp101-104, 119-121) for formalization and further details.

[24] The Yale Romanization System is employed to represent Korean examples since most of the current Korean linguistics literature is written in this sys-

22.a. John-i Mary-eykey chayk-ul cwu-ess-ta.
J.-Nom M.-Dat book-Acc give-PST-DCL
'John gave mary a book'

b. John-i chayk-ul Mary-eykey cwu-ess-ta.

c. Mary-eykey John-i chayk-ul cwu-ess-ta.

d. Mary-eykey chayk-ul John-i cwu-ess-ta.

e. chayk-ul John-i Mary-eykey cwu-ess-ta.

f. chayk-ul Mary-eykey John-i cwu-ess-ta.

These variants have slightly different pragmatic connotations although they deliver the same propositional meaning. This freedom of word order becomes an elusive element if one attempts to analyze Korean within a formal framework which is largely based on languages with stricter word order. This issue involves the constituency of VP: it is not clear whether object NP and V constitute a VP or not.[25]

1.2.2 Postpositional Language

Korean employs postpositional particles in place of prepositions. These particles may be classified into two subcategories: nominal particles and verbal particles.[26] As shown below, particles which carry some kind of grammatical informa-

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tem and it is keyboard convenient.

25 This is one of problems which has not been solved in Korean and Japanese linguistics, and seems to go beyond the scope of this dissertation, although most linguists working on Korean and Japanese assume that there is a VP node in the languages. It will be assumed here that Korean has VP, following Whitman (1984), Saito (1985), Saito and Hoji (1983), and Gunji (1987). It should be noted that Korean and Japanese are widely regarded as sharing the essential elements of syntax. I discuss the issue in section 1.3 below.

26 I use 'particles' instead of 'postpositions' since 'postpositions' may naturally be construed as having the exactly same function as English prepositions. Korean

tion are agglutinated to the stem:[27]

23.a. John-i tosekwan-eyse chayk-ul ilk-ess-ta.
Nom library- in book- Acc read-PST-DCL
'John read a book in the library'

b. John-un tosekwan-eyse-nun chayk-ul ilk-ess-nya?
Top library- in-Top book- Acc read-PST-Q
'As for John, did he read a book in the library?'

Nominal Particles	Verbal Particles
-i : Nominative Marker(Nom)	-ess-: Past Tense (PST)
-(l)ul: Accusative Marker(Acc)	-ta: Declarative Marker(DCL)
-eyse: 'at' or 'in'	-nya: Question Marker(Q)
-(n)un: Topic Marker(Top)	...
...	

1.2.2.1 Nominal Particles

Nominal particles can be further classified into three different kinds: case markers such as nominative particle **-i** or accusative particle **-(l)ul**, postpositions like **-eyse** 'in', and a set of particles known as delimiters which add pragmatic and some semantic information to the phrase to which they are attached. In (23), **-un** is a topic marker,[28] one of the delimiters; **-ul** is an accusative particle.

The classification of nominal particles assumed here is not without problem since there is no difference between NPs and PPs in appearance. Generally following the practice of Zwicky (1986) and Gunji (1987), we will classify NPs and

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particles include case markers as well as what are the counterpart of English prepositions.

27 For this reason, Korean is also called an agglutinative language.

28 Exactly what kind of information the topic marker **-un/-nun** carries does not concern us here. It can be translated as 'as for --' into English. **-Un** is used after consonant-final morpheme and **-nun** elsewhere.

PPs under the same category.[29] Somewhat differently from Gunji, but in line with Zwicky (1986), NP + Particle constructions will be considered to be NPs in Korean. The Korean language facts, however, speak for and against our position which subsumes PPs under NPs, and so the position we take here does not exclude other possibilities, as discussed below.

We first consider facts which are in accord with our position. Firstly, 'NP + case marker' and 'NP + postposition' are non-distinct in appearance and the particles are never used independently of 'bare' NP,[30] whether it is a case marker or postposition; that is, Korean postpositions can never be stranded, unlike English prepositions. Therefore, there is no good evidence for treating postpositions as separate words. (See (24c).) Thus, a separate categorization of NPs and PPs has little ground. Furthermore, there are reasons for subsuming PPs under NPs. Consider the following:

24.a. Nay-ka ku salam-kwa iyakihay-ess-ta.
I-Nom the person-with talk-PST-DCL
'I talked to the person'

b. Nay-ka __(*-kwa) iyakiha-n salam
I-Nom with talk-Rel[PST] person
'(the) person whom I talked to'

c. He is the person whom I like to talk to.

cf.*He is the person whom I like to talk.

---

29 Zwicky treats all NP + particle constructions as NPs, whereas Gunji treats them as PPs. The feature GR (Grammatical Relation) has been employed by the above two authors. Gunji's PP[GR SBJ] and Zwicky's [NP GR:1] correspond to subject NP, and PP[GR OBJ] and [NP GR:2] to object NPs.

30 'Bare' NP refers to an NP which is not marked with particles.

final) positions. Consonants with feature [+coronal] are neutralized to /t/ word-finally (__#) or before other consonants, as shown below:[33]

26.a.	kkoch # imca	[k^{+}dimca]	'flower + owner'
b.	kkoch # wi	[k^{+}dwi]	'flower + place above'
c.	kkoch-i	[k^{+}oc^{h}i]	'flower - Nom'
d.	kkoch-ey	[k^{+}oc^{h}e]	'flower - at'
e.	os imca	[odimca]	'clothes + owner'
f.	os an	[odan]	'clothes + place inside'
g.	os-i	[osi]	'clothes + Nom'
h.	os-ulo	[osulo]	'clothes + with'
i.	sat^{h} + akuni	[satakuni]	'lower part of body' (vulgar form)
j.	sat^{h} # wi	[sadwi]	'lower part of body + place above'
k.	sat^{h}-i	[sac^{h}i]	'lower part of body - Nom'
l.	sat^{h}-ey	[sate]	'lower part of body - at'
m.	wus + ukay	[usuke]	'laugh + nominalizing suffix('-er')'
n.	wus-ta	[wutta]	'laugh + DCL'
o.	wus-ela	[wusəra]	'laugh + IMP(erative)'

Neutralization may be thought of as a kind of anti-sandhi phenomenon in Korean between separate words.[34] As shown in (26a), (26b), (26e), (26f), and (26j), if a separate word (or a consonant) follows C[+coronal] the consonant is neutralized to /t/, which is further voiced to [d] intervocalically. However, as (26i) and (26m) show, a word-internal morpheme does not change the sound value of the stem consonant. Thus, the neutralization can serve as good evidence for the assignment of a word boundary in Korean. Now, if particles are placed after C[+coronal] as in (26c), (26c), (26g), (26h), (26l), and (26o), the consonant in question retains its orig-

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33 '+' in the data designates a morpheme boundary and '#' a word boundary. Also note that /t/ is voiced intervocalically, and palatalized before /i/ within a word boundary. Further note that aspiration is phonemically relevant in Korean.

34 The reason that I call this an anti-sandhi rule is that the neutralized form is felt to be more difficult to produce for native speakers.

inal sound value, providing evidence that particles are within the word boundary.[35] This would then imply that particles do not occupy a separate node in the syntactic tree, but count as morphological units only. Then we are left with a morphological problem: whether 'Noun + particle' is built into N (probably not NP since NP is considered an 'syntactic' projection of lexical N)[36] or something else which is ultimately dominated by PP. In our grammar it seems to be impossible to project **a word** consisting of 'Noun + particle' into PP in a way in which the particle occupies a separate node.[37] This forces us to categorize 'N + particle' under NP.

There are, however, reasons for making some distinction between 'noun + case marker' and 'noun + oblique case marker'. First, postpositions may not be deleted, but case markers can be deleted in colloquial speech, in which case the basic word order becomes a crucial indicator of grammatical relations. This is illustrated as follows:[38]

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35 Palatalization provides similar evidnece. Korean /t^h/ transcribed as 'th' is palatalized before /i/ word-internally but not across word boundaries:

soth # imca	[sodimca]	'kettle + owner'
soth # an	[sodan]	'kettle + place inside'
soth-i	[soc^{h}i]	'kettle + Nom'

36 There are arguments that morphology involves phrasal affixation as in Sadock (1980, 1986), Anderson (1982), and J.-M. Kim (1988) as opposed to Chomsky (1970), Aronoff (1976), Selkirk (1982), and Jensen and Jensen (1984) which we assume here.

37 Thus, under the assumption that 'Noun + particle' is a lexical word, one of the conceivable ways that PP can dominate the string in question is to allow morphology to generate phrasal categories, which is not the position we adopt here.

38 '!' is to indicate that the translation marked by '!' is not available.

27.a. Ne-(ka) sakwa-(lul) coaha-ni?
You-(Nom) apple-(Acc) like-Q
'Do you like apples?'

b. Ne-(ka) John-(ul) mana-ass-ni
you-(Nom) J.-(Acc) meet-PST-Q
'Did you meet John?'
'!Did John meet you?'

We have ill-formed sentences if a postposition is deleted, as in (28):

28.a. *Ne tosekwan kongpwuha-ni?
you library study-Q
'Do you study in the library?'

a'. Ne tosekwan-eyse kongpwuha-ni?
in
'Do you study in the library?'

b.*Na John pihayngki o-ass-ta.
I airplane come-PST-DCL
'I came by air with John.'

b'. Na John-kwa pihayngki-lo o-ass-ta
I with airplane- by come-PST-DCL
'I arrived by airplane with John'

b". Na John pihayngki-lo o-ass-ta.
I airplane by come-PST-DCL
'I arrived in John's airplane'

(28a) is not admissible and, in contrast, (28a') is well-formed. (28b) is bad while (28b') is well-formed. It is interesting to see that (28b"), as the translation shows, is more readily parsed as a possessive construction where the possessive marker **uy** is possibly deleted.[39] That is, case markers have a lower functional load than

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39 Possessive marker -**uy** can be used to mark an adnominal NP, as shown below:

Na-nun John-(uy) pihangki-lo o-ass-ta.
I-Top J.-(Gen) plane-by come-PST-DCL
'I arrived in John's airplane'

postpositions and can be deleted.

Secondly, NPs with case markers trigger morphological variation of predicate categories while NPs marked with postpositions do not. As shown below, NPs headed by certain nouns referring to a person conventionally deemed worthy of respect or honor require their predicate to manifest an honorific form: when the subject of the sentence has the property in question as in (29a), the honorific infix **-si-** ('subject-honorific' infix) is inserted almost without exception; when the direct object or the indirect object has the property a suppletive type of honorific form is used as in (29b) and (29c). The verb stem **poy** and **tuli** are 'object-honorific' forms of **po** and **cwu**, respectively. As shown in (29b') and (29c'), if there are two NPs which have the property, two separate honorific morphemes are required:

29.a. **Halapenim-kkeyse** sinmun-ul ilk-**si**-n-ta.
Grandfather-Nom newspaper-Acc read-HON-PRES-DCL
[+HON]
'Grandfather reads a newspaper'

cf. ***Halapenim-kkeyse** sinmun-ul ilk-n-ta.
Grandfather-Nom newspaper-Acc read-PRES-DCL
[+HON]
'Grandfather reads a newspaper'

cf. Nay chinkwu-ka sinmwun-ul ilk-(*si)-n-ta.
my friend-Nom newspaper-Acc read-(*HON)-PRES-DCL
'My friend reads newspaper'

b. Nay-ka halapenim-ul **poy**-ess-ta.
I-Nom grandfather-Acc meet[+HON]-PST-DCL
'I met Grandfather (at hospital)'

---

cf. (28b")

cf.*Nay-ka halapenim-ul po-ess-ta.
I-Nom grandfather-Acc meet-PST-DCL
'I met Grandfather'

cf. Nay-ka chinkwu-lul po-ass-ta.
I-Nom friend -Acc meet-PST-DCL
'I met my friend'

c. Nay-ka halapenim-kkey sinmun-ul tuli-ess-ta.
I-Nom grandfather-dat newspaper-Acc give[+HON]-PST-DCL
'I gave a newspaper to Grandfather'

cf.*Nay-ka halapenim-kkey sinmun-ul cwu-ess-ta.
I-Nom grandfather-DAT newspaper-ACC give-PST-DCL
'I gave a newspaper to Grandfather'

cf. Nay-ka chinkwu-eykey sinmwun-ul cwu-ess-ta.
I-Nom friend-Dat newspaper-Acc give-PST-DCL
'I gave a newspaper to my friend'

On the other hand, the same nouns marked with non-case markers do not seem to be prominent enough to evoke such type of dependency among categories, as shown below:

30.a. John-i ku-uy halapenim-kwa hamkkey kel-ess-ta
SM he-GEN grandfather-with together walk-PST-DCL
[+HON]
'John walked together with his grandfather'

b. Halapenim-ulopwute pyenci-ka o-ass-ta
Gr. father-from letter-SM come-PST-DCL
[+HON]
'A letter came from Grandfather'

c. John-i Mary-wa caki halapenim-eytayhaye iyakiha-yess-ta.
SM with self grandfather-about talk-PST-DCL
[+HON]
'John talked to Mary about his grandfather'

Thirdly, case markers do not cooccur with the topic marker, while oblique case particles do.[40] In (31a) the subject is marked with the topic marker, in (31b) the object, and in (31c) both the subject and the object. As shown in (31d) and (31e), the topic marker cannot cooccur with case markers, whereas it can with oblique-case particles as shown in (31f):

```
31.a. John-nun Mary-lul  salangha-n-ta.
          TOP      OM   love-PRE-DCL
      'As for John, (he) loves Mary'

   b. John-i Mary-nun salangha-n-ta.
             TOP
      'As for Mary, John loves (her)'

   c. John-un     Mary-nun sarangha-n-ta
         TOP          TOP
      'As for John,  as for Mary, (he) loves (her)'


   d. John-(*un)-i   Mary-(*nun)-ul  sarangha-n-ta
         TOP-SM          TOP  OM

   e. John-i-(*un)   Mary-ul-(*nun)  sarangha-n-ta
        -SM-TOP         OM- TOP

   f  John-i Mary-wa-(nun)   Canada-ey-(nun) ka-ass-ta
         SM     with-(TOP) C.     to-(TOP) go-PST-DCL
      'As for Mary, as for Canada, John went there with her'
```

The differences presented above seem to give us motivation enough to keep NP[CASE] distinct from NP[PFORM].[41] That is, it seems that there are a few

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40 This property is very similar to the deletability of case markers. Dative marker 'eykey' may cooccur with the delimiters. This seems to indicate a marginal status of 'eykey' as case marker.

41 NP[CASE] is only for an expository purpose. In practice, it should be like NP[+NOM], NP[+ACC], etc. NP[PFORM] is also for the convenience of exposition. It has a form like NP[PFORM -ey] where -ey roughly corresponds to English 'in' or 'at'. N.B. PFORM stands for Particle Form, and is not identical to the PFORM feature used in GKPS, which is a HEAD feature and used only with the category P ([-N, -V]).

cases where the grammar deals with NP[CASE] only.

1.2.2.2 Verbal Particles

Along with nominal particles, Korean has verbal particles which are placed after the verb stem and carry certain information about the grammatical status of the verbal category. For instance, -**myen** denotes implication, as in (32a), -**ko** conjunction and -**ass/-ess** past tense as in (32b), -**ta** declarative mood, as in (33a) and (32b), etc.

32.a. Ku-ka ka-**myen** na-to ka-kess-ta.
he-SM go-if I-too go-will-ta.
'If he goes, I will also go'

b. Ku-ka piano-to chi-**ko** nolay-to ha-yess-ta
he-SM too play-and song-too do-PST-DCL
'He played piano and sang songs, too.

c. ka-si-ess-keyss-ta 'go-HON-PST-MOD-DCL'
ka-ess-keyss-ta 'go-PST-MOD-DCL'
ka-si-keyss-ta 'go-HON-MOD-DCL'
ka-si-ess-ta 'go-HON-PST-DCL'
ka-si-ta 'go-HON-DCL'
ka-ess-ta 'go-PST-DCL'
ka-keyss-ta 'go-MOD-DCL'
ka-ta 'go-DCL'

(HON: honorific infix, MOD:Modal 'may')

As is the case with nominal particles, 'verb stem + verbal particles' may best be seen as a word with no internal word boundary.

Because Korean verbal particles involving the embedding and termination of phrasal verbal categories are very complex and because they become crucial factors in later discussions, we shall attempt here to present Korean verbal morphology in some detail. Korean employs verbal-terminating suffixes in order to signal

the termination of sentences, such as **-ta** 'declarative sentence marker' (=[VTERM DCL]), **-kka/nya** 'interrogative marker' (=[VTERM Q]), **-la** 'imperative marker' (=[VTERM IM]), etc., as shown below:

33. Verbal-Terminating Suffixes (VTERM)
   a. Na-nun ku chayk-ul ilk-ess-ta.
      I-Top the book-Acc read-PST-DCL
      'I read the book'

   b. Ne-nun ku chayk-ul ilk-ess-nya?
      you-Top the book-Acc read-PST-Q
      'Did you read the book?'

Tensed S such as (33a) and (33b) above are considered to contain [VTERM -ta] and [VTERM -nya] as HEAD feature specifications, respectively.

Korean also uses two types of particles in order to embed verbal categories. The first type is a kind of inflectional suffix which is sensitive to the embedding verb. For instance, the stative auxiliary verb **sip**[42] requires the embedded verb to contain the suffix **-ko** as in (34a), whereas 'persuade'-type verbs oblige the embedded verb to contain the suffix **tolok** as in (34b):

34. Verbal-Embedding Suffixes I (VEMBD)
   a. Na-nun chayk-i ilk-**ko** sipta.
      I-Top book-Nom read-VEMBD want
      'I want to read the book'

   b. Na-nun Mary-eykey ku chayk-ul ilk-**tolok** coenhayssta.
      I-Top M.-Dat the book-Acc read-VEMBD advised
      'I advised Mary to read the book'

Thus, the VP embedded by the desiderative AUX will contain feature [VEMBD -ko] as a HEAD feature.

---

42 See Section 2.3 for stative verbs.

Classified under verbal embedding suffixes are what are traditionally known as nominalizing suffixes[43] such as **ki** and **-m**, as shown in the (35):

35. Verbal Embedding Suffixes II (VEMBD)

a. Nay-ka keki-ey ka-ki-ka ku-ka yeki-ey
I-Nom there-to go-VEMBD-NOM he-Nom here-to

o-ki-pota elyepta.
come-VEMBD-than is-difficult
'For me to go there is more difficult than him coming here'

b. Na-nun [ku chayk-ul/-ka il- ki- ka] silta.
I-Top the book-Acc/-Nom read-VEMBD-Nom] dislike
'I dislike to read the book'

c. Ku-nun kongpwuha-m -ul culkinta.
he-Top study -VEMBD-ACC enjoy
'He enjoys studying'

Thus, the embedded V" in (35a) is assumed to contain [VEMBD ki].

The other type of embedding particle is similar to the English complementizer 'that', and is usually attached to tensed verbs.[44] The particle **-ko** is assumed to contain a feature [COMP ko] and the feature is specified in the V"-type complement of verbs such as **malha-** 'say', **mwut-** 'ask', **cisiha-** 'direct/order' etc, as shown below:

---

43 See the reasons for treating these suffixes as embedding suffixes in sections 2.3.2 and 2.3.3. They are similar to the English gerundive suffix to some degree.

44 There are a few reasons for distinguishing VEMBD and COMP. Certain features (e.g., [+STATIVE]) can cooccur with VEMBD, but are incompatible with [COMP]. Another crucial difference is that VEMBD is directly attached to the stem of the verb whereas COMP is affixed to the tensed V after the verbal-terminating particle. See section 2.3.2 for details.

36. Complementizer (COMP)

a. Na-nun John-i Mary-lul man-ass-ta-**ko** mayhayssta.
I-Top J.-Nom M.-Acc meet-PST-DCL-COMP said
'I said that John met Mary'

b. Na-nun Sue-eykey John-i Mary-lul man-ass-nya-**ko** mwulessta.
I-Top S.-Dat J.-Nom M.-Acc meet-PST-Q-Comp asked
'I asked Sue if John met Mary'

Thus, in Korean the verb **malha-** 'say' will be subcategorized for S[COMP ko] where COMP is a HEAD feature; 'ask' for S[VTERM Q][COMP ko]. VTERM and VEMBD are mutually exclusive and so FCR 27: ~(VTERM & VEMBD) is needed.

1.2.2.3 Morpho-Syntactic Features

Now, given a verb stem, we should be able to generate all the agglutinated forms (i.e., all the forms in (32c)) by some rules or principles, since the lexicon may not iterate all the agglutinated forms for each verb.

We will assume in the morphology the schema in (37) below, which resembles the treatment of English [CONJ] or [COMP] given in GKPS.[45]

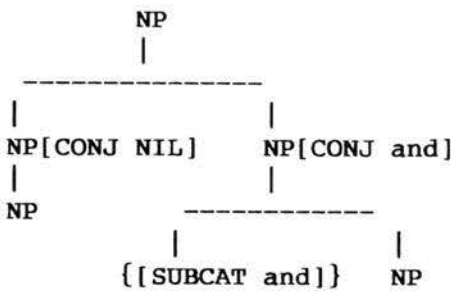
---

45 In GKPS, a subset of coordinate constructions are sanctioned by the following rule:

a. X ---> H[CONJ NIL], H[CONJ and]

Thus, 'NP ---> NP[CONJ NIL] + NP[CONJ and]' is one of the projections of (a) and is further expanded as follows:

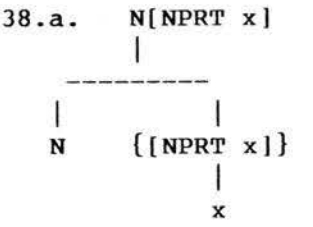
b.



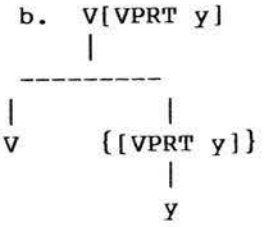
37. X^0[PRT] ---> H, {[PRT]}[46]

This schema will admit the following morphological structures:

38.a.



b.



NPRT: Nominal Particle Feature, VPRT: Verbal Particle Feature

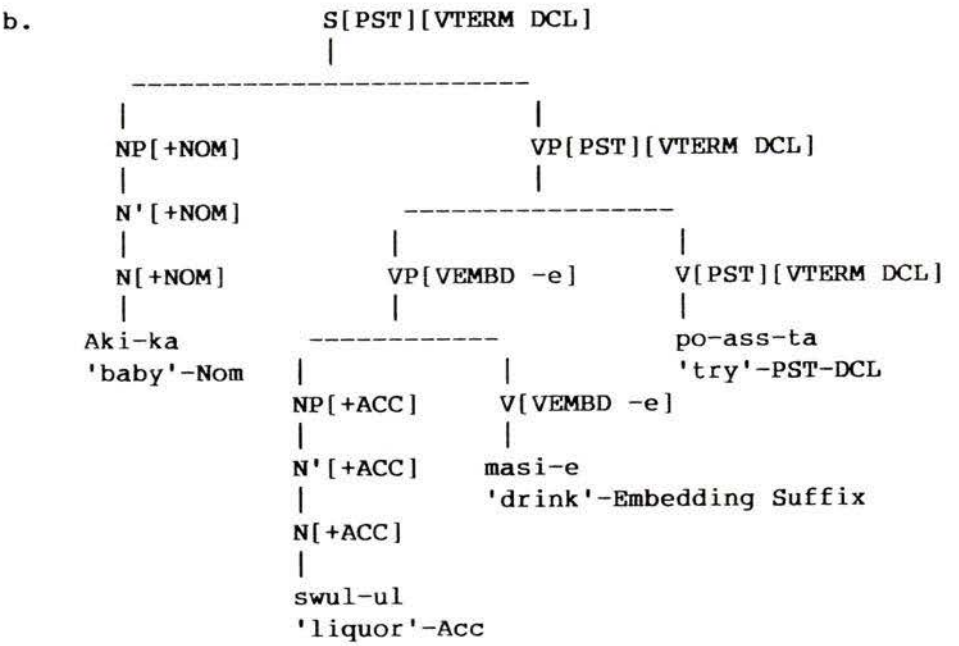
We also need a few FCRs to place the right particles into the right categories, as will be introduced later. Furthermore, these particle features should be considered HEAD features in syntax, since they need to appear in the phrasal level through the lexical level, (and further to morphology) as shown below:

39.a. Aki-ka swul-ul masi-e po-ass-ta.
baby-Nom liquor-Acc drink-VPRT try-PST-DCL
'(My) Baby tried drinking liquor'

|
and

46 PRT stands for particle features.

b.



40. ID rules employed in (39)

a. S ---> X", H[-SUBJ]

b. VP ---> NP, H (drink)

c. VP ---> VP[VEMBD e], H (try)

FCRs and FSDs relevant to (39)[47]

d. FCR 1: [NPRT] ⊃ ([+N] OR [VEMBD ki])

e. FCR 2: [VPRT] ⊃ ([-N] & [+V])

f FCR 8: VP[AGR XP] ⊃ VP[AGR XP[-ACC]]

g. FCR 27: ~([VEMBD] & [VTERM])

h. FSD 1: ~([PFORM) OR [GEN]) ⊃ [-NOM]

i. FSD 9: ~ [PFORM]

N.B. NPRT: Nominal Particle Feature VPRT: Verbal Particle Feature

---

47 The FCRs and FSDs cited above will be discussed in more detail later.

[+NOM], for instance, should be related to the subject NP[48] and [+ACC] to the object NP. In the case of VEMBD, it is specified in an ID rule as shown (40c) and must be transmitted down to the lexical V, as shown in (39b), and further into the morphology.

1.2.3 Head-Final Language

Korean is more consistently head-final than English is head-initial. LP rules shown below capture this characteristic:[49]

41. LP rules of Korean

a. $X^2 < X^1 < X^0$
b. $X^2[+N] < V^2[\sim SLASH] < V^2[SLASH]$

The above LP rules do not express the head-final character of Korean directly, but it can be gleaned from the fact that the head of a phrase has a lower bar level than its modifier, which is a maximal projection[50] in most cases, and that in other cases, i.e., if the head is also a maximal projection, the head is always V" and it follows other categories without exception. Some basic structures are shown below:[51]

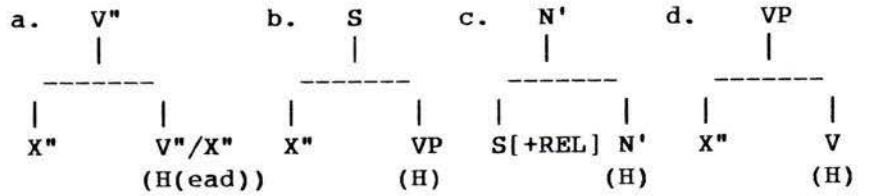
---

48 FCR 8 forces the subject NP to contain [-ACC], and this feature allows free instantiation of [+NOM], but blocks [+ACC]. This 'indirect' introduction of [+NOM] allows us to account for cases where subject markers are absent as in (27) and for the free introduction of nominative focusing which is the subject of the next chapter. A similar statement can be made about [+ACC].

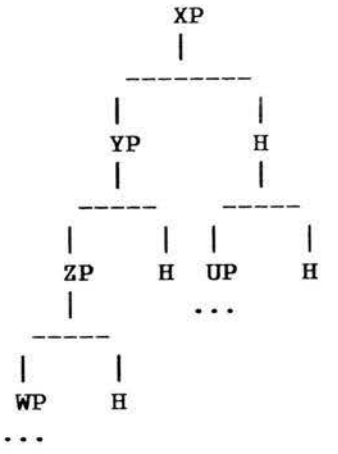
49 If LP rules were allowed to mention H(ead), (41a) and (41b) could be collapsed into a single rule '~H < H'. However, this is not possible in GKPS system since LP is a statement of linear order among 'categories in the tree' and H is not a category. $V^2[\sim SLASH] < V^2[SLASH]$ in (41b) is to account for the cases where embedded S or VP is preposed.

50 There seems to be no determiner in Korean.

51 In (40a), V" is distinguished from VP: V" can be further specified as

42. a. 

This property is related to the left-branching character of Korean sentence structure. Namely, embedding of a structure is always to the left of the head as shown below schematically: (H(ead) in this tree is only for expository purposes: H in GKPS is simply a place holder, not a category label, and does not appear in the tree.)

43. 

1.2.4 Some Other Characteristics

There are some other minor features which characterize Korean. Firstly, Korean Wh-words do not necessarily appear in sentence-initial position. Furthermore, interrogative sentences do not involve any auxiliary inversion, but simply require the addition of a question particle to the end of the sentence (or to the

---

'S'(=V"[+SUBJ], a verbal phrase with a subject) or 'VP'(=V"[-SUBJ], a verbal phrase without a subject). Thus, the tree (42a) can be individuated as trees where V" becomes either S or VP. S[+REL] in (42c) is for relative clauses.

end of the verb), as shown below:

44.a. John-i Mary-lul manna-ass-ta.
J-Nom M-Acc meet-PST-DCL
'John met Mary'

b. John-i **nwuku**-lul manna-ass-**nya**?
J-Nom Who-Acc meet-PST-Q
'Who did John meet?'

c. John-i Mary-eykey chayk-ul cwuessta.
J.-Nom M.-Dat book-Acc gave
'John gave a book to Mary'

d. John-i **nwuke-eykey** mwues-ul cwuess-nya.
J.-Nom who-Dat what -Acc gave-Q
'What did John give to whom?'

e. **Nwuke-eykey** John-i mwues-ul cwuess-nya.
Who-Dat John-Nom what -Acc gave-Q
'What did John give to whom?'

As the example shows, Wh-words can occupy any position a non-WH word can. What renders (44b), (44d), and (44e) interrogative is the particle **-nya** attached to the end of the string.

Korean employs honorific particles in order to show respect to a referent within a sentence and to the listener. The honorific system will be further discussed in chapter 4, and we will enumerate some relevant examples:[52]

45.a. **Halapeci-kkeyse** sinmun-ul ilku-**si**-n-ta. (=29a)
Grandfather-SM(HON) newspaper-Acc read-HON-PRES-DCL
'Grandfather reads a newspaper'

cf. Nay chinkwu-ka sinmwun-ul ilk-nun-ta.
my friend-Nom newspaper-Acc read-PRES-DCL
'My friend reads newspaper'

---

52 See examples in (2) through (6) of Chapter 4 and related discussions.

b. Nay-ka halapeci-lul **poy**-ess-ta. (=29b)
I-Nom grandfather-Acc meet(HON)-PST-DCL
'I saw Grandfather'

cf. Nay-ka chinkwu-lul po-ass-ta.
I-Nom friend -Acc see-PST-DCL
'I saw my friend'

c. Nay-ka halapeci-kkey sinmun-ul **tuli**-ess-ta. (=29c)
I-Nom grandfather-Dat(HON) newspaper-Acc give(HON)-PST-DCL
'I gave a newspaper to Grandfather'

cf. Nay-ka chinkwu-eykey sinmwun-ul cwu-ess-ta.
I-Nom friend-Dat newspaper-Acc give-PST-DCL
'I gave a newspaper to my friend'

d. Chinkwu-ka sinmun-ul ilk-**supni**-ta.
friend-Nom newspaper read-POL-DCL
'My friend reads a newspaper'
(This can be uttered to anyone socially higher
than the speaker)

d'. Chinkwu-ka sinmun-ul ilk-nun-ta.
friend-Nom newspaper-Acc read-PRS-DCL
'My friend reads a newspaper'
(This can be uttered to anyone socially lower
than the speaker)

We can extract at least two dimensions of the honorific system. (See Chapter 4 for further details.) One is involved with sentence-internal referents, as in (45a), (45b), and (45c), where the subject, the direct object, and the indirect object refer to exalted beings. The other is a kind of politeness dimension, as shown in (45d), where politeness is expressed toward the discourse participant, which is sentence-external and which in this case is a listener.

Korean has no element corresponding to an English relative pronoun except for a small set of verbal particles (MDF, below), { -nun, -n, -ul }. These particles signal the termination of a relative clause (or equivalently the onset of a nominal

head), as shown in (46). Another contrastive feature is that Korean relative clauses allow multiple gaps as shown in (46b) and (46c), while English does not:[53]

46.a. [John-i __ sao-n] sayngsen-ul Mary-ka yolihay-ess-ta.
J.-Nom buy-MDF(PST) fish-Acc M.-Nom cook-PST-DCL
'Mary cooked the fish which John bought __'

cf. John-i sayngsen-ul sa-ss-ta.
Nom fish Acc buy-PST-DCL
'John bought fish'

b. Na-nun [[[__$_i$ __$_j$ salangha-nun] koyangi$_j$-ka cwuke-se]
I-Nom love-MDF(PRES) cat-Nom die-because

___$_i$ sulpehanu-nun] ai$_i$-lul po-ass-ta.
feel-sad-MDF(PRES) child-Acc see-PST-DCL
'I saw a child who felt sad [because the cat [__ loved __] died]'

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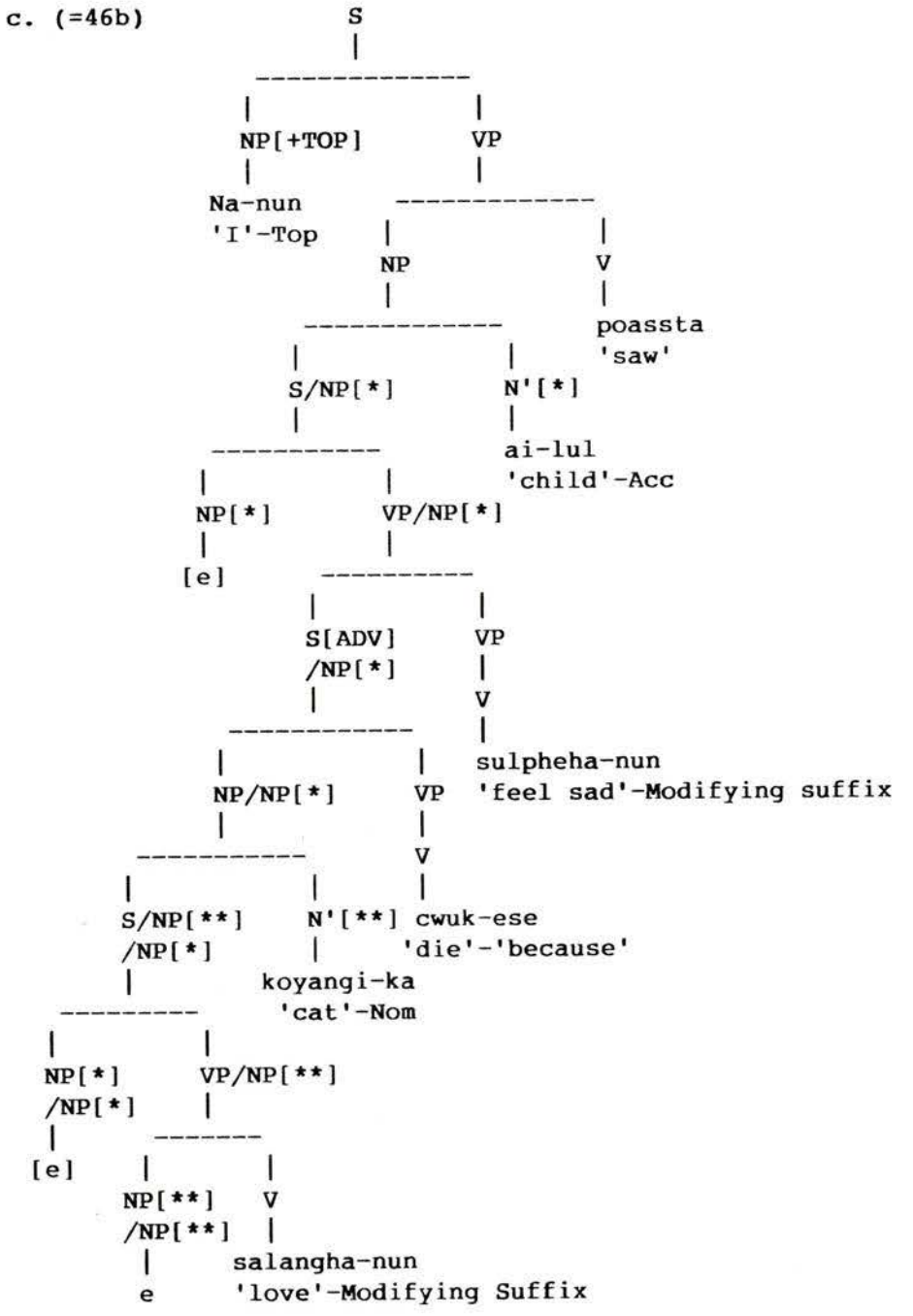
53 See Kang (1986), Hong (1985), Kuno (1973), and Gunji (1987) among others.

c. (=46b)


S
NP[+TOP]
VP
Na-nun
'I'-Top
NP
V
poassta
'saw'
S/NP[*]
N'[*]
ai-lul
'child'-Acc
NP[*]
VP/NP[*]
[e]
S[ADV]
/NP[*]
VP
V
sulpheha-nun
'feel sad'-Modifying suffix
NP/NP[*]
VP
S/NP[**]
/NP[*]
N'[**]
cwuk-ese
'die'-'because'
koyangi-ka
'cat'-Nom
NP[*]
/NP[*]
VP/NP[**]
[e]
NP[**]
/NP[**]
V
salangha-nun
'love'-Modifying Suffix
e

1.3 VP Constituency and Word Order

One of the most difficult issues in the syntactic analysis of a language with fairly free word order is whether the language in question has a VP constituent or not. Although so-called configurational languages such as English are shown to exhibit a good degree of evidence for VP constituency, languages which are claimed to be non-configurational usually manifest some degree of freedom in word order which does not appear to fit well in formal frameworks which are largely based on configurational languages. It is difficult to postulate VP constituency in those cases where the word strings which can possibly constitute a VP may not be adjacent to each other, as we can see in (47c), (47d), (47e), and (47f):

47.a. John-i Mary-eykey chayk-ul cwu-ess-ta.
J.-Nom M.-Dat book-Acc give-PST-DCL
'John gave Mary a book'

b. John-i chayk-ul Mary-eykey cwu-ess-ta.

c. Mary-eykey John-i chayk-ul cwu-ess-ta.

d. Mary-eykey chayk-ul John-i cwu-ess-ta.

e. chayk-ul John-i Mary-eykey cwu-ess-ta.

f. chayk-ul Mary-eykey John-i cwu-ess-ta.

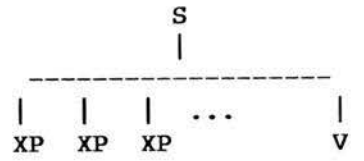
Word order in (47a), 'subject, indirect object, direct object, verb' is considered an unmarked sequence and the other linear orders are considered to be responsible for slightly different pragmatic connotations which those sentences manifest. As we can gather from the examples in (47), the only requirement on word order is that the verb be placed in the sentence-final position. Out of six possible sentences with word order variation, only two (i.e., (47a) and (47b)) seem to be compatible with a VP hypothesis.

In this dissertation, we will have little to say about VP constituency, and will assume that there is a VP in Korean although there is no strong evidence for it. There are, however, a few minor points worth mentioning in connection with VP constituency, which favour our position.

The non-configurational approach which is argued for by Hale (1980, 1983) in Walpiri, and by Farmer (1984) in Japanese has an advantage of not having to mention anything about constituency, since the following flat structure would then be postulated for Korean.

48.a. S ---> XP^* V

b.



Therefore, all the examples in (47) are sanctioned by a single rule (48a) which sanctions a structure like (48b).[54] This flat analysis, however, has some problems with respect to word order as shown in (50). Let us consider examples in (49) and (50). The set of examples in (47) may be compatible with the flat hypothesis, but the paradigm in (50) defies it:

---

54 Hale (1983) posits a separate structure in the lexicon called **lexical structure** which takes care of argument structure of a verb. This **lexical structure** contains an appropriate number of arguments to be associated with the node in the tree, e.g., with XP in (48b). The association is **free** in that there is no requirement on sequential order and some nodes may not be associated with any argument, being empty. Thus, the free word order fact is simply an entailment of the lack of VP in syntax.

49.a. Na-nun John-eykey [ku chayk-ul]$_i$ ilke-po-la-ko
I-Top J.-Dat that book-Dat read-try-IMP-Comp
coenhyssta.
advised
'I advised John to read the book'

b. Na-nun [ku chayk-ul ilke-po-la-ko]$_i$ John-eykey __$_i$
coenhyssta.

c. [Ku chayk-ul ilke-po-la-ko]$_i$ na-nun John-eykey __$_i$
coenhyssta.

50.a. Na-nun ku chayk-ul John-eykey ilke-po-la-ko
I-Top that book J-Dat read-try-IMP-Comp
coenhayssta
advised
'I advised John to read that book'

b. [Ku chayk-ul]$_i$ na-nun John-eykey __$_i$ ilke-po-la-ko
coenhayssta.

c. [Ku chayk-ul]$_i$ na-nun __$_i$ ilke-po-la-ko John-eykey
coenhayssta.

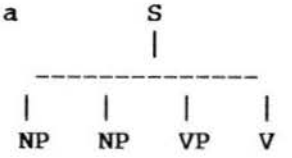
d.*Na-nun John-eykey __$_i$ ilke-po-la-ko [ku chayk-ul]$_i$
coenhayssta.

e.*Na-nun __$_i$ ilke-po-la-ko John-eykey [ku chayk-ul]$_i$
coenhayssta.

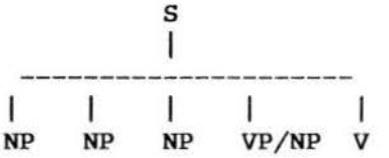
f.*__$_i$ Ilke-po-la-ko na-nun [ku chayk-ul]$_i$ John-eykey
coenhayssta.

Examples in (49) would be represented by a single flat structure like (51a) (shown below) in which the linear order among phrasal categories does not count. On the other hand, sentences in (50) except (50a) should have some type of extraction to take care of the discontinuity among the constituents of the embedded VP and scrambled word order between **ku chayk** 'that book' and **ilke-po-la-ko** 'to try to read'. This would give us a structure like (51b):

51.a



b.



Think of (51b) as a kind of schema which stands for twenty-four instances of sentences with different linear order among phrasal categories and a subset of those sentences are in (50). The problem is that some of those twenty-four sentences are ill-formed as marked in (50d), (50e) and (50f). These examples seem to undermine some advantages of the non-configurational approach, and any attempt to exclude those deviant sentences would be very ad hoc or cumbersome. This type of word order intricacy, however, would be more easily accounted for by a configurational approach which assumes only left-ward dislocation by use of a SLASH feature, as will be shown below.

Another point is that the use of a kind of pro-form **kuleta** meaning 'do-so' may be another piece of evidence for VP, if the pro-form is a pro-VP which has the feature specification {<N ->, <V +>, <BAR 2>}:

52.a. John-i Mary-lul ttayli-nikka Sue-**to** **kulay**-ss-ta.
J.-Nom M.-Acc hit-as S.-too do-so-PST-DCL
'As John hit Mary, Sue (hit Mary), too'
(*As John hit Mary, (John hit) Sue, too.)

b. John-i Mary-eykey chayk-ul cwu-ca, Sue-**to**
J.-Nom M.-Dat book-Acc give-as-soon-as Sue-too
kulay-ss-ta
do-so-PST-DCL
'As soon as John gave the book to Mary, Sue did, too'

c. John-i Mary-lul kitali-l ttay Sue-**to** **kulay**-ss-ta.
J.-Nom M.-Acc wait REL time S.-too do-so-PST-DCL
'When John waited for Mary, Sue did , too'

In Korean **-to** is not a case marker but considered a delimiter meaning 'too' or 'also'. Thus, if a delimiter is attached to NP, it could in principle be interpreted either as a subject or as an object. What happens in (52) is that the 'NP-delimiter' is always interpreted as a subject but not as an object. This seems to suggest that the verb is more closely structured with the object than with the subject.[55] Along with (52), a quasi-passive construction in Korean provides evidence for VP in Korean. Let us contrast (53a) with (53b):

53.a. John-i Mary-lul palkyenha-ess-ko, Sue-to **kulay**-ss-ta
J.-Nom M.-Acc find-PST-CONJ S.-too do-so-PST-DCL
'John found Mary and Sue did, too'

b. Mary-ka John-eykey palkyentoy-ess-ko, Sue-to **kulay**-ss-ta
M.-Nom J.-Dat is-found-PST-CONJ S.-too do-so-PST-DCL
'Mary was found by John and Sue was, too'

cf. John found Mary and Sue did, too.

cf.*Mary was found by John and Sue did, too.

If (53b) were unacceptable, our previous argument would be void.[56] (53b), however, is perfectly grammatical. The point is that some pro-forms such as English 'do (so)' can be used only when the thematic role associated with the subject is an

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55 A similar argument is found in Gunji(1987) for Japanese:

a. Ken-ga Naomi-wo home, mata Marie-mo soo-si-ta (Gunji 1987:23)
K.-Nom N.-Acc praise and M.-too so-do-PAST
'Ken praised Naomi, and Mary did so (praised Naomi), too'

In Japanese **mo** is not a case marker and so **Marie-mo** can possibly be interpreted either as a subject or an object. What Gunji argues is that **Marie-mo** can be construed as a subject only and that such an interpretation is more readily available when the 'soo-si-ta' acts as a pro-VP, replacing a VP constituent.

56 I owe this idea to Robert Levine.

active agent somehow. If the Korean pro-form in question is similar to 'do-(so)' in English, the use of pro-form would intrinsically require that the NP concatenated with it be the agent of the active verb. This would then mean that our argument may not have strictly syntactic grounds. However, as shown in (53b), **kulay** can be used regardless of voice, unlike 'do-so' in English.

Before closing this section, we review - rather than argue for - recent analyses of Japanese VP conducted in a version of GB framework and in an extended version of GPSG, and the related issue, the word order problem.

Largely due to Whitman (1982), Saito and Hoji (1983), and Saito (1985), it is generally accepted by the linguists working on Japanese and Korean that the two languages are best seen as configurational at some level of syntactic representation.[57] These authors' arguments are based on the coreference possibility between pronouns and their antecedents, on crossover phenomena, and on quantifier floating. Their arguments, however, are theory-internal in many respects and their treatment does not capture Japanese word order facts adequately, as will be discussed later in this section. We review Saito's (1985) argument briefly. Consider the following:

54.a. John$_i$-ga [$_{NP}$ Mary-ga kare$_i$-ni okutta tegami]-o
J. -nom M. -nom he -to sent letter-acc
mada yonde inai (koto)
yet read have-not fact (Saito 1985: 44)
(John has not read the letter Mary sent to him)

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57 Note that Japanese facts can be replicated in Korean and principles found in Japanese can be applied in Korean syntax.

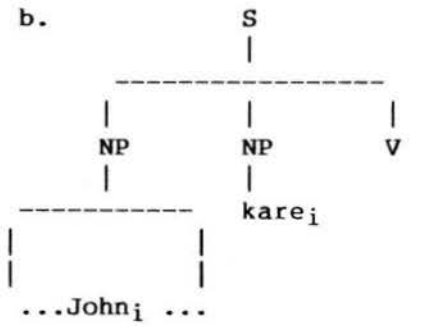
b.*Kare$_i$-ga [$_{NP}$ Mary-ga John$_i$-ni okutta tegami]-o
he-nom M.-nom J.-to sent letter-acc
mada yonde inai (koto)
yet read have-not fact
(He does not read the letter Mary sent to John.)

c. John$_i$-kara okane-o moratta hito-ga kare$_i$-o suisensita.
from money-Acc received person-nom he-acc recommended
'The person who received money from John recommended him.

Assuming the condition (55a) below, Saito (1985) argues that the contrast between (54b) and (54c) is attributed to difference in 'c-command' which in turn results in the lack and the presence of pronominal Binding in (54b) and (54c), respectively. This account can be available if VP is assumed to exist in Japanese. If it were not for a VP, (54c) should be ruled out by (55a) since it would have the structure (55b):

55.a. A pronoun cannot c-command its antecedent (Saito 1985: 45)

b.



Another point made by these authors involves crossover. As a generalization for crossover which Saito claims is:

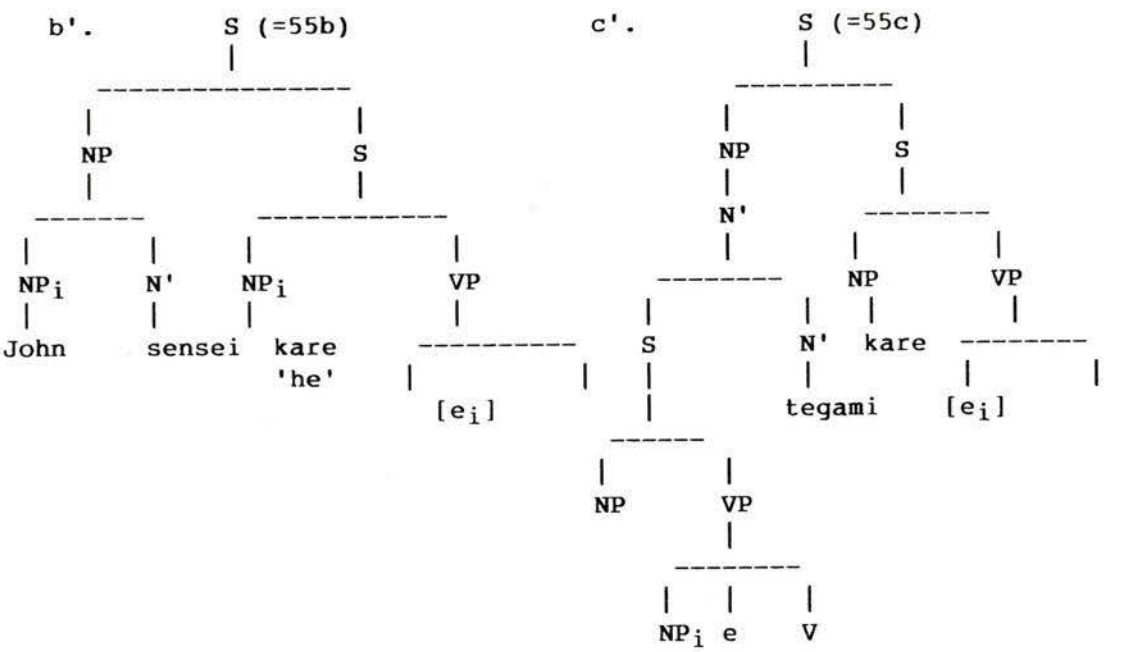
> When the object precedes the subject, a pronoun in the subject position can take a name contained in the object as its antecedent only if the name is embedded "deeply enough" within the object. (Saito: 52)

This principle is claimed to be responsible for the following examples in (56):

56.a.John$_i$-no sensei-ga kare$_i$-o (zibun-de) syookaisita (koto)
J.-gen teacher-nom him-acc self-by introduced fact
(John's teacher introduced him (to the audience))

b.??/?* John$_i$-no sensei-o kare$_i$-ga (zibun-de)
J. -gen teacher-acc he-nom self-by
syookaidita (koto)
introduced fact
(??/?* John's teacher, he introduced (to the audience))

c. [$_{NP}$ Mary-ga John$_i$-ni okutta tegami]-o kare$_i$-ga
M.-nom J.-to sent letter -acc he-nom
mada yonde inai (koto)
yet read have-not fact
(The letter that Mary sent to John, he has not read)
(Saito: 52-49)



The contrast between (56b) and (56c) cannot be accounted for by the pronominal Binding Condition, since neither of the two violates the condition in (55a), assuming a topicalized constituent is not a sister to the subject. What Saito claims is pertinent in this case is that a name-type NP embedded at a certain level has

crossed a coreferring pronoun: namely, it is a 'crossover' phenomenon which presupposes movement in GB theory. Thus, the postulation of 'movement' indicates that argument NPs are more likely to be in a hierachical structure than in a flat structure.

His third argument comes from numeral quantifier floating. Usually Japanese quantifiers do not allow other elements to intervene between the quantified head and the quantifiers themselves. Thus, the following paradigm is obtained:

57.a. Sannin-no gakusei-ga sake-o nonde iru. (Saito: 44)
3person-Gen student-Nom sake-Acc drinking

(Three students are drinking sake)

b.John-ga sanbon-no sake-o motte kita
-Nom 3bottle-Gen sake-Acc came with
(John came with three bottles of sake)

c.*Gakusei-ga sake-o sannin nonde iru. (Saito: 51)
student-Nom sake-Acc 3person drinking
(Three students are drinking sake)

However, the above generalization does not apply in some marked[58] cases, as shown in (58):

58. Sake-o John-ga sanbon motte kita
sake-acc -nom 3bottle came-with
(John came with three bottles of **sake.**)

What Saito argues is that since a quantifier and the noun it modifies normally cannot be separated in clear cases, this apparent anomaly can be explained if **sake-o** is moved out of the quantified NP. Again, the necessity of movement is taken as evidence for VP in Japanese.

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58 'Marked' here means pragmatically/contextually marked.

Since the movement approach largely aims to account for scrambled word order, we examine whether Saito's approach solves the word order problems adequately. As one of the problematic cases for Saito, consider the following:

59.a.*Sono okasi-ga$_i$ John-ga [$_S$ t_i oisii to] omotte iru (koto)
that candy-Nom J.-Nom tasty COMP think(ing) is
'John think that that candy is tasty'

b.*Sono giron-ga John-ga [$_S$ t_i omosiroi to] omotte iru (koto)
that theory-Nom Nom interesting COMP think(ing) is
'John thinks that that argument is interesting'

(Saito 1985: 210) (* is given by the original author)

Sentences in (59) are marked as ungrammatical for the intended interpretation,[59] and are the representative cases where the subject of the sentence is wrongly displaced as contrasted with the following, which involves object extraction:

60. Sono hon-o$_i$ [$_S$ John-ga [$_{S'}$ [$_{S'}$ Mary-ga t_i katta to]$_j$
that book-Acc -Nom Nom bought COMP

Bill-ga t_j itta to] omotta iru] (koto)
Nom said think fact
'John thinks that Bill said that Mary bought that book'

The asymmetry between the subject extraction and the object extraction is explained by the difference in case marking property. Saito (1985:196-212) claims that the object of a verb is assigned 'abstract object case' as in English whereas 'nominative case is inherent in that it is not assigned by any element'.[60] Since the

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59 The Korean counterparts, however, sound grammatical and I also found that some Japanese would accept (59) without much hesitation.

60 Saito does not explain how nominative case is assigned. He seems to assume that nominative case is not assigned structurally (i.e., not by INFL(ectional feature)), but freely assigned somehow, since he makes use of the following case filter:

lexical V is a case assigner, its trace can have case, satisfying the case filter suggested in Chomsky (1981):

61. Variables must have Case. (as cited in Saito: 206)

The subject trace, however, has no such abstract case assigner and receives no case, violating the case filter. However, this argument does not sound fully adequate for the reasons given below.

The first objection is why nominative case cannot be freely assigned to the subject NP-trace as opposed to the lexical NP subject, while the object NP-trace is assigned case. One way to get around this objection would be to say that nominative case is specified in the phrase structure rule and the subject position is not structurally case-marked, lexically or non-lexically. However, no such statement was made by Saito. The other possibility would be that traces are assigned case only through lexical case assigners such as lexical verbs, as opposed to non-lexical case assigners such as INFL. This latter option, however, is not necessarily tenable, given more data in Japanese. Let us consider Kuno's (1973) celebrated example (62a) which has the structure shown in (62b):

62.a. Sono sinsi$_i$-wa [$_S$[$_{NP}$[$_S$ __$_i$ __$_j$ kite iru]
that gentleman-top wear(ing) is

yoohuku$_j$]-ga yogorete iru] (Kuno 1973: 249)
suit Nom dirty is
'Speaking of that gentlemen, the suit he is wearing is dirty'

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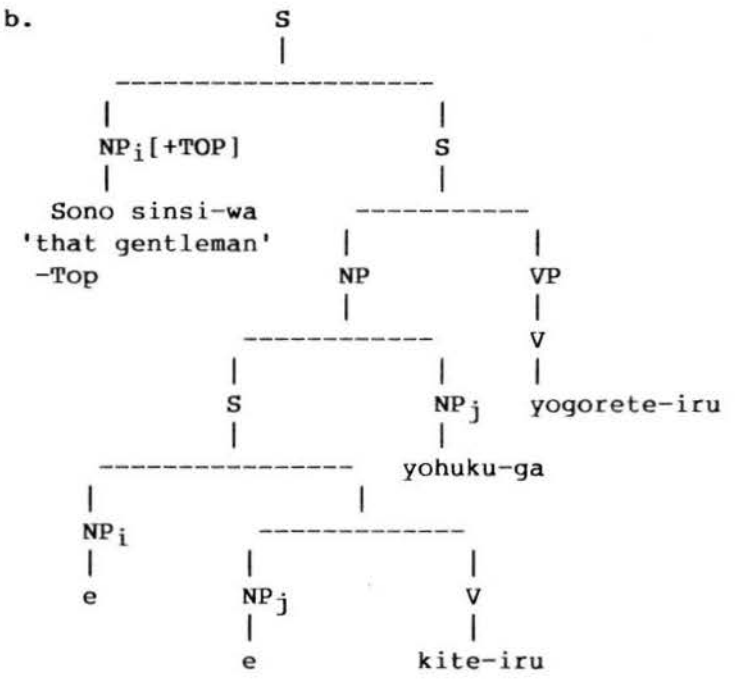
*NP-ga unless the NP is [NP, S] (Saito 1985: 207)

[NP, S] is interpreted as 'NP immediately dominated by S.'

b.



This example involves subject extraction, but it is grammatical.[61]

The case-filter approach is not only incomplete, it also fails to explain other data:

63.a. Sono toki [$_S$ John-ga Mary-o aishita]-to minna-ni omowareta.
that time Nom Acc loved COMP all-Dat is-believed
'At that time it was believed by everyone that John loved Mary'

a'. John$_i$-ga sono toki minna$_j$-ni [__$_i$ Mary-o asita]-to
__$_j$ omowareta.
'At that time it was believed by everyone that John loved Mary'

b. John-ga Sue-ni [$_{VP}$ sono hon-o Mary-ni ageru-yoo-ni] tanonda.
Nom Dat that book Dat give-so-as-to asked
'John asked Sue to give that book to Mary'

---

61 Saito (p283) also cites this example in the discussion of 'topicalization' in Japanese, but does not explain how this example is related to the Case filter he suggests.

b'. John-ga Mary$_i$-ni Sue-ni [$_{VP}$ sono hon-o $\_\__i$ ageru-yoo-ni] tanonda.
'!John asked Sue to give the book to Mary'
'John asked Mary to give the book to Sue'

(63a') also involves subject extraction, as opposed to (63a) and is fully acceptable, unlike Saito's prediction; furthermore, (63b') is impossible for the intended interpretation (i.e., as a variant of (63b)) and does not seem to be captured by the Case filter or by any mechanism suggested in Saito (1985).

The constraint on movement in Japanese (and Korean) may be captured the following simple statement:

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62 I used the term 'pass by' instead of 'cross over', since embedded phrases 9hich are crossed over do not seem to be a deterrent to the extraction but the local daughters which are immediately adjacent to the extraction path are, as shown below:

a. *John-i Mary-ka __ sakwa-lul cohanta-ko sayngkakhanta.
'Mary thinks that John likes apples'

b. Nay-ka Mary-lul Mary-lul kaluchi-n salam-eykey __
I-Nom M.-Acc M.-Acc taught-Mod person-Dat

chwuchenhala-ko pwuthakhayssta.
recommend-Comp asked
'I asked the person who taught Mary to recommend Mary'

c. Sue-eykey John-un Mary-ka ku chayk-ul ponayssta-ko
S.-Dat J.-Top M.-Nom that book-Acc sent-Comp
alkoissta.
is-aware-of
'John is aware that Mary sent a book to Sue'

d.! Mary-ka John-i Sue-eykey ku chayk-ul ponayssta-ko
M.-Nom J.-Nom S.-Dat that book-Acc sent-Comp
alkoissta.
is-aware-of
'John is aware that Mary sent a book to Sue'

64. A case-marked phrase can 'move' anywhere unless it passes by[62] a phrase marked with the same case specification.

A similar statement was made by Kuno (1980a) for Japanese, and it appears that this idea has to be reflected in any grammar which attempts to account for extraction phenomena in Korean and Japanese.

Gunji (1987) in contrast gives a phrase structural account of the word order problem in Japanese, by using two separate mechanisms, one operating clause-internally and the other clause-externally. Within a clause boundary the SUBCAT Feature Principle takes care of scrambled word order:[63]

65. The SUBCAT Feature Principle
Complementation:
The value of the SUBCAT feature of the head unifies with the value of the SUBCAT feature of the mother except for the category that unifies with the complement. (p12)

The complementation part of the SUBCAT Feature Principle is related to the argument structure of lexical categories such as verbs and postpositions. For instance, the SUBCAT feature of the verb **aisuru** 'love' has the specification [SC $\{P_S, P_O\}$] and the sentence (66a) has the structure (66b):

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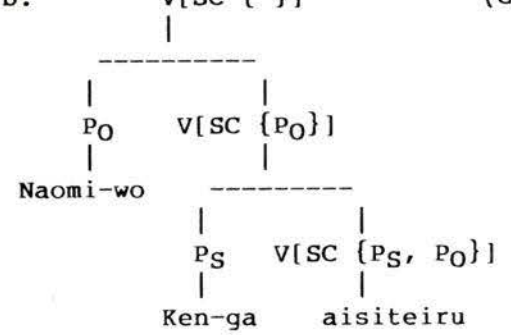
63 There are two other sub-principles of the SUBCAT Feature principle: Adjunction and Conjunction. These two are not directly related to our discussion. In Gunji (1987), **unify** is defined so that 'X unifies with Y' if and only if (a) the atomic values of X and Y are identical to each other and (b) for category values, there is a one to one correspondence between the two sets (since the value of SUBCAT, for instance, is a set of categories) and each member of one set unifies with a member of the other.

66.a. Naomi-wo Ken-ga aisiteiru.
ACC NOM love
'Ken loves Naomi' (lit. 'Naomi, Ken loves')

b. (Gunji 1987: 207)



V[SC { }] in (66b) roughly corresponds to S which dominates all the arguments specified in the argument structure of the lexical head. V[SC {P_O}] is simply a verbal category which seeks an object PP (=P_O). This formulation handles scrambling very easily within a clause, as shown in (66).

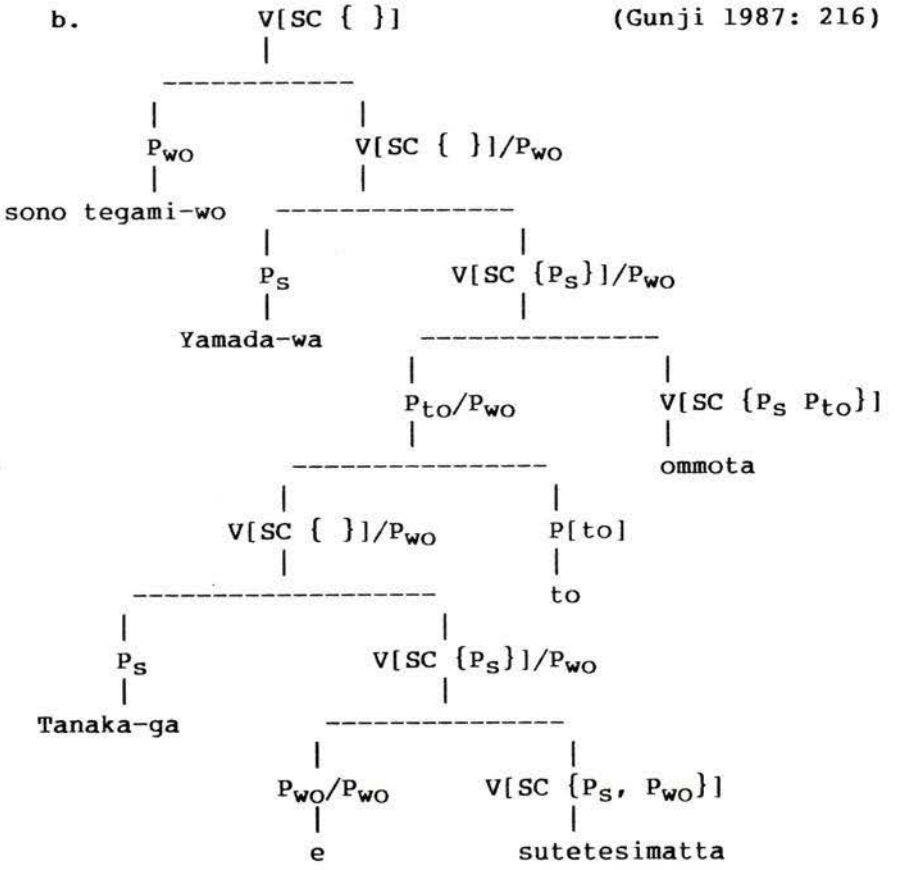
One of the weakest points in Gunji's approach may be that in the case of transclausal extraction, he exploits SLASH as shown in (67):

67.a. Sono tegami-wo Yamada-wa [Tanaka-ga
the letter-Acc Top Nom

sutetesimatta]-to ommotta.
threw away-Comp thouhgt

'Yamada thought that Tanaka had thrown away the letter'

b. (Gunji 1987: 216)



Gunji admits that in the case of transclausal extraction the SUBCAT approach, as compared to the SLASH approach, is not feasible because SUBCAT is a HEAD feature and because only the head of the daughter can pass the 'unsaturated' SUBCAT specification to its mother. [64]

We next introduce our alternative, a SLASH approach, assuming VP constituency. We exploit the **SLASH** feature as found in GKPS with slight modification, since it is not adequate for Korean and Japanese data in the presence of multiple

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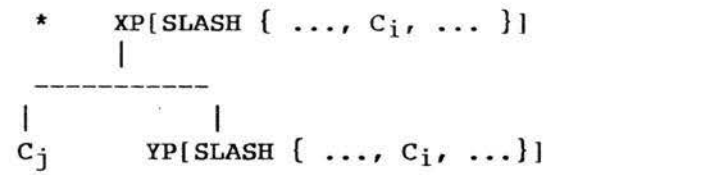
64 The SUBCAT approach to the trans-clausal extraction seems to be very implausible since it would require that 'P_{WO}' must be specified in the SUBCAT value of the lexical verb 'omotta' (think) if the above sentence is to be well-formed with respect to the Subcat Feature Principle outlined above. This certainly cannot be the way that the extraction problem is solved.

gaps. Here we redefine **SLASH** as a feature which takes as its value a set of categories.[65] What we need in order to capture the idea expressed in (64) is to make the SLASH specification of VP (or S) sensitive to its sister's feature specifications, especially with respect to particle features. Thus, the fact that dislocated phrases cannot 'pass by' another phrasal sister of the same particle specification at each local tree can be captured by the following constraint:

68. The SLASH FEATURE CONSTRAINT (SFC)



where $C_j|X$ extends and is extended by $C_i|X$
where X ∈ {case fature, PFORM}

What the SFC says is that the daughter's and the mother's SLASH specifications cannot simultaneously contain in their values a category whose particle feature specification is identical to the one which is a sister to the daughter. SLASH is freely introduced into any phrasal category[66] and the SLASH feature introduced this way is subject to the FFP and to the SLASH Feature Constraint (SFC, hereafter), and is further restricted by some FCRs.

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65 Independently, Gunji(1987) proposed this type of extension for SLASH in Japanese.

66 See (44g) of Chapter 2 and FCR 14.

67 In contrast, some Indo-European languages with stricter word order might be seen as having SLASH sensitive to linear precedence. Dutch and German word order facts in the subordinate clause, as discussed in Bresan, Kaplan, Peters

It is interesting that Korean with its rich case markers seems to have a case marker-sensitive **SLASH**.[67]

69.a. Nay-ka Mary-eykey John-i **Sue-eykey** kukes-ul
I-Nom M-Dat J.-Nom S.-Dat it-Acc

cwu-ess-ta-ko malhay-ss-ta
give-PST-DCL-Comp say-PST-DCL
'I said to Mary that John gave it to Sue'

a'. Nay-ka **Sue-eykey** Mary-eykey John-i kukes-ul
I-Nom S-Dat M.-Dat J.-Nom it-Acc

cwu-ess-ta-ko malhay-ss-ta
give-PST-DCL-Comp say-PST-DCL
'I said to SUE that John gave it to MARY'
(!I said to Mary that John gave it to Sue.)

b. John-i Mary-lopwute pyenci-ka Sue-lopwute
J.-Nom M.-from letter-Nom Sue-lopwute

o-ass-ta-ko tul-ess-ta
come-PST-DCL-Comp hear-PST-DCL
'I heard from Mary that a letter came from Sue'

b'. John-i Mary-lopwute Sue-lopwupte pyenci-ka
J.-Nom M.-from S.-from letter-Nom

o-ass-ta-ko tul-ess-ta
come-PST-DCL-Comp hear-PST-DCL
'I heard from Mary that a letter came from Sue'

b". John-i Sue-lopwute Mary-lopwupte pyenci-ka
J.-Nom S.-from M.-from letter-Nom

o-ass-ta-ko tul-ess-ta
come-PST-DCL-Comp hear-PST-DCL
'I heard from Sue that a letter came from Mary'
(!I heard from Mary that a letter came from Sue)

---

and Zaenen (1982), and Steedman (1985) could be accomodated by the extended SLASH which is sensitive to linear precedence. The 'crossed dependencies' found in these languages would be accounted for if 'loading' is to the right of the previously loaded category and 'off-loading' is from the leftmost category. But see Hukari and Levine (1987) for a GPSG approach to 'nested dependencies' in English.

As the translations show, the distribution of NP **Sue-eykey** in (69) is not free. That is, (69a') and (69b") cannot be construed as variants of (69a) and (69b), respectively. The same interaction can be observed NPs marked with **-ka** in (69a). In general, a NP loaded in SLASH cannot pass by another NP which has the same particle specification as the NP in SLASH. Let us further consider the cases where pragmatic particles are involved:

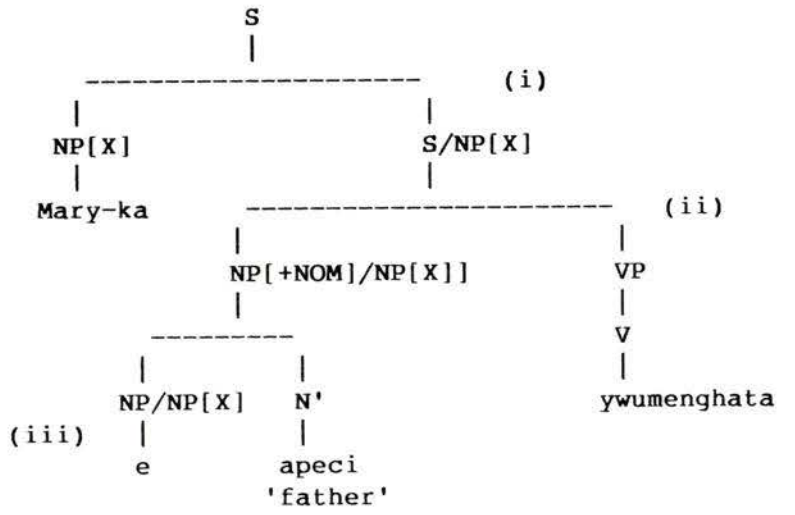
70.a. Mary-ui apeci-ka ywumenghata.
M.-Gen father-Nom is-famous
'Mary's father is famous'

b. Mary-ka apeci-ka ywumenghata
M.-FOC father-Nom is-famous
'It is Mary whose father is famous'

c. John-i Mary-ka apeci-ka ywumenghata-ko sayngkakhanta
J.-Nom M.-FOC father-Nom is-famous-Comp think
'John thinks it is Mary whose father is famous'

As will be discussed in the next chapter, the first **-ka** in (70b) is analyzed as a kind of focus marker and the NP dominating the phrase 'Mary-ka' has the feature matrix {<N, +>, <V, ->, <BAR, 2>, <FOC, +>, <NOM, +>, <GEN ->}. The structure in (71) below is assumed for (70b), although the extraction is not necessarily needed. The topmost local tree is sanctioned by an unbounded dependency rule 'S ---> X", H/X"' as in English in GKPS. In this local tree, the SFC and the FFP are irrelevant since SLASH is inherited and it has no element as its value on the mother. Local tree (ii) in (71) satisfies the SFC, since the relevant feature specifications between NP[X] and VP are not identical. Local tree (iii) is sanctioned by the SIR (SLASH Introduction Rule).

71.



N.B. X=[+FOC][+NOM][-GEN]

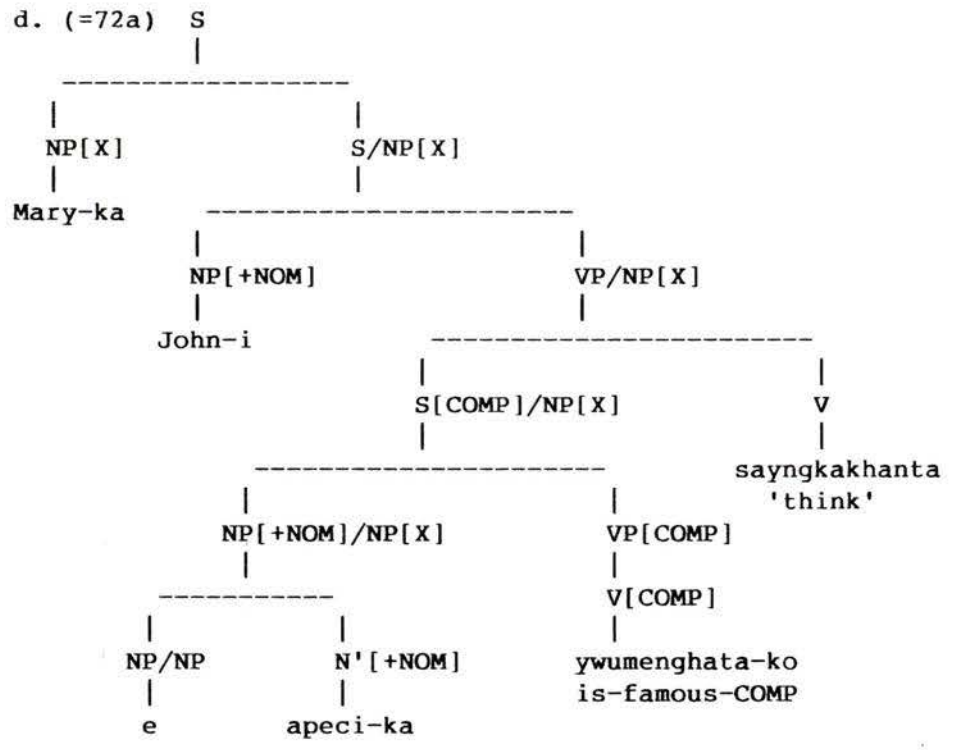
If (70b) is embedded as in (72a), our expectation is that **Mary** should be able to be preposed, being focused, beyond the subject of the matrix clause, as illustrated in (72d), since the feature specification of the adnominal NP[GEN][+FOC] is not identical to that of the matrix subject NP[+NOM] with respect to particle features. However, there is a delicate problem involved here. As the two translations in (72a) suggest, **Mary-ka** may be construed as the subject of the embedding clause. Although this sentence is considered ambiguous, there seems to be slight difference in the prosodic aspect between the two tokens of the string in question. If 'Mary' is construed as belonging to the subordinate clause, there certainly is a tendency to put a pause after the phrase in question and a strong stress on the phrase as well, although the exact prosodic aspects have not yet been fully investigated. In contrast, when 'Mary' is interpreted as the subject of the embedding clause, there is no such tendency. This means that if (72a) is uttered without such prosodic features we only have the former interpretation in (72a)

72.a. Mary-ka [$_S$John-i [$_S$ __ apeci-ka ywumenghata-ko] sayngkakhanta]
M-FOC J.-Nom father-Nom is-famous-Comp think
a) 'Mary thinks that it is John whose father is famous'
b) 'John thinks it is Mary whose father is famous'

b.?Mary-ui apeci-ka [John-i [__ ywumenghata-ko] sayngkakhanta]
M.-Gen father-Nom J.-NOm is-famous-Comp think
'John thinks that Mary's father is famous'

c. Ku ilon-i [John-i [__ caymiissta-ko] sayngkakhanta]
the theory-Nom J.-Nom is-interesting-Comp think
'John thinks that the theory is interesting'

d. (=72a)



(N.B. NP[X] = { [+N], [-V], [BAR, 2], [+FOC], [+NOM], [-GEN] })

Thus, (72b) is acceptable only if it is pronounced with a noticeable pause and a stress associated with the first NP-ka. This possibility is further supported by (72c) which appear to be clearly acceptable.

Furthermore, the conjecture that the SLASH is particle-sensitive yields another prediction in connection with the focus marker -**ka**. Let us consider (74).

74.a. Ku kos-i pwulyang haksayng-i manhi mointa.
that spot-FOC ill-behaving student-Nom a lot gather
'It is at this spot that many ill-behaving students get together'

b. Pwulyang haksayng-i ku kos-i manhi mointa.
ill-behaving students that spot a lot gather
'A lot of ill-behaving students get together at that spot'

c. Ku kos-ey pwulyang haksayng-i manhhi mointa.
that spot-at ill-behaving students a lot gather
'A lot of ill-behaving students get together at that spot'

d. Mary-ka ku kos-i pwullyang hasayng-i manhi
M.-Nom that spot-Foc bad student-Nom a lot
mointa-ko mallhayssta.
gather-comp said
'Mary said that it was at that spot that many ill-behaving student get together.'

e. Ku kos-i Mary-ka pwullyang haksayng-i manhi mointa-ko
that spot-Foc M.-Nom bad student-Nom a lot gather-comp
malhayssta.
said
'It is at this spot that Mary said many ill-behaving students get togethe'

If we ignore the internal feature specifications of particles, either (74a) (and (74e)) or (74b) (and (74d)) should turn out to be ill-formed. That is, if we assume, as is claimed by some Korean and Japanese linguists, that 'Ku kos-i' is another subject, then either (74a) or (74b) might be considered a case violating the SFC. What is to be noted, however, is that **pwullyang haksayng-i** 'ill-behaving students' is treated as an NP[+NOM] whereas **ku kos-i** 'at that spot-Foc' is considered NP[PFORM -ey][+FOC][+NOM]. This distinction is also vital for (74e) to be grammatical.

1.4 Conclusions

In the first half of this chapter, the theoretical framework employed in this dissertation was briefly sketched. The second half was devoted to some basic properties of the Korean language, including some controversial areas such as VP constituency, word order, and categorization of NP[CASE] and NP[PFORM].

We have provided some evidence for our categorization which subsumes NP + particle constructions under NP whether the particle is a case marker or a oblique postposition. As for VP constituency, we have assumed that there is a VP in Korean, although there is no compelling evidence. We have provided a phrase structural account of the word order problem, pointing out that the GB approach suggested by Saito (1985) is not adequate in a few respects. Our alternative suggested in this dissertation crucially rests on the particle feature specification which is employed by the Korean language in order to encode grammatical relations of NP.

Chapter 2

MULTIPLE CASE MARKERS IN KOREAN

In this chapter we analyze so called multiple nominative and accusative constructions in Korean. Just as VP constituency in Korean and Japanese is an elusive topic which resists an easy solution within a formal syntactic model, so is the multiple appearance of the same case markers in a simple sentence. As may be expected, this topic has been drawing a great amount of attention from the Korean linguists who work in formal syntactic frameworks as well as in traditional 'conceptual' frameworks. Insofar as I am aware, there has not been any noticeable degree of consensus among Korean linguists and the same seems to be true of many researchers who study Japanese, which manifests high degree of similarity to Korean.

2.1 Multiple Nominative Construction

The problems to be dealt with in this section involve the following kinds of sentences which contain more than one nominative marker in a simple sentence:

1. Thokki-ka ap-tali-ka ccalpta.
   rabbit-Nom front-leg-Nom is-short
   (approx.)'It is rabbits whose front legs are short'

   b. Ku pata-ka koki-ka manhta.
      that sea-NOM fish-NOM is-abundant
   (approx)'The sea abounds in fish' or
           'Fish abounds in the sea'

c. Yeki-ka kyohoi-ka cal pointa.
here-Nom church-Nom well is-seen
(approx)'It is (from) here that the church is easily seen'

In traditional Korean linguistics, there was a proliferation of terms given to the phrases marked with two nominative case markers: 'the first subject and the second subject' (Y.-H. Kim 1978: 44); 'ergative subject' (M.-K. Youn 1980: 60); 'socwue' (minor subject) and 'taycwue' (major subject)(M.-K. Youn 1980: 85); 'chongcwue' (primary subject) and 'socwue' (secondary subject) (Y.-K. Kim 1957: 185), etc. Furthermore, it is very difficult to give an appropriate translation to these sentences probably because they are ambiguous as we will see in the ensuing section and probably because Korean native speakers' intuition producing or recognizing these sentences does not seem to be precisely translatable in ordinary English.[68] The particle **-ka/-i** which has been known as a subject marker appears twice in the sentences in (1) which are apparently simple sentences. The problem is whether these sentences contain two subjects or **-ka/-i** has some other function than that of a subject marker.[69] In the following, we will recapitulate the basic idea of my previous paper (Y.-B. Kim, 1986) and further refine some technical

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68 Compare the following with the ones in (1):
a'. Thokki-ui ap-tali-ka ccalpta
rabbit-Gen front-leg-Nom is-short
'Rabbits' front legs are short'

b'. Ku pata-ey koki-ka manhta.
that sea-in fish-Nom exist(or have) in abundance
'There are a lot of fish in the sea'

c'. yeki-se kyohoi-ka cal pointa.
here-from church-Nom well is-seen
From here the church is easily seen

69 The solution proposed in this thesis was originally presented at the conference of the Linguistic Society of Korea (1986, Yonsei University). The paper deals with Japanese data in the GPSG framework as formulated in GKPS.

details.

Since the theoretical model assumed in this thesis, and probably any other model in current syntactic theory does not allow more than one subject in a simple sentence, the direction of our pursuit has few options. Let us take a look at some of relevant examples briefly discussed previously in connection with word order:

2.a. Yeki-ka pwulyang haksayng-i manhi mointa. (cf. 74a of Chapter 1)
here-NOM bad student-NOM a lot gather
'It is here that many ill-behaving students get together.'

b. Mary-ka apeci-ka ywumenghata. (=70b of Chapter 2)
M.-NOM father-NOM is-famous
'It is Mary whose father is famous.'

In (2b) we have two occurrence of NP-ka's where -**ka** is generally considered a subject marker, and (2a) also has two phrases marked with the same case particle.[70] Since we are assuming a formal model in which even the pleonastic pronouns should be treated as a subject of a sentence, the double appearance of 'NP + nominative marker' could be detrimental to our framework which claims to be a universal descriptive model of languages, if the nominative markers were subject markers.

In the following sections we propose that some instances of -**ka**/-**i** are pragmatic markers which have the function of contrasting or focusing the NPs or PPs in question with respect to other phrases.

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70 -**ka** and -**i** are allomorphs of the same morpheme which are used after vowels and after consonants, respectively.

2.1.1 Pragmatic Particles in Korean

We first consider what are known as pragmatic particles in Korean linguistics. One of the most frequently discussed problems involving these particles is what is known as a topic construction. Unlike the English topic construction, the Korean (and Japanese) counterpart is known as involving substitution or attachment of particles and possibly some type of dislocation. The particle involved here is **nun/un**[71] (**wa** in Japanese) and it is called a topic marker. (See Kuno (1973), Saito (1985), S.-Y. Park (1986), I.-S. Yang (1973), among others.) For instance, The following sentences contain one or more topic markers:

3.a. Ku tangsi John-un Mary-lul salanghayessta.
that time J.-TOP M.-ACC loved
'As for John, (he) loved Mary at that time'

b. Ku tangsi-nun John-un Mary-lul salanghayessta.
that time-TOP J.-TOP M.-ACC loved
'As for that period at least, when it came to
John (he) loved Mary'

c. Ku tangsi-nun John-un Mary-nun salanghayessta.
that time-TOP J.-TOP M.-TOP loved
'As for that period at least,
when it came to John at least, (he) loved Mary at least'

We are not concerned here with what kind of pragmatic content the so called topic marker carries in a discourse, but are primarily interested in its syntactic aspects, such as its syntactic features, the process which generates topic markers, the structural status of the phrase which is marked with the topic marker, and so on.

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71 **-Un** and **-nun** are allomorphic variants which are attached after vowels and consonants, respectively.

As is well known, **-nun/-un** is not a case marker, and this can be readily verified in (3c): the subject as well as the object of the sentence is marked with the topic marker **-un/-nun**. We can also assume that the phrase containing the topic marker has some different property from the one which does not, given examples such as those in (4):

4.a. Ku tangsi-ey John-ui apeci-ka yumenghayessta.
that time-at J.-Gen father-Nom is-famous
'At that time John's father was famous'

b.*John-ui ku tangsi-ey apeci-ka yumenghayessta.
J.-Gen that time father-Nom is-famous
At that time John's father is famous

c. John-**un** kutangsi-ey apeci-ka yumenghayessta.
John-Top that time father-Nom was-famous
'As for John, (his) father was famous at that time'

d.? Ku tangsi-ey apeci-ka John-un yumenghayssta.
Top
'As for John, his father was famous at that time'

e.*Ku tangsi-ey apeci-ka John-ui yumenghayessta.

(4a) is a pragmatically unmarked form with canonical word order, and this becomes unacceptable if the sentence-initial adverbial PP is inserted between the head noun and the possessive adjunct, as shown in (4b). However, if the possessive marker is replaced by the topic marker the adverbial phrase can intervene the head noun and the previous adnominal phrase as shown in (4c). Furthermore, to some speakers even the inversion of the head noun and the possessive NP is acceptable, as shown in (4d) , when the possessive NP is marked with the topic marker. Otherwise, the inversion is completely ungrammatical as shown in (4e). Insofar as syntax is concerned, we can say that the topic marker can be freely attached to

any NP or PP, and a speaker chooses an appropriate form, topicalized or untopicalized, in a certain discourse context.

Leaving aside the questions involving the topic construction for the moment, we return to the double (or multiple) appearance of nominative markers and compare the similarity found between the topic marker and the particle **-ka/-i** which we will call **focus markers.** As suggested in Y.-B. Kim (1986), the nominative particle in question has a property and distribution very similar to that of a topic marker: the former also manifests a kind of detachment of adnominal NPs from their head as in (5c) and some degree of inversion possibility as shown in (5d). However these phenomena are not observable with pragmatically unmarked sentences, like the ones in (5b) and (5e):

5.a. Ku tangsi-ey John-ui apeci-ka yumenghayessta. (cf. (4))
that time-ey J.Gen father-Nom was-famous
'At that time John's father was famous'

b.* John-ui ku tangsi-ey apeci-ka ywumwnghayessta.
J-Gen that time-at father-NOM is-famoue

c. John-i ku tangsi-ey apeci-ka yumenghayessta
J-Nom that time-at father-Nom was-famous
'It was John whose father was famous at that time'

d. ? Ku tangsi-ey apeci-ka John-i yumenghayessta
that time-at father-NOM J.-NOM is-famous

e.* Ku tangsi-ey apeci-ka John-ui yumenghayessta.
that time-at father-NOM J.-Gen is-famous

As we can gather by comparing among (3), (4), and (5), **-ka/-i** has exactly the same distribution as the topic marker has, possibly sharing a structural property with it. There are some more examples of the focus particle which can be symmetrically replaced by the topic marker:

6.a. Yeki-se kyohoi-ui cipwoong-i cal pointa.
here-from church-Gen roof-Nom well is-seen
'From here the roof of the church is easily seen'

a'.Yeki-ka/-nun kyohoi-ka/-nun cipwung-i cal pointa.
here-Nom church-Nom roof-Nom well is-seen
'It is from here that the church's roof is easily seen'

b. ce tongne-ey/eyse salam-i manhi wassta.
that village-to/from people-SM a lot came
To/From that village many people came.

b' Ce tongne-ka/-nun salam-i manhi wassta
that village-Nom people-Nom a lot came
'It is to/from that village that many people came'

c.John-eykey apeci-ka mwusepta
J.-to father-Nom is-frightening
The father is frightening to John'

c'.John-i/-nun father-ka mwusepta
J.-Nom father-Nom is-frightening
'It is to John that the father is frightening'

One thing to be made clear above all is that (6b') and (6c') are ambiguous. The former can be interpreted in two ways which is shown in (6b): this interpretation is possible if we assume that the particle **-ka** replaces or subsumes the postposition and that the surface word string (e.g., (6b') comes from two sources, i.e., from the two sentences in (6b). (6c') has the same propositional meaning as (6c) and what we consider is important is that (6c') can also be treated as containing as its propositional meaning 'John's father is frightening (to everyone)' whose pragmatically unmarked form will be (7):

7. John-ui apeci-ka mwusepta.
J.-Gen father-Nom is frightening
'John's father is frightening (to everone)'

In the same manner, (6b') can have a third interpretation which is related to (8):

8. Ce tongne-ui salamtul-i manhi wassta.
   that village-Gen people-Nom a lot came
   'People of that village came in multitude'

This type of ambiguity can be found with the topic particle throughout the examples cited above in exactly the same fashion.

The symmetry found between the topic marker and **-ka/-i** is further obtained in examples which contain a concatenation of particles. It has been observed that delimiters some of which are at least a kind of pragmatic particle void of syntactic case, as mentioned in section 1.2.2, can co-occur with oblique postpositions but cannot with case markers. The topic marker is one of the most frequently used delimiters and can be placed after postpositions, in which case the oblique postposition can optionally deleted. The exact same observation can be stated concerning **-ka/-i.**

9.a. Ce tongney-(ey)-ka salam-i manhi wassta.
     that village-to-FOC people-Nom a lot came
     'It is to that village that many came'

  a' Ce tongney-(ey)-nun salam-i manhi wassta
     that village-to-Top people-SM a lot came
     'As for (to) that village many people came'

  b. Ce tongne-(eyse)-ka salam-i manhi wassta.
     that village-from-Foc people-SM a lot came
     'It is from that village that many people came'

  b' Ce tongne-(eyse)-nun salam-i manhi wassta.
     that village-from-Foc people-SM a lot came
     'As for that village many people came from'

What should be well noted in connection with the examples in (9) is that **-ka/-i** can be attached to apparent PPs which are formed by a combination of NP and an oblique postposition.

By now, it is fairly clear that **-ka/-i** is no more a case marker than the topic marker is, and that the alleged focus marker has properties very similar to those of the topic marker: we can safely say that the first occurrence of **-ka** is not a case marker but some type of pragmatic particle.

There is another piece of evidence which supports the claim that the first **-ka/-i** is not a subject marker. As briefly introduced in the preceding chapter, the subject of a sentence agrees with the verb with respect to honorific features. Consider the following:

10.a. Ku pwun-i adul-i cwukessta.
that person-Nom son-Nom died
[+HON] [-HON] [-HON]
'It is that gentleman whose son died'

cf. Ku pwun-kkeyse tolakasiessta.
that person-Nom[+HON] died
[+HON] [+HON]
'That gentleman died'

cf. *Ku pwun-i adul-i tolakasiessta.
that man-Nom son-Nom died
[+HON] [-HON] [+HON]
'It is he whose son died'

b. Halapeci-kkeyse catongch-ka kochangnassta.
grandfather-Nom car-Nom broke down
[+HON] [-HON] [-HON]
'It is Grandfather whose car broke down'

In Korean, if the subject of a sentence denotes an honorable entity, then the verb of the sentence carries the honorific infix **-si-**. In (10a), however, the verb exhibits a non-honorific form **cwukessta** instead of an honorific one 'tolakasiessta' in spite of the fact that **ku pwun-i** is considered an honorific variant of **Ku salam** 'that man' : this suggests that **Ku pwun** in (10a) is not a subject; likewise **halapeci-**

kkeyse in (10b) is not, either. Overall, the verbs in (10) agree with the second NP-ka/-i but not with the first.

The examples considered so far are quite simple and straightforward in that **-ka/-i** attaches to adverbial PPs and adnominal NPs, optionally subsuming the oblique postpositions and obligatorily, case particles, and those phrases **can** undergo some sort of dislocation. As pointed out in the discussion of the examples in (5), it is very plausible to assume that the possessive NP **can** be (but not 'must be') somehow detached from the noun head, allowing other elements to intervene between them, as in (5c).

Furthermore, as the examples in (11) indicate, the position previously occupied by the adnominal NP or PP can be filled with resumptive elements:

11.a. John-i ku tangsi **caki** apeci-ka ywumwnghayessta.
J.-Nom that time self's father-Nom is-famous
'It was John whose father was famous at that time'
(cf. 5c)

b. 1980-nyento-ka swuchwul-eyse-nun **ku tangsi**
year-Foc export-in-TOP that time

mokpyo-ka 200 ek pwul-iessta.
goal-SM 20 billion dollar-was
'As for export the goal of 1980 is twenty billion dollars.

b'. Swuchwul-eyse-nun 1980-nyento-ui mokpyo-ka
export-in-Top 1980-year-Gen goal-Nom

200ek pwul-iessta.
20 billion dollar-is

c. Yeuito kongwen-i 1987-nyen senkeywusey-ttay
Y.- park-Nom -Year election campaign-at
notongca-lul phohamhayse manhun salam-i **keki-ey** moyessta.
laborors including many people-Nom there gathered
'It is in the Yeuito Park that many people gathered
at the election campaign (there).'

c'. 1987-nyen senkeywusey-ttay notongca-lul phohamhayse
manhun salam-i Yeuito kongwen-ey moyessta.
'At the 1987's election campaign, many people, including
labor class, gathered in The Yeuito Park.'

Not only adnominal phrases, as in (11a), but also PPs, as in (11b) and (11c), allow resumptive elements, indicating that the phrases marked with **-ka/-i** are dislocated and adjoined somewhere. In (11a) **caki** 'self' is a reflexive pronoun which fills the position from which the previous occupant is displaced. In (11b) and (11c), the positions previously occupied by the **1980-nyen** 'the year 1980' and **Yeuito Kowen** 'The Yeuito Park' are respectively taken by **ku tangsi** 'that time' and **kekiey** 'there'. By now, we can conclude that in some cases **-ka/-i** is a pragmatic particle like the topic marker and that the phrases marked with these pragmatic particles **can** (but not **must**) involve some kind of dislocation.

The next task for us to do is to probe for an appropriate configuration in which the focused (or topicalized) string is dislocated. Here we are given few choices. If we turn to the **Government and Binding** framework for the moment, we find two types of adjunction for the dislocated elements widely discussed in the current syntactic theory: A-adjuction and A'-adjunction[72]. A-adjunction, however, is not a proper candidate, partly because A-positions are already filled and partly because the dislocated elements may consist of PPs and of adnominal NPs which are very unlikely to occupy A-positions. Then we are left with A'--adjunction which seems to serve our purpose in several important respects as discussed below.

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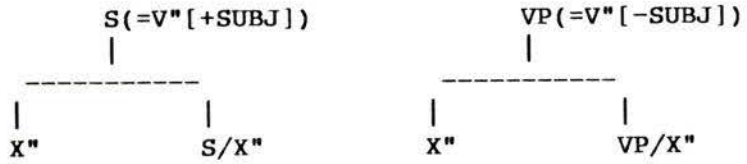
72 We exclude NP-adjunction which is argued for in May (1985) for reasons to be given later. We also exclude Right Node Raising configurations since word order facts are incompatible with the 'right-node raised' configuration in Korean. That is, the verb-final character excludes such analyses.

In the following, we will follow Gunji (1982), Saito (1985), Hoji and Saito (1983), and Kim (1986) who propose VP adjunction as well as S adjunction. Kim (1986) proposed the following rule in connection with pragmatic constructions of Japanese and Korean: `V" ---> X"[DM], H/X",' where [DM] is a discourse marker feature. As we will show in chapter 5, the extraction rule need not be restricted as such, but should be more general without having any restriction on the filler. Thus, if we eliminate [DM] from the extraction rule, we have the following form:

12. V" ---> X", H/X"

This rule is virtually identical to the one suggested by Gunji (1982), and gives rise to the following two basic structures and their extensions:

13.



There might be some other possible structures which are compatible with linear order observable between the pragmatically prominent string and the remaining sentence components. For instance, sentence (5), repeated in (14), could be represented as in (14c) which involves NP-adjunction, instead of (14b) which we will choose.[73]

14.a. Mary-ka apeci-ka ywumenghata
M.-Foc father-SM is-famous
'It is Mary whose father is famous'

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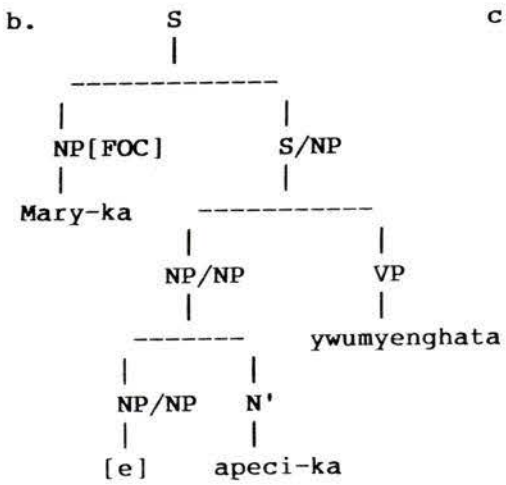
73 Gaps should be allowed to be generated in non-lexical domains in Korean. See Section 4.6 for further details.

b.



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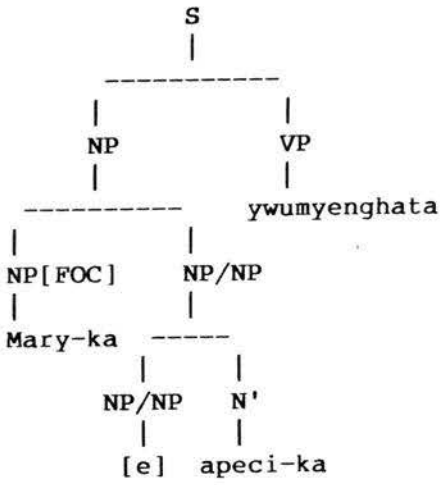

However, there are good reasons for preferring (14b) to (14c). First of all, (14b), not (14c) enables us to achieve consistency in representing pragmatic constructions. As the previous examples show, not only adnominal NPs but also adverbial PPs and argument NPs are involved with this construction, and there seems to be no reasonable way to simultaneously represent dislocated PPs and argument NPs along with the dislocation of adnominal NP, if we adopt (14c). (See (11b) and (11c).)

Secondly, the use of pro-VP **kule** also indicates that (14b) is more suitable for this type of dislocation. The pro-VP is best construed as replacing a constituent, especially a verbal constituent of some sort which contains predicative elements at least and possibly adverbial PPs and argument NPs. (14b) allows the pro-VP to replace 'S/NP' as a constituent, but (14c) does not, in the following example:

15.a. **Mary-ka apeci-ka ywumwenghata.**
M.-Foc father-SM is-famous
'It is Mary whose father is famous'

b. Aniya, Sue-ka kulay.
no S.-Foc is-so
'No, it is Sue that it is the case'

If we are correct in assuming that the above interpretation of the pro-verb is more easily available when the antecedent is a constituent and contains a verbal category, the adjunction should be to some node on the verbal path.

Thirdly, coordinate constructions also favor (14b), but rule out (14c). Coordination is usually seen as a juxtaposition of constituents or word strings which share certain features. Consider the following:

16.a. Mary-ka apeci-ka ywumyengha-ko emeni-to ywumyenghata.
M.-Foc father-SM is-famous-CONJ mother-too is-famous
'It is Mary whose father is famous and whose mother is famous, too'

b. Lee moksa-nun nay-ka anay-eykey selkyo-ka cohta-ko
L. pastor-Top I-SM wife-to sermon-SM is-good-COMP

malhayss-ko anay-nun na-eykey mitum-i cohta-ko malhayssta.
said wife-Top me-to faith-Nom is-good said
'As for Pastor Lee, I told my wife that (his) sermon is good, and my wife told me that (his) faith is good.'

These sentences have the structures (16a') and (16b') shown below, in each case, local tree (i) is sanctioned by a coordination schema,[74] and so (14b), not (14c), is compatible with the above structures.

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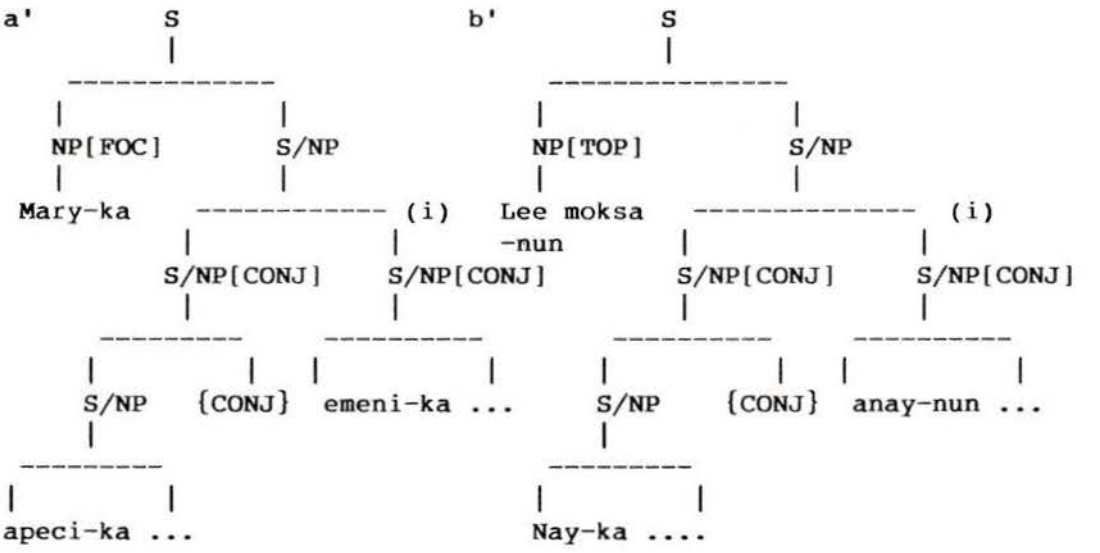
74 See (41a) of Chapter 5.



Fourthly, the possibility of inserting adverbs between the dislocated adnominal phrase and its head gives another piece of motivation for choosing (14b), under the assumption that adverbs are directly dominated by some type of verbal category. The grammaticality contrast in the following examples supports our claim:

17.a. John-i **ku tangsi-ey** apeci-ka ywumwnghayessta.
J.-Nom that time-at father-Nom was-famous
'It was John whose father was famous at that time'

cf.*John-ui **ku tangsi-ey** apeci-ka ywumwnghayessta.
J.-GEN that time-at father-NOM was-famous

b. John-i **ku tangsi-ey** caki apeci-ka ywumwnghayessta.
J.-Nom that time-at self's father-Nom was-famous
'It was John whose father was famous at that time'

cf.*John-i caki **ku tangsi-ey** apeci-ka ywumwnghayessta.
J.-Nom self that time-at father-Nom was-famous
'It was John whose father was famous at that time'

By now, we have provided some evidence for our claims that the particle **-ka/-i,** used as a focus marker,[75] has properties very similar to those of the topic

[75] See Section 2.3.4.and 2.4 for detailed discussion of the pragmatic contents of

marker, and that the phrases marked with those particles can be involved with some type of dislocation whose resulting structure is V"-adjunction.[76]

2.1.2 Two Types of Multiple Nominative Constructions

The multiple nominative constructions discussed so far are only part of a large corpus which exhibits multiple appearance of the same-looking but functionally different morpheme **-ka/-i**. As can be noticed in connection with (6b') and (6c'), a pragmatic construction can be ambiguous in more than two ways, since basic grammatical relations are obscured by the substitution of case-empty discourse particles. In the following we will see how such ambiguity is introduced in other cases and how many interpretations are possible for given examples. More importantly, in the process of disambiguation we attempt to provide evidence for our claim that there are two types of multiple nominative constructions in Korean. To be more specific, we will claim that the nominative particle is also used to mark a syntactic object for certain verbs.[77] Let us consider the following two sentences:

18.a. Na-nun ku ttay maywu phikonhayssta.
I-Top that time very was-tired
'I was very tired at that time'

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the focus marker.

76 As for the other half of V"-adjunction, namely VP-adjunction as contrasted with S-adjunction, we can provide the exact same kind of motivation and we will omit it from discussion.

77 This claim is not totally new, but we provide more detailed explanations for this claim. See Kuno (1973) for a similar argument for Japanese cases. However, we do not agree with Kuno in details in various respects. I am not aware of any claim of this kind for Korean, although Kuno's position might be assumed. See Mohanan (1982) for Malayalam cases.

b. Ecey epmwu-ka maywu phikonhayssta.
yesterday work-Nom very was-tiring
'Yesterday my work was very tiring'

It is to be noticed that in Korean **phikonhayssta** could mean both 'was tired' and 'was tiring' as shown above.[78] The same phenomenon can be observed in (19a), although it might sound strange, at first:

19.a. Ku halapeci-ka kamki-ka mwusepta.
the old-man-Nom flu-Nom is-fearsome/fearful
1) 'Flu is fearsome to that old man'
2) 'That old man is afraid of flu'

b. Ku halapeci-kkey kamki-ka mwusepta.
Dat[+HON] [-HON]
'Flu is fearsome to that old man'

c. Ku halapeci-kkeyse kamki-ka mwusewu-si-ta.
Nom[+HON] [+HON]
'That old gentleman is afraid of flu'

d.*Ku halapeci-kkey kamki-ka mwusewu-si-ta.
Dat[+HON] [+HON]

e.*Ku halapeci-eykey kamki-ka mwusewu-si-ta.
Dat[-HON] [+HON]

f. Ku halapeci-eykey kamki-ka mwusepta.
Dat[-HON] [-HON]

Two translations are provided for (19a), and the meaning difference might at first sound unnoticeable to some readers, but there are situations which contrastingly fit each translation. Let us imagine a situation where the old man in question is physically weak because of some disease which, according to his family doctor, may be fatally worsened by flu among others. If the medical doctor said (19a) in that situation, it has the former interpretation. However, if the situation is such

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78 Thus, **phikonha-n salam** ('tiresome-modifying suffix + person') could either mean 'a person who is tired' or 'a person who makes others tired'.

that the old man, although physically healthy, has had such a bad experience with flu all through his life that he gets nervous even at the rumor that flu is around, and if his wife who knows her husband very well uses (19a), the same sentence has the latter interpretation. That is, **mwusepta** has two different meanings: one is 'be-afraid-of' for the latter interpretation; the other is 'be-frightening-to' for the former interpretation.

Unfortunately, however, this difference has often been ignored, although it is crucial for our discussion.[79] This claim implies that two different structures are to be assigned to (19a), although the linear word string looks the same: one is a transitive verbal construction and the other is an intransitive one. Is this ambiguity to be attributed to some other factors in the grammar or is it an inherent one? We claim that the ambiguity comes from the focusing, as discussed above.

Indeed, (19a), if it is intended for the former interpretation, is felt very marked and (19f) is considered unmarked. Our claim is that (19a) has the two structures one of which is the focused version of (19f) where the first phrase is focused by the nominative focus marker. Thus, (19a) will have the folowing two structures:

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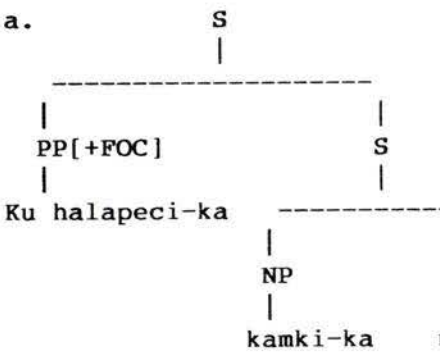
79 We believe that this oversight stems from the fact that Korean has a similar but an apparent transitive verb which means 'be-afraid-of' only, as shown below:

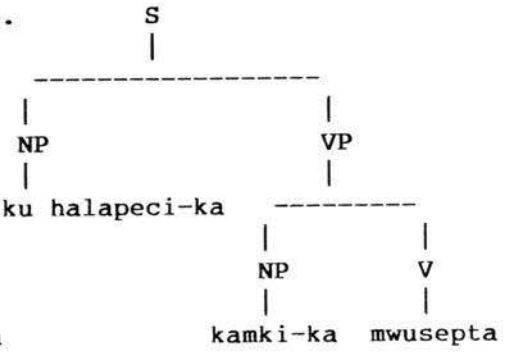
(a) Ku halapeci-ka kamki-lul/-*ka mwusewehanta.
the old-man-SM flu-OM/*-Nom is-afraid-of
'The old man is afraid of flu'
(! Flu is frightening to the old man)

N.B. SM(Subject Marker) and OM(Object Marker) are used where there is no doubt as to the subject-hood and object-hood, respectively. Nom and Acc are used when we are not committed to their identity.

20.a.



b.



Furthermore, because of these two meanings, we can combine (19a) and (19f) by using a connective corresponding to English 'but':

21.a. Ku halapeci-ka kamki-ka mwusep-ciman,
the old-man-Nom flu-Nom is-afraid-of-but

ku pwun-eykey kamki-ka mwusepci anhta.
the person-Dat flu-Nom is-fearsome not

'The old man is afraid of flu, but flu
is not dangerous to him'

b.!John-i Mary-lul salangha-ciman ku-ka
J.-Nom M.-Acc love-but he-Nom

Mary-lul salanghaci anunuta.
M.-Acc love not

'! John$_i$ loves Mary but he$_i$ does not love Mary.'

Conjuction 'but' cannot usually connect two sentences one of which is the negation of the other, as in (21b). Given this, we can say that the acceptability of (21a) follows from the two different meanings of (19a).

This hypothesis can also account for why there are two different types of sentences like (19b) and (19c) with respect to honorific agreement. That is, the subject honorific infix -si- must be inserted in the verb stem if the subject of the

verb refers to a (conventionally) honorable entity as in (19c) where the first phrase is the subject, whereas the infix is absent in (19b), which suggests that the second NP, not the first, is the subject in this case. Likewise, the unacceptability of (19d) and (19e) in honorific agreement suggests that **halapeci** marked with dative marker is not a subject but a PP (i.e., NP[PFORM]) in these sentences.

Now, we can fairly safely claim that the multiple appearance of nominative markers in (19a) is sanctioned by two different mechanisms: one is through a process of focusing which freely instantiates [+FOC] feature; the other is via a subcategorization frame of the verb in question which selects **NP-ka** as its object.[80] What has not been clear among Korean linguists, as far as I know, is that (19a) has the second reading and that the ambiguity comes from the replacement of basic postpositions with pragmatic particles.

The same account can be provided for many other verbs which are classified as stative verbals such as **coh** 'be-fond-of' **silh** 'hate', etc. For instance, we can explain the following paradigm as before:

22.a. Halpeci-ka ku umsik-i cohta
old-man-Nom the food-Nom is-fond-of/is-good
1)'The old man is fond of that food'
2)'The food is good for the old man'

---

80 The verbals which are subcategorized for **NP-ga** are called **stative** verbals in Japanese. There seem to be contradicting opinions as to what is the subject marker in the stative verbal construction: some argue that 'NP+Dat' is the subject of the construction in question; others argue that 'NP+ka' is the subject. Although we admit that there may be other possible analyses, we stick to the principle that only the surface phenomena should be the source of motivation for an grammatical analysis and claims that 'NP+ka' is the subject in the stative construction. See the ensuing discussion of this problem.

b. Halpeci-kkeyse ku umsik-i cohu-si-ta
-Nom[+HON] [+HON]

c. Halpeci-kkey ku umsik-i cohta
-Dat[+HON] [-HON]

d. Halpeci-kkeyse ku umsik-i cohta
[+HON] [-HON]

We consider all the sentences in (22) grammatical, although (22d), which we consider a focus construction, sounds very marked. There is, however, a situation where we can use it. Suppose a young diet expert visited an old couple for some reason, and suggested to the old lady many kinds of good foods for the old gentleman. The old woman however misunderstood the young man, got confused, and asked the young man as follows:

23. old lady: Halmeni-tul-eykey-ka i umsik-i cohtako?
old-lady-pl-Dat-Nom this food-Nom is-good
'Is it to old woman that this food is good?'

dietician: Anyo, halapeci-tul-kkeyse ku umsik-i cohta-nikkayo.
no old-men-Foc[+HON] the food (repeating)
'No, (I am saying that) it is to the old men
that the food is good'

The young man's above response sounds more suitable in this context than any, and will be considered a more polite version of the following:

24. halapeci-tul-kkey-ka ku umsik-i cohtanikkayo.
Pl Dat Foc
'(I am saying that) it is to the old men
that the food is good'

It should also be noted that the first NP in (24) is marked with two particles which is characteristic of pragmatic phrases.

Now, we should be able to assign the appropriate structure to each sentence in (22) and to explain an asymmetry between (22b) and (22d). As argued before in connection with (19a), (22a) has two separate structures responsible for two different interpretations. (22c) is well-formed since **halapeci** is not a subject, but **ku sikphwum** is. (22b) is in conformity with what we consider an appropriate honorific agreement phenomenon.

There is, however, an ongoing argument involved in the determination of the subject in sentences (19a) and (19e), repeated in (25):

25.a. Ku halapeci-ka kamki-ka mwusepta.
the old-man-Nom flu-Nom is-fearsome
1) 'The old man is afraid of flu'
2) 'Flu is frightening to the old man'

b. Ku halapeci-eykey kamki-ka mwusepta.
Dat[-HON] [-HON]

The problem comes from the difficulty in formally determining the subject of each sentence in (25). There are quite a few authors claiming that (25b) contains a dative subject, as in Suh (1971), Youn (1980), in Korean and as in Tonoike (1976), Shibatani (1978), and Kageyama (1978) in Japanese. These authors invoke native speakers' intuition regarding the difference between the nominative marker and the dative marker in the degree of markedness: (25a) sounds more marked contextually than (25b) and therefore the former should be derived from the latter. So the dative marker should be considered as a subject marker in the stative verbal construction.

In the following, we reject their idea, giving some reasons. One reason has to do with their appeal to the native speaker's intuition. We consider that it is rea-

sonable to say our intuition is not clear in this case as will be pointed out in the second argument. Furthermore intuition should not be the sole basis of any grammatical analysis.

Secondly, context-markedness differences do not necessarily support their argument. As shown below, markedness depends on whether the sentence is embedded or not.[81] For instance, the first NP in (25) may sound most unmarked if it is marked with a topic marker:

26. Ku halapeci-nun kamki-ka mwusepta.
Top

(25a) also sounds as unmarked as (26) with the former interpretation, if it is embedded in some other structure as in (27), even if no particular situation is assumed:

27. Ku halapeci-ka kamki-ka mwusewu-n iywu-nun ...
Mod reason
'The reason that the old man is afraid of flu is ....'

More interestingly, (27) would sound very marked if the latter interpretation of (19a) is intended. In contrast, if (25b) is embedded as in (28), the latter interpretation is natural, as provided:

28. Ku halapeci-eykey kamki-ka mwusewu-n iywu-nun ...
Dat Dod reason
'The reason that flu is dangerous to the old man is ...

---

81 This is different from a 'discourse context' in which a sentence is used.

Thus, this markedness difference does not seem to come from the difference in syntactic or pragmatic markedness. This is in conformity with some of the statements made by Saito (1985), Hoji (1980), and Gunji (1987) who feel that subject marker **-ga** in Japanese sounds marked in an unembedded clause, but not if it is in an embedded clause. Thus, markedness difference is to be attributed to something else rather than to 'basic - derived' relations.

Thirdly, the status of the dative marker becomes more clear in Korean, if we consider examples in (29):

29.a: **Na-nun ce pongwuli-ka te nopta-ko sayngkakhanta.**
I-Top that peak-Nom more high-Comp think
'I think that peak is higher (than this)'

b: **Na-nun i pongwuli-ka te nopta.**
(lit.)'For me this peak is higher'

No one would claim that the first phrase in (29b) is the subject of **te nopta** 'is higher'. We consider that (29b) is analyzed as deriving from (30a) or (30b):

30.a. **Na-(eykey)-nun i pongwuli-ka te nopta.**
I- Dat Top this peak-Nom more high

b. **Na-(lose)-nun i pongwuli-ka te nopta.**
as-for

The exact same account can be applied to (25b). That is, (25b) can be related to (31a) or (31b) where the first phrase is not the subject in each sentence:

31.a. **Ku halapeci-(eykey)-(nun) kamki-ka mwusepta.**
that old-man Dat- Top flu-Top is-frightening

b. **Ku halapeci-(lose)-(nun) kamki-ka mwusepta.**
that as-for

Likewise, the first phrase in (25b) may not be the subject of the sentence in the intransitive interpretation.

Finally, there is a lack of symmetry in subject honorific agreement. If (25b) were viewed as having a dative subject, then the other related sentences could not be accounted for with respect to honorific agreement, as shown in (32):

32.a. Ku halapeci-eykey kamki-ka mwusepta. (=25b)
Dat[-HON] [-HON]
b. Ku halapeci-kkey kamki-ka mwusepta. (=19b)
Dat[+HON] [-HON]
'Flu is fearsome to that old man'

c.*Ku halapeci-kkey kamki-ka mwusewu-si-ta. (=19d)
Dat[+HON] [+HON]

d.*Ku halapeci-eykey kamki-ka mwusewu-si-ta. (=19e)
Dat[-HON] [+HON]

If 'NP+Dat' were the subject in (32a), (32b) should be ungrammatical on the one hand and (32c) should be grammatical on the other. However, exactly the opposite is manifested in (32) (and in (19)), indicating that the 'NP+Dat' is not the subject of the stative verbal construction.

To sum up, we claim that the dative marker is not a subject marker in the stative verbal construction but the nominative marker is; the ambiguity of the multiple nominative construction is introduced in the process of focusing NPs with the nominative focus marker: stative verbals introduce NP[+NOM] as their object and focusing changes PP (i.e., NP[PFORM]) to 'NP-ka'. That is, sentences can contain two nominative markers in two different ways: some sentences have two nominative markers, one sanctioned by the subcategorization frame of the lexical verb and the other by virtue of subjecthood; some other sentences obtain the two, one

as a subject marker and the other by focusing phrasal level categories with the focus marker.

There are other stative verbals loosely termed verbals of 'desire' and of 'possession' which, in our view, also fall into the realm of our account. We simply give some crucial examples containing these verbs:

33.a. Halapeci-kkeyse chayk-i manu-si-ta.
Gr. father-Non book-Nom is-abundant-with
[+HON] [+HON]
'Grandfather has lots of books'

b. Halapeci-kkeyse ton-i philyoha-si-ta.
Gr. father-Non money-Nom is-in-need-of
[+HON] [+HON]
'Grandfather needs money'

c. Halapeci-kkeyse kohyang-i kuliwu-si-ta.
Gr. father-Non hometown-Nom miss
[+HON] [+HON]
'Grandfather misses his hometown'

d. Halapeci-kkeyse sonca-ka calangsulewu-si-ta
Gr. father-Non gr. son-Nom is-proud-of
[+HON] [+HON]
'Grandfather is proud of his grandson'

The example shown above receive the same treatment in our framework: they are stative verbal constructions which have a nominative object.

2.2 The Feature System and Feature Clash

Before proceeding with our discussion of the multiple appearances of case markers, we sketch below some basic parts of our grammar in order to give a general picture to the reader. ID rules, Feature Cooccurrence Restrictions, and Feature Specification Defaults are briefly introduced.

As previously mentioned, features are in principle freely instantiated on any category. For instance, let us consider one ID rule and two feature names with their values:

34.a. VP ---> V, NP, PP (put)

b. { NOM, ACC }, {+, -}

Free feature instantiation may allow either or both of these two features to be specified in NP. Thus [+NOM] could be instantiated on the NP which is the object of the verb, if there were no restrictions. Furthermore, the free instantiation would allow [+NOM], [+ACC], [-NOM], and [-ACC] to be instantiated on VP, V, and/or PP, as well as on NP.

In (34), for instance, in order to ensure that these case features occur in nominal categories only, we can formulate a Feature Cooccurrence Rule like '([NOM] OR [ACC]) ⊃ ([+N] & [-V])'. Furthermore, we want NP in (34a) to have [-NOM] (or [+ACC]), but not [+NOM] (or [-ACC]), since it is an object NP. However, if we specify [-NOM] (or [+ACC]) on every object NP in each ID rule, the grammar does not capture the generalization that the object of a verb usually contains [-NOM] (or [+ACC]). This is where the Feature Specification Defaults come into play. If we posit an FSD such as '[-NOM]', the unmarked object NP will take on [-NOM] as a default case, simplifying the ID rule and describing the case feature of NP in each ID rule in general terms.

In what follows, we will formulate similar feature restriction rules for Korean phrase structure grammar, and illustrate those rules using examples from Korean.

2.2.1 Feature Specification Defaults

We first consider the FSDs and discuss their roles in the Korean grammar we build. Some of the FSDs are listed below:

35. Feature Specification Defaults

a. FSD 1: ~([PFORM] OR [GEN]) ⊃ [-NOM]
b. FSD 2: ~[GEN]
c. FSD 3: ~[+DAT]
d. FSD 4: ~[CONJ]
e. FSD 5: ~[STATIVE]
... (See appendix B for the rest.)

FSD 4 and FSD 5 imply that the default case for features CONJ and STATIVE is for them not to appear at all in the feature specification of any category, unless certain rules or principles force them to be present. For instance, [CONJ kwa] is freely instantiated in principle but is prohibited in most cases due to the FSD 4: ~[CONJ]. Thus, [CONJ] is allowed to appear if and only if the coordination rule is employed in constructing the tree, since no other rules or principles mention [CONJ] and its obligatory presence. Thus, FSD 4 rejects (36b), but admits (36a):

36.a. Na-ka John-kwa Mary-lul poassta.
I-Nom J.-and M.-Acc saw
'I saw John and Mary'

b.*Na-ka John-kwa-lul poassta
I-Nom J.-and-Acc saw
'I saw John-and'

FSD 2: ~[GEN] and FSD 3: ~[+DAT] say that [GEN] and [+DAT] should not appear in the specification of a category unless they are required by some other components of grammar. So [+DAT] is allowed to appear in the feature specifica-

tion of NP, only when introduced by an ID rule such as 'VP ---> H', NP NP[+DAT]'. An analogous comment applies to FSD 2: ~[GEN].

FSD 1 ~([PFORM] OR [GEN]) ⊃ [-NOM] implies that NPs usually contain [-NOM]. This saves us from specifying feature specification [-NOM] in the object NP of the lexical verbs. The default specification NP[-NOM] by virtue of the FSD 1 further allows [+ACC] (but not [+NOM]) to be freely instantiated on these unmarked NPs:[82]

```
37.a. Na     cenyek(-ul)  mek-ess-ta.  (optional case markers)
      I      supper-Acc   eat PST DCL
      'I ate supper'
```

2.2.2 Feature Cooccurence Restrictions

We next briefly discuss the Feature Cooccurrence Restrictions.

```
38. (Feature Cooccurrence Restrictions)
   a. FCR 1: [NPRT] ⊃ [+N] OR [VEMBD ki/um]
   b. FCR 2: [VPRT] ⊃ [-N][+V]
   c. FCR 3: [SLASH NP[+GEN]] ⊃ [SLASH NP([+FOC] OR [+TOP])]
   e. FCR 4: ~([+FOC] & [+TOP])
   f. FCR 5: ~([+NOM][+ACC])
   g. FCR 6: NP[+ADN] ⊃ [GEN]
      ...     (See appendix B for the rest.)
```

FCRs 5 and 6 are straightforward. FCR 6, for instance, says that if NP contains a specification [+ADN] (adnominal), then the category must include either [+GEN] or [-GEN] in its content. Thus, the following examples are accounted for:

---

82 Our general strategy is to use the '+' specifications as little as possible since they are responsible for the overt presence of case markers and for the case feature clash to be discussed shortly. Note that the FCRs are formulated so that only '+' specification is responsible for case clash.

39.a. John-uy tali-ka kilta.
J- GEN leg-NOM is-long
'John's legs are long'

b. John tali-ka kilta.
[-GEN] NOM
'John's legs are long'

In our feature system, NP[+GEN] is an adnominal NP with an overt genitive marker (as in (39a)), whereas NP[-GEN] is simply an adnominal genitive NP without any particle (as in (39b)). The FCR 5 and FCR 6 flanked with FSD 1, FSD 2, and FSD 3 cover all the basic case specifications of NP in Korean.[83] FCR 4 is a reflection of the mutual exclusion between the two pragmatic markers. The topic marker which contains [+TOP] and the nominative focus marker which includes [+FOC][+NOM] among others, do not cooccur each other:

40.a. John-ui apeci-ka ywunenghata.
J.-GEN father-NOM is-famous
'John's father is famous'

b. John-i apeci-ka ywunenghata.
FOC
'It is John whose father is famous'

c. John-un apeci-ka ywunenghata.
TOP
'As for John, (his) father is famous'

d. *John-i -un apeci-ka ywunenghata.
FOC TOP

e. *John-un -i apeci-ka ywunenghata.
TOP FOC

---

83 FCR 8: [VTERM] & [AGR[XP]] ⊃ [AGR[XP[-ACC]]] requires that the subject of tensed V (i.e.,V[VTERM]) contain [-ACC].

'John-i-un' in (38d) and 'John-un-i' in (38e) are considered to be dominated by 'NP[+NOM][+FOC][+TOP]', which is prohibited by FCR 4.

We further assume that only '+' value specification is relevant to the morphological realization of case markers.[84] For instance, NP[-ACC] corresponds to the 'bare' NP in (41a), NP[-ACC][+NOM], to the NP marked with the nominative marker in (41b), and NP[+NOM][+FOC], to the focused NP in (41c).

41.a. [NP[-ACC] Ku namca] cikum eti is-nya?
that man now where is-Q
'Where is that man?'

b.[NP[-ACC][+NOM] Ku namca-ka] cikum eti is-nya?
-Nom
'Where is that man?'

c. Ku yeca-nun sankwan-ep-ko [NP[+FOC][+NOM] ku namca-ka]
the woman-TOP is-relevant-not-and the man-Foc

eti is-nya-ko?
where is-Q
'(I am saying that) the woman is irrelevant and
(I am asking) where the man is.'

Thus, the optional use of case markers, as in (41a), is accounted for by not requiring a mandatory instantiation of [+NOM] and [+ACC]. This implies that focused or topicalized NPs are obtainable from a bare NP (e.g., NP[-ACC]) on which [+NOM] is not instantiated, as well as from a case-marked NP (e.g., NP[+NOM][-ACC]').[85]

---

84 This idea may be compared to that of Warner (1988), who posits that some morphological features are head features only when their value is '+'.

85 As it will turn out later in connection with coordinate structure, these two sources for topicalization and focusing seem to be needed in our system.

FCR 3 allows extraction of adnominal NPs if they carry a focus or topic marker. Thus, it excludes (42b) in the following:

42.a. Na-nun ku-uy apeci-ka yumenghata-ko sayngkakhanta.
I-Top he-Gen father-Nom is-famous -Comp think
'I think that his father is famous'

b.*Ku-uy Na-nun __ apeci-ka yumenghata-ko sayngkakhanta.
Gen

c. Ku-ka Na-nun __ apeci-ka yumenghata-ko sayngkakhanta.
Foc
'I think it is he whose father is famous'

d. Ku-nun Na-nun __ apeci-ka yumenghata-ko sayngkakhanta.
Top

Since this FCR applies to NP[+GEN] only, NP[-GEN] can freely be displaced as shown below:

43.a. Na-nun ku salam hyeng-i yumenghata-ko sayngkakhanta.
I-Top he person brother-Nom is-famous -Comp think
'I think that his brother is famous'

b.Ku salam Na-nun __ hyeng-i yumenghata-ko sayngkakhanta.
[-GEN]

In FCR 1 and FCR 2, 'NPRT' and 'VPRT' are sets of particle feature names designated for nominal and verbal categories, respectively. These two FCRs distribute appropriate particle features into appropriate categories.

2.2.3 Immediate Dominance Rules

We next consider some ID rules, as shown below:

44. Immediate Dominance (ID) Rules
(Lexical ID Rules)
a. VP ---> H[1], NP (salanghata) 'love'
b. VP[+NACT] ---> H[2], NP[-ACC] (cohta) 'be-fond-of'
c. VP ---> H[3], NP, NP (cwuta) 'give'
d. VP ---> H[4], NP, PP[PFORM ey] (nohta) 'put'
...

(Non-Lexical ID Rules)
e. S ---> XP, H[-SUBJ]
f. V" ---> XP, H/XP
g. X^2[+NULL] ---> e (e: empty string)

ID rules (44a - d) are straightforward, except that (44b) contains [+NACT] on VP, which takes care of stative verbs.[86] The S expansion rule of Korean in (44e) is the same as its English counterpart but needs some ancillary FCRs, since sentential (or verbal) subjects are always affixed with the nominative particle when embedded. FCR 1: [NPRT] ⊃ (NP OR [VEMBD -ki/-um]) ensures that case-marked sentential subjects are always affixed with the embedding suffixes **-ki/-um.**[87] The ID rule in (44f) is to capture our hypothesis that Korean has VP-adjunction as well as S-adjunction. The ID rule in (44g) introduces a gap freely, unlike the English STMs. FCR 32: α[+NULL] ⊃ α[BAR 2]([SLASH α] OR [GAP α]), in combination with (44g) introduces instantiated SLASH and GAP which must percolate up the tree.

Before closing this section we provide some morphological convention to be specified in morphology which we assume. We suggest some kind of particle feature hierarchy as follows:

45.a. [+TOP][CF] ---> topic marker '-nun/-un'
b. [+FOC][+NOM][CF] ---> nominative focus marker '-ka/-i'
c. [+FOC][+ACC][CF] ---> accusative focus marker '-ul/-lul'
d. [+NOM][-ACC] ---> subject marker '-ka/-i'
e. [+ACC][-NOM] ---> object marker '-ul/-lul'
f. [+DAT][-NOM] ---> dative marker '-eykey'

---

86 This rule is related to the nominative object construction discussed in section 2.2. See (19), (22), and (33).

87 The particles **-ki/-um** are traditionally known as nominalizing bound morphemes and are similar to the English gerundive suffix. I treat these suffixes as verbal-embedding suffixes since verbal phrases embedded with these are non-distinct from other embedded verbal phrases insofar as syntax is concerned. See examples in (64).

g. [+GEN][CF] ---> genitive marker '-uy'

N.B.: CF is a subset of the set containing all the possible 'case feature name - value' pairs and PFORM specifications.

We are now ready to continue our discussion on multiple case markers in Korean.

2.3 Desiderative Auxiliary Verbs and Particle Alternation

As we have discussed in section 2.2. of this chapter, so called stative verbals select as their objects nominative NP. We illustrate some more data which contain a simple stative verbal.

46.a. Na-nun ku-ui sengkyek-i siltha.
I-TOP he-GEN character-NOM dislike
'I dislike his character'

a'. Na-nun ku-ka __ sengkyek-i silhta.
I-TOP he-FOC character-NOM dislike
'It is he whose character I dislike'

cf. Ku-ka na-nun __ sengkyek-i silhta.
He-Foc I-TOP character-NOM dislike
'It is he whose character I dislike'

b. Na-nun Canada-ui cawon-i pwurepta.
I-TOP GEN resources-NOM be-envious-of
'I am envious of Canada's natural resources'

b'. Na-nun Canada-ka __ cawon-i pwurepta.
I-TOP FOC resources-NOM be-envious-of
'It is Canada whose natural resources I am envious of'

b". Canada-ka Na-nun __ cawon-i pwurepta.
C. -FOC I-TOP resources-NOM be-envious-of
'It is Canada whose natural resources I am envious of'

(46a'), (46b'), and (46b") further show that not only the argument NP but also the focused adnominal NPs are marked with a nominative marker whether they are

dislocated or not. As will be shown shortly, this follows from a general principle which will be formulated in connection with the desiderative auxiliary verb in Korean.

We now turn to the main topic of this section. There is a special verb in Korean which is called the **desiderative** auxiliary verb. This verb appears to have a special feature which allows the alternation of case features between [+NOM] and [+ACC], as shown below:

47.a. Nay-ka ku chayk-ul/-i ilk-ko sipta.
I-SM that book-ACC/-NOM read-Prt want
'I want to read the book'

b. Nay-ka ku cahyk-ul/*-i ilk-ess-ta.
I-NOM that book-ACC/*-Nom read-PST-DCL
'I read that book.'

c. Halapeci-kkeyse ku chayk-i/-ul
Gr. father-SM that book-NOM/-ACC
[+HON]
ilk-ko sipu-SI-n kes katta
read-Prt want-HON that seem
[+HON]
It seems that Grandfather wants to read the book.'

d. Nay-ka halapeci-ka/-lul po-ko sip(-u-*SI)-ta.
[-HON] [+HON] [-HON]
I-SM Gr.father-NOM/-ACC see-Prt want
'I want to see Grandfather.(= I miss Grandfather)'

In Korean, the verb **ilk** 'read' is used as a transitive verb only and takes an accusative NP as its complement, as shown in (47b). What interests us is that if the desiderative auxiliary verb **sip** 'want' is placed after the main verb, then the object of the main verb can be marked with the nominative particle as well, as shown in (47a).

When the original subject of the main verb refers to a (conventionally) honorable entity, the verb seems to agree with it regardless of particle change, as shown in (47c), indicating that it is still the subject of the sentence. The problem is how to generate these particle variants in (47) in a systematic way, while maintaining the subcategorization frame of the lexical verb **ilk** 'read'. The dilemma is that the particle change does not seem to trigger any word order change. What renders the problem more difficult is that the basic grammatical relations do not seem to change, either, as can be seen in (47c) and (47d): the subject honorific infix should be used in (47c), but not in (47d), and this strongly indicates that the subject of each sentence is unchanged regardless of the appearance of the auxiliary verb.

When ditransitive verbs are involved, both or either of the two NP complements can take the nominative particle, as shown below:

48.a. Nay-ka ku-eykey/*-ka chayk-ul/*-i cwu-ess-ta.
I-Nom he-Dat Nom book-Acc Nom give-PST-DCL
'I gave him a book'

b. Nay-ka ku-eykey-(ka) chayk-ul/-i cu-ko sipta.
I-Nom he-Dat-Nom book-Nom give- want
'I want to give him a book'

Not only NPs but also PPs are involved with the particle alternation:

49.a. Kyenchal-un ku cicem-ey/*-i kyengkwan-ul paychihayssta.
police-TOP that spot-at/*-NOM policeman-ACC placed
'The police placed policemen at that spot'

b. Kyenchal-un ku cicem(-ey)/-i kyengkwan-ul/-i paychihako sipessta.
police-TOP that spot-at/-NOM policeman-ACC place want
'The police wanted to place policemen at that spot'

c. Na-nun ku salam-kwa/*-i kati iyakihassta.
I-TOP that person-with/*-NOM together talked
'I talked to him'

d. Na-nun ku salam(-kwa)/-i kati iyakihako sipta
I-TOP that person-with/-NOM together talk want
'I want to talk to him'

As we indicated by using the parenthesis, the postposition can optionally appear in this case.

These facts are almost the same as the ones found with regard to the multiple nominative construction discussed in the preceding sections: the construction under examination seems to manifest amalgamated properties of the nominative focus construction and the stative verbal construction. That is, when PPs and dative NPs are involved, the nominative marker can be attached, optionally deleting the postpositions or the dative marker; when a direct object NP is involved, it can simply be marked with the nominative marker. In the following sections, the desiderative auxiliary construction will be analyzed so that these facts are reflected in our grammar.

2.3.1 Morphemic Status of the Desiderative AUX

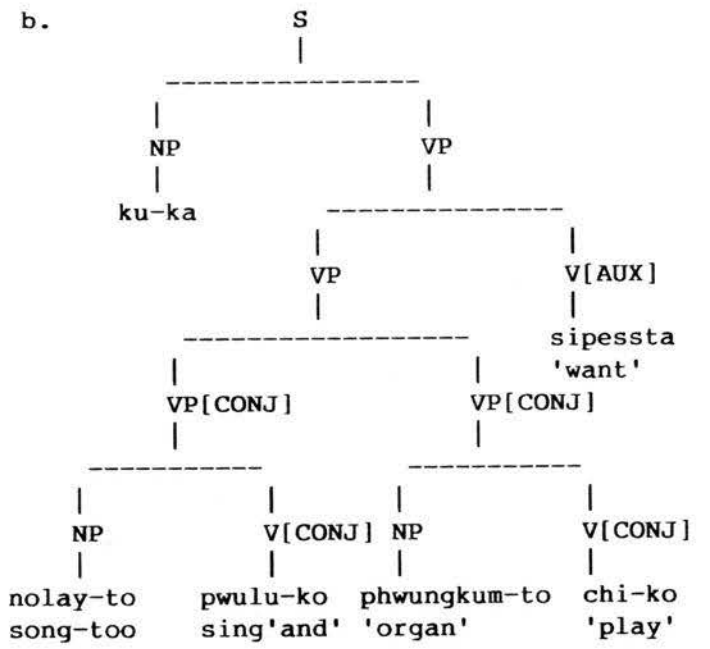
Before presenting our analysis, we should determine the morphemic status of the desiderative auxiliary verb: whether the AUX is to be treated as an independent category, as in English, or to be seen only morphologically relevant and thus to be treated as part of a complex verb. There are four good reasons for believing that the AUX should be treated as an independent category.

The first motivation comes from coordination. Coordination is best seen as a syntactic phenomenon, as supported by the findings of Sadock (1980). This implies

that each conjunct in the coordinate structure should be assigned a separate node in the tree. If the Korean desiderative AUX were part of a complex verb, the following sentence would not be accounted for by our grammar which assumes that coordination is syntactic:

50.a. Ku-ka nolay-to pwulu-ko phwungkum-to chiko sipessta.
he-NOM song-too sing-and organ-too play wanted
'He wanted to sing songs and play the organ'

b.



That is to say, if the AUX were a bound morpheme, then the string 'chiko sipta' should be treated as a compound verb. This compound approach, however, cannot easily explain that what 'he' **wants** to do in (50a) is to 'sing songs' as well as to 'play the organ'.

Secondly, the use of the pro-VP **kuleh** 'do (is)-so' also indicates that the AUX should be treated as a sister of VP constituent, but not as part of a complex verb:

51.A: Ku pwumo-nun ku ai-lul/-ka kaluchi-e poko sipta.
The parents-TOP the kid-OM/-NOM educate try want
'The parents want to try to educate the kid'

B: I pwumo-to kuleh-ko sipta.
this parent-too do-so want
'These parents also want to do so'

A': Ku pwumo-nun ku ai-lul/-ka kaluchi-e poko sipke toyessta.
the parents-TOP the kid-OM/-NOM educate try want become
'The parents tended to want to try to educate the kid'

B': Motun pwumo-ka kuleh-key toynta.
all parent-NOM do-so become
'All parents tend to do so'

Under the assumption that the pro-VP **kuleh** is analyed as replacing VP, we can state that the AUX in Korean cannot be a part of the compound verb since the pro-VP **kuleh** would otherwise have to be viewed as replacing '#X##Y+' where X is a word string and Y is a verbal bound morpheme.

Thirdly, **sipta** differs from other word-internal or word-final morphemes in that it allows other elements (which are called delimiters) to intervene between the main verb and the AUX in question. As we have stated in the introductory chapter[88] and in the preceding section, Korean is an agglutinative language and a word can contain many morphemes. This property gives rise to the suspicion that the alleged auxiliary verb under discussion is the same kind as those word-internal or word-final bound morphemes. The following paradigm, however, shows that there is a difference. Let us focus on the use of **-man** meaning 'only' which is one of the delimiters.[89]

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88 See examples in (32) of Chapter 1.

89 (52c) is acceptable when it means 'although (he) goes', where **-taman** is a separate suffix. But we are concerned with cases where **-man** is a delimiter mean-

52.a. ka- go- (stem)
b. ka-n-ta go-PRES-DCL
c. *ka-n-ta-man go-PRES-DCL-'only'
d. ka-n-ta-ko-man go-PRES-DCL-COMP-'only'
e. *ka-n-man go-PRES-'only'
h. *ka-si-man-n-ta go-HON-'only'-PRES-DCL
j. ka-si-ess-keyss-nya go-HON-PST-GUES-DCL
j. *ka-si-ess-keyss-nya-man go-HON-PST-GUES-'only'
k. ka-si-ess-keyss-nya-ko-man go-HON-PST-GUES-Q-COMP-'only'

53.a. na-eykey me-Dat
b. na-eykey-man me-Dat-'only'
c. *na-man-eykey me-'only'-Dat
d. onul-kkaci today-until
e. onul-kkaci-man today-until-'only'
f. *onul-man-kkaci today-'only'-until

As the above examples show, the delimiter (i.e. -**man** meaning 'only') can optionally be attached after the COMP if the head is verbal (as in (52d) and (52k)); they can also be used after the case particle or postposition, if the head is nominal (as in (53b) and (53e)). This paradigm indicates that delimiters are placed after 'complete' phrasal categories. That is, delimiters are not followed by any affix of any type and simply terminate the phrase in question, as exemplified below:

54.a. **Na-nun ku-eykey ka-n-ta-ko-man malhayssta.**
I-Top he-Dat go-PRS-DCL-COMP-'only' told
'I simply told him that I would leave'

b. **Na-nun onul-kkaci-man yekise kumwuhanta.**
today-until-only here work
'I work here only until today'

We cannot find any particle of any type that can be placed after the delimiters in (54). Now, in this context, one obvious question is whether the string which precedes the AUX can have delimiters. As the following data shows, it can:

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ing 'only'.

55.a. Na-nun ku chayk-ul sa-ko-man sipta.
I-Top the book-Acc buy-PRT-'only' want
'What I only want to do is to buy the book'

b. Na-nun ku chayk-ul sa-ko-to sipta.
I-Top the book-Acc buy-PRT-'too' want
'What I also want to is to buy the book'

The presence of the delimiters in the final position of the main verb supports our claim that the string preceding the AUX is an independent phrasal category and the AUX is the sister to the phrase.

Fourthly, we can infer some property of the AUX in question by analogy from what we know about Korean phonology. As previously argued in connection with the examples in (26) of Chapter 1, **neutralization** is a good test for word boundaries.[90] However, we cannot directly apply this test to establish the wordhood of the desiderative AUX, because the AUX in question does not begin with a vowel. There is, however, another AUX which begins with a vowel and which has the exact same distribution as the desiderative AUX:

56.a. Ku-ka chayk-ul ilk-ko **iss**-ta.
he-Nom book-Acc read-PRT is-'-ing'-DCL
'He is reading a book'
cf. Ku-ka chayk-ul ilk-ko **sip**-ta.
want
b. Ku-ka chayk-ul ilk-ko-man **iss**-ta.
he-Nom book-Acc read-PRT-only is-'-ing'-DCL
'He is only reading a book (without understanding)'

cf. Ku-ka chayk-ul ilk-ko-man **sip**-ta.

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90 C[+coronal] becomes /t/ before a word boundary or another consonant. /t/ is further voiced intervocally.

Iss is an auxiliary verb in Korean which adds a 'progressive' aspect to the main verb, and it follows the 'main verb + ko', as **sip** does. One more difficulty in setting up evidence is that there is no verbal particle whose final phoneme is [+coronal]. To get around this problem, we created the non-sensical morpheme '-kos' which is identical to '-ko' except for the final phoneme, and let Korean native speakers read the sentence containing it.[91] What we obtained is a unanimous production of the neutralized sound value for 's', rather than the root form. This result strongly suggests that the AUX 'iss' is a separate word and so is the desiderative AUX. Given this much evidence, we can safely claim that the desiderative AUX constitutes an independent word.[92]

2.3.2 Particle Alternation

Now, returning to the alternation of the nominative and accusative case markers, we provide a syntactic account of the examples in (46) through (49) above. The situation will be fairly complicated since adverbial phrases (as shown in the footnote below)[93] and extracted elements (as in (68) below in this chapter)

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91 We tested this on twelve native Korean speakers using the following sentence pair:

a. John-i hakkyo-ey ka-**ko** issta.
J.-Nom school-to go-VENBD is
'John is going to school'

b. Mary-to hakkyo-ey ka-**kos** issta.
M.-also school-to go- is
'Mary is also going to school'

We let them read (a) first and then (b). They pronounced the non-sensical form 'kakos + issta' as [kagodit^{+}a] instead of the sandhi form [kagosit^{+}a].

92 Korean orthography which is known as highly scientific also reflects the wordhood of the AUX.

93 The following example shows that adverbial phrases may manifest particle alternation if embedded in the desiderative construction:

can have nominative marking regardless of the original case marker. In the following we exploit two feature percolation systems (i.e., the FFP and HFC) and a metarule to generate well-formed sentences and appeal to a FSD in order to to exclude ill-formed cases.

We first introduce two features for the stative verbals: STATIVE and NON-ACTIVE.[94] If we set up an ID rule 'VP[+NACT] ---> H[9], VP' for **sip** 'want', we have the following distribution of [+STV] for (47a), as shown in (57):[95]

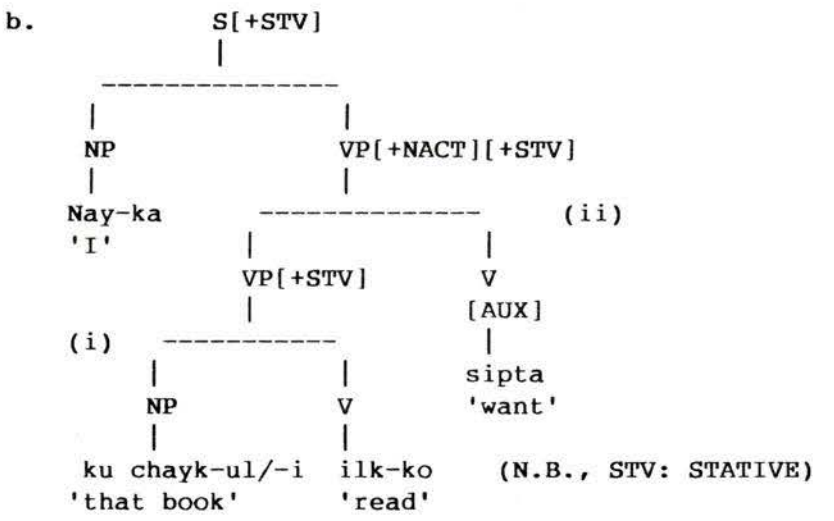
57.a. Nay-ka ku chayk-ul/-i ilk-ko sipta. (=47a)
I-SM that book-ACC/-NOM read-Prt want
'I want to read the book'

Na-nun ku ttay-(ey)-ka kukes-ul
I-TOP that time-at-NOM it-ACC

kac-ko sip-ess-ci, cikum-un anita.
have-VEMBD want-PST-but now-TOP is-not
`I wanted to have it at that time, but not now'

94 The introduction of two features is necessitated because the feature (i.e., STV) to be ultimately introduced by the proposed metarule should be a FOOT feature and it should be distributed throughout the tree unchecked via the FFP. So in our grammar, FCR 8: [+NACT] ⊃ [+STV] introduces the FOOT feature [+STV], and [+NACT] will be mentioned in the ID rule or metarule. [+NACT] is neither a FOOT nor a HEAD feature.

95 We further assume that [+STV] is restricted to verbal categories with [BAR 2].



[+STV] is instantiated on the VP mother in local tree (ii) (cf. footnote 94) and hence obligatorily appears in the daughter VP, since [+STV] is assumed to be restricted to BAR 2 level categories. The explanation of the alternation between the accusative and the nominative markers needs further stipulation, since **ilk** 'read' should take NP[-NOM] as its object in ordinary cases. The further stipulation should then accomodate the following idea: if NP, NP[+DAT], and PP are immediately dominated by VP[+STV] then they can also be marked with the nominative particle, or the orginal particle. This idea can be incorporated into our grammar by a metarule:[96]

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96 We cannot formulate a more constrained metarule such as the following:
X[+STV] ---> NP, W
===>
X[+STV] ---> NP[+NOM], W
This is because metarules in GKPS are 'ID rule-to-ID rule' statements, and because [+STV] is not mentioned in the ID rules of ordinary verbs, this formulation, which relates among the subsets of projections of an ID rule, seems to be impossible. Changing [+STV] to [+NACT] in this rule does not improve the situation, either. We also need an FCR to keep [+STV] off NP.

58. Nominative Feature Introduction Metarule (NFIM)
    X ---> XP[+N], W
    ===>
    X[+NACT] ---> XP[+N][+NOM], W

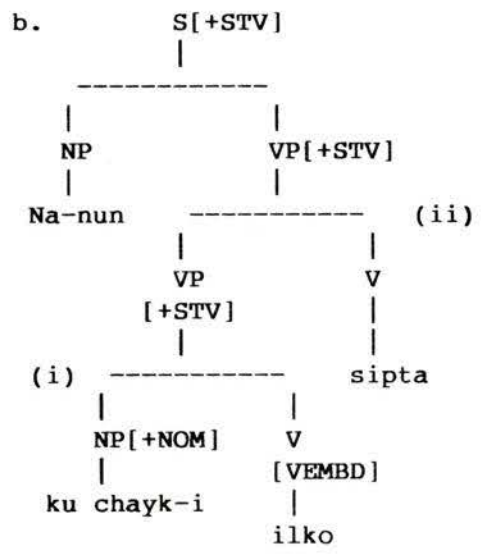
Now, let us illustrate how (60) below will be accounted for in our grammar. The NFIM would give us (59b) from (59a):

59.a. VP ---> V, NP (ilk) 'read'
      ===>
   b. VP[+NACT] ---> V, NP[+NOM] (ilk) 'read'

Recall that [+NACT] triggers [+STV] by FCR 7. Local tree (i) in (60b) below is admitted by (59b), since the former extends the latter.

60.a. Na -nun ku chayk-i ilk-ko sipta (stative)
       I-Top the book-Nom read-Prt want
       'I want to read the book'

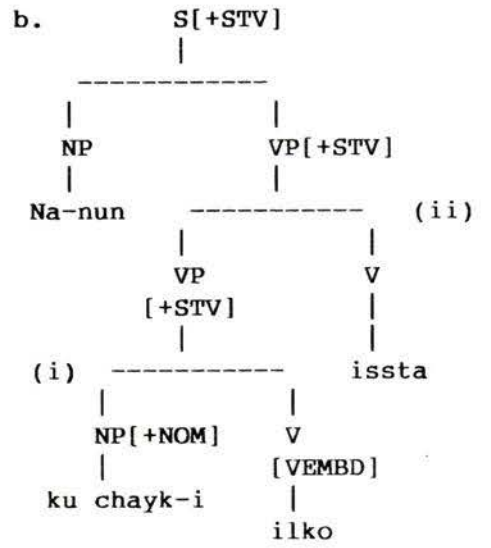
   b.



However, when VP is embedded by a non-stative auxiliary verb, there arises a problem with respect to gratuitous instantiation of [+STV] on a non-stative verbal phrase, yielding ungrammatical sentences as in (61):

61.a. Na-nun ku chayk-ul/*-i ilk-ko issta. (non-stative)
I-Top the book-Acc/-Nom read-Prt is
'I am reading the book'

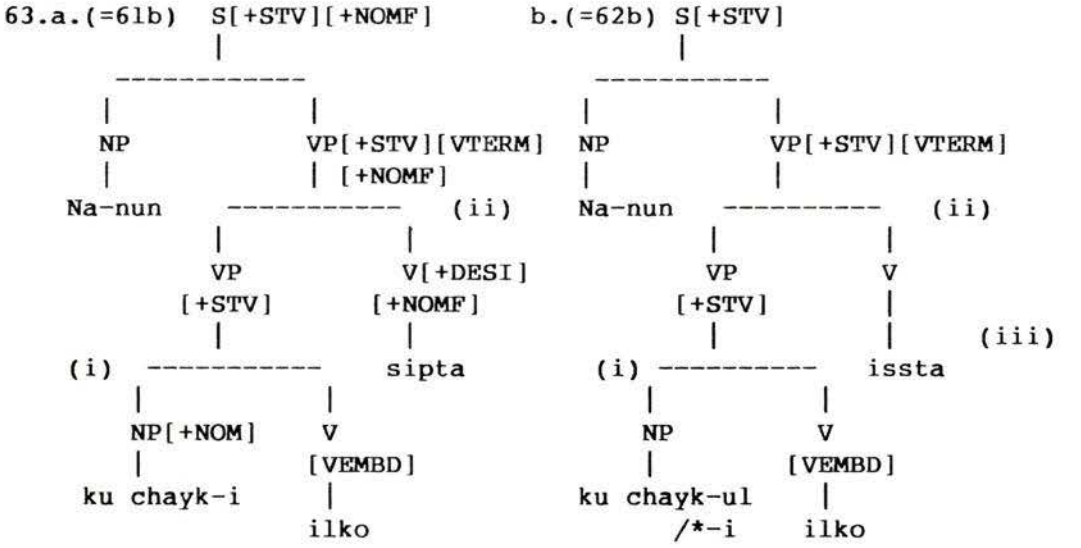
b.



In principle, the sentence with non-stative **issta** can contain the stative feature specification in this structure, since the NFIM freely applies to any ID rules and nothing prevents this. We might eliminate (61) through feature clash: if the AUX upstairs were assumed to contain [-STV] as FOOT feature, local tree (ii) of (61b) will have either the violation of the FFP or a feature clash, thus being ruled out. This approach, however, will have difficulty allowing wellformedness of the following sentences where a stative AUX is embedded within a non-stative AUX, as shown below:

62. Na-nun ku chayk-i il-ko sip-key toy-ess-ta.
I-Top the book-Nom read-VEMBD want-VEMBD become-PST-DCL
[+STV] [NON-STV]
'I came to want to read the book'

The solution to this problem of the gratuitous feature distribution should somehow be sensitive to the appearance of the desiderative AUX in a sentence. So we postulate that the desiderative AUX contains [+DESI] inherently and FCR 30: [+DESI] ⊃ [+NOMF] introduces the feature [+NOMF] (NOMinative Form) which is a HEAD and FOOT feature. Then, (61b) and (62b) will look like the following:



Suppose we have an FSD 15: [+V] ~ [NOMF] and FCR 31: ~([STV] & [VTERM] & ~[NOMF]). FCR 31 says that if tensed (i.e., [VTERM]) VP containing [STV] does not include [NOMF], the category is ill-formed. FCR 31 virtually mandates that if [STV] happens to appear in a sentence, the matrix VP should contain [+NOMF] as well.[97] Now, (63a) is admissible with respect to FSD 15, whereas (63b) either violates FCR 31 or becomes inadmissible in terms of FSD 15. The details are as follows. Local tree (ii) of (63a) conforms to FCR 31, and is forgiven for the non-default feature [+NOMF] since [+DESI] forces [+NOMF]. On the other hand, local

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97 We will not set up an FCR [+STV] ⊃ [+NOMF] or the like, since we appeal to the FSD for the exclusion of (63b) (=62b).

tree (ii) of (63b) would need to include [+NOMF] to satisfy FCR 31 and then [+NOMF] should appear in the head daughter since it is a HEAD feature. However, this gratuitous instantiation of [NOMF] is not allowed since the [+NOMF] on the head does not covary with its sister.[98]

Our postulation of [+STV] as FOOT feature restricted on verbal categories further predicts that if an 'ordinary' stative verbal happens to embed a VP, the categories dominated by the embedded VP show the particle alternation. This is borne out in the following examples:

64.a. Na-nun ku salam-kwa hanmkkey ka-ki-ka silhta.
I -TOP the person-with together go-VEMBD-NOM hate
'I hate going with that person'

b. Na-nun ku salam-i hammkkey ka-ki-ka silhta.
NOM
'I hate going with that person'

c. Na-nun ku-lul/-ka mana-ki-ka silhta.
I he-Acc/-Nom meet-VEMBD-Nom dislike
'I hate to meet him'

In (64) **silh** meaning 'dislike' is one of the non-auxiliary stative verbals which can take VP (as well as NP) as its complement. **Salam-kwa** 'with the person' in (64a) is a canonical form and **salam-i** in (64b) is its variant. In (64c), the accusative marker is basic since **manna** 'meet' is a transitive verb and the possibility of the nominative marker can be attributed to [+STV] which precipitates down from **silh.**

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98 We could have instantiated [+NOMF] on the daughter VP in local tree (ii) of (63b). This would give rise to tricuspid covariation among the mother and daughters since [+NOMF] is a HEAD and FOOT feature, allowing the presence of [+NOMF]. However, this would lead to an inadmissible projection in the next lower tree.

Furthermore, our suggestion entails that an NP 'deeply' embedded in the stative verbal construction will also manifest such an alternation, if there is a path for the precipitation of the FOOT feature, but not, if blocked somehow:

65.a. Na-ka John-eyeky/-i ku kos-ey/i ka-tolok
I-NOM J-DAT/-NOM that spot-to/-Nom-to go-VEMBD
seltukhaki-ka silhta.
persuade-ing-NOM dislike
'I don't like to persuade John to go to the spot'

b. Na-nun John-eykey Mary-lul/-ka mana-tolok
I-Top J.-Dat M.-Acc/-Nom meet-VEMBD

kwenhako sipta.
recommend-ing-Nom want
'I want to advise John to meet Mary'

c. Na-nun John-i Mary-lul/*-ka ttaylyessta-nun somwun-i
I-Top J-Nom M.-Acc/*-Nom hit-Mod rumor-Nom

tut-ki-ka silh-ess-ta.
hear-ing-Nom dislike-PST-DCL
'I didn't like to hear about the rumor that John hit Mary'

The above paradigm is predicted by our grammar if we posit that the feature [+STATIVE] is an FOOT feature which travels along the V"-path. (65a) and (65b) has a particle alternation in the deeply embedded NP. It should be further noticed that the use of **-ka** in (65c) is unacceptable, where NP blocks the precipitation as an 'island'.[99]

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99 For the exclusion of (65c), see a unified account of such ill-formed cases, presented in section 2.3.5.

2.3.3 Case Clash

The data given above seem to provide good evidence for [+STV] being treated through feature percolation systems, since we can account for the non-local particle alternation locally. In the following discussion of a case feature clash we will also see that our grammar relies crucially on the feature percolation system in order to describe non-local case feature compatibility.

Since particle features are also freely instantiated, there would arise some ill-formed sentences unless we provide some restrictions. Consider the following simpler cases where the nominative focus marker and the accusative focus marker are mutually exclusive:

66.a. Mwunmyeng kukka-ui namca-ui pyengkywun swumyen-i calpta.
civilized nation-Gen men-Gen average life-span-Nom is-short
(lit.)'Civilized countries' men's average life span is short'

b. Mwunmyeng kukka-ka/-ui namca-ka/-ui pyengkywun swumyen-i calpta.
Foc[+NOM] Foc[+NOM]

c.*Mwunmyeng kukka-lul namca-ui pyengkywun swumyen-i calpta.
Foc[+ACC] Gen

d.*Mwunmyeng kukka-lul namca-lul pyengkywun swumyen-i calpta.
Foc[+ACC] Foc[+ACC]

e. Chimlyakcatul-un namca-ui sinchey-ui ilpwu-lul pwulkuhwahayssta.
invaders-Top men-Gen body-Gen part-Acc crippled
'The invaders crippled part of men's body'

f. Chimlyakcatul-un namca-lul/-ui sinchey-lul/ui ilpwu-lul
Foc[+ACC] Foc[+ACC]
pwulkuhwahayssta.

g. Chimlyakcatul-un namca-*ka/-ui sinchey-*ka/-ui ilpwu-lul
Foc[+NOM] Foc[+NOM]
pwulkuhwahayssta.

---

[100] Since attachment of pragmatic particles to a category renders the category in question eligible for extraction, multiple appearance of focus markers (as in

(66a) is considered a basic form; (66b)[100] shows that the nominative focus marker can optionally replace the genitive marker no matter how deeply the genitive NP is embedded; (66c) and (66d) illustrate that the accusative focus marker cannot focus the genitive NP if it is embedded within the subject NP, whether embedded deeply or not. (66e) is also considered basic, and a parallel observation can be made about (66f) and (66g).

There may be a few ways of ruling out (66c) and (66d). What is intuitively clear is that the solution to this problem should reflect the following idea: an adnominal NP can be focused by the nominative focus marker only, if the embedding NP is a subject of S; if the matrix NP is the object, the adnominal phrase can be focused by the accusative focus marker only. This is true regardless how deeply the genitive NP is embedded in the argument position.

This situation is almost identical to the one found in the stative desiderative AUX construction, except that what are involved here are nominal categories and case features: some feature far on the top should be in a correct relation to the feature content of the deeply embedded elements downstairs, or vice versa. Thus, we suggest that case features are FOOT features as well as HEAD features when

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(66b)) indicates that extraction from the filler should be allowed, and the following example seems to support such move:

Mwunmyeng kukka-ka$_i$ [na-nun [[__$_i$ namca-ka]$_j$ [motwu-eyuihay
civilized country-Foc I-Top men-Foc everyone-by

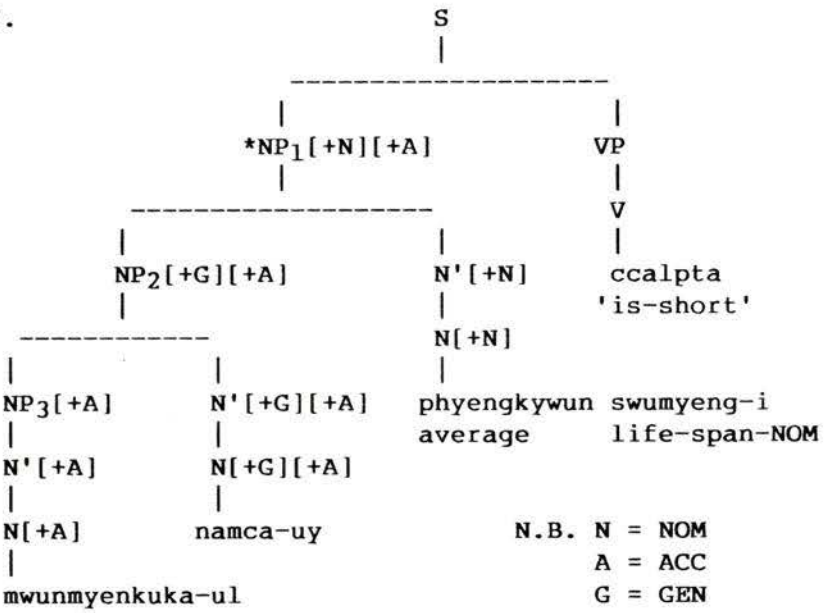
[__$_j$pyengkywun swumyeng-i claptak-ko] mikiecinta-ko]]
average life-span-Nom is-short-Comp is-believed-Copm

sayngkakhanta]
think
'I think it is believed by everyone that civilized countries'
men's average life span is short'

See appendix A for relevant suggestions on category structures.

they are '+', just as [+STV] is. Then ill-formedness of (66c) and (66d) follows from the property of the FOOT feature without any further stipulation. We illustrate how (66c) is ruled out, as follows:

67.



If [+ACC] is instantiated on NP_3 through the accusative focusing, NP_2 should also contain [+ACC] via the FFP, and the feature should further percolate up to NP_1 where a feature clash occurs because of the presence of [+NOM] (and [-ACC]).

In the case of the desiderative construction, however, feature clash is less frequent: unlike ordinary non-stative constructions the NPs extracted from the non-head, pre-nominal position may not take the same particle as their head since the NFIM can change the particle. For instance, the following examples are desiderative AUX constructions:

68.a. Nay-nun ku-ui elkwul-ul poko sipta. (base)
I-TOP he-GEN face-ACC see want
'I want to see his face'

b. Ku$_i$-ka [na-nun __$_i$ elkwu-i/-ul poko sipta]. (nominative
he-Foc I-Top NOM/ACC focusing)
[+NOM]
'It is him whose face I want to see'

c.?*Na-nun ku-lul elkwul-i poko sipta.
I-Top he-FOC NOM
'It is him whose face I want to see'

d.?Ku-lul na-nun elkwul-i poko sipta.
He-FOC I-TOP NOM
[+ACC]
'It is him whose face I want to see'

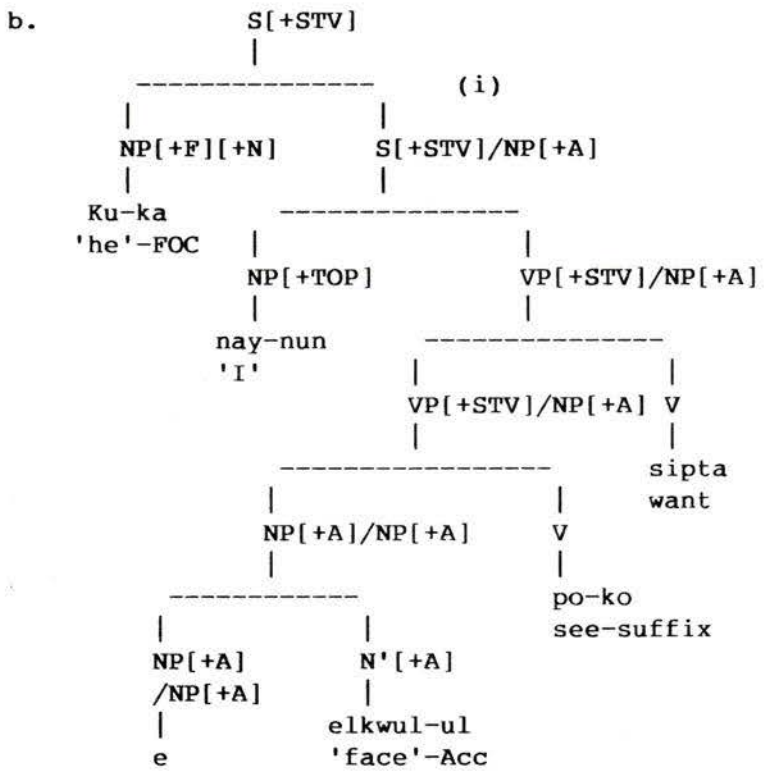
The crucial case is (68b) where the extracted NP can be marked with the nominative focus markers regardless of the case particle in the argument position. The pattern shown in (68b) is explained because of the existence of the NFIM which can change case particles in the stative verbal construction. Let us illustrate below part of (68b) which would be problematic if it were not in a stative verbal construction:[101]

69.a. Ku-ka Na-nun __ elkwul-ul poko sipta.
he-FOC I-Top Acc
[+NOM]
'It is him whose face I want to see'

---

101 As the top local tree of (69b) is licensed by the non-lexical ID rule, GKPS's restriction that metarules apply only to lexical ID rules seems to be too strong for Korean cases. However, we could avoid the formal restriction by formulating a separate non-lexical ID rule, as follows:

S[+STV] ---> XP[+NOM], H/XP.



Local trees in (69b) except (i) are sanctioned by ordinary rules and principles. If Local tree (i) is generated by the NFIM which requires the particle feature [+NOM] for the NP in question, then the CAP will have to condone the tree for the feature disagreement between the value of SLASH and the filler NP[+NOM][+FOC].[102]

It is also interesting to see that our analysis correctly explains what we did not expect to take into account. As we have mentioned previously, nominative and accusative markers are optional and it is taken care of by the optionality of [+NOM] and [+ACC]. The above explanation, however, requires these features to

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[102] This is one of the cases which motivate the relativization of the clause (i) of the CAP. See further motivation for the relaxation of the first part of the CAP in connection with example (26) of Chapter 3.

be always present in the category in order to trigger the case clash. That is, using the right focus marker is not sufficient. The uppermost NP must have either [+NOM] or [+ACC]. Interestingly, this mandatory presence is required by the FFP without any stipulation: suppose we instantiate a pragmatic particle feature [+FOC][+ACC] on the embedded genitive NP, the NP upstairs must include [+ACC] since it is FOOT feature: this is just opposite the way that instantiated FOOT features require the same specification downstairs. This obligatoriness accounts for the following examples where the object must bear a case marker if its genitive NP has either [+NOM] or [+ACC]:

70.a. Ku-ka na-nun __ kho-ka poko sipta.
he-FOC I-TOp nose-Nom see want
'It is he whose nose I want to see'

b. *Ku-ka na-unn __ kho poko sipta.
c. Ku-lul na-nun __ kho-lul poko sipta.
d. *Ku-lul na-nun __ kho poko sipta.

As (70b) and (70d) show, [+NOM] or [+ACC] is not optional but obligatory when the adnominal phrase is marked with the nominative (focus) marker.

Up to this point, we have provided rules which can generate all the variants as well as basic forms, and set up constraints rule out ill-formed cases. Our argument and analysis seems to support the universal character of the feature percolation systems formulated in GKPS.

2.3.4 The Status of [+NOM] in the Desiderative AUX Construction

There is one more crucial point to be clarified with regard to the status of [+NOM] in XP[+NOM] which is introduced by the metarule in (58). It is certainly not a feature which is directly realized as a subject marker in morphology, since it is very implausible that as many NPs and PP-type categories as can appear in a sentence can also bear subject markers simultaneously within a simple clause.[103] Alternatively, there seem to be two possible interpretations.

First, assuming that [+NOM] is somehow related to the surface realization of **-ka/-i** , we can view the particle in question as a dummy postposition which can be gratuitously attached to any XP dominated by [+STV]: on this view, [+NOM] is more likely to be interpreted as being instantiated on NP[+DAT], PP, etc. as a superfluous feature whose role is simply to attach a particle at the end of the phrase. The other possiblilty is to take [+NOM] as an **inherited** feature which characterizes XP as a certain category so that we can at least say that XP[+NOM] would not further accept [+ACC] nor [-NOM], for instance.

In the following we will argue that [+NOM] in XP[+NOM] plays the role of an **inherited** feature which selectively accepts more features into XP. Furthermore, it will be argued that some subset of the extensions of XP[+NOM] will turn out to be a focused phrase.

We first consider a theory-internal issue involving the interpretation of XP[+NOM] in the metarule of (58). In the first view, [+NOM] may be thought of being added to a 'fully specified' dative NP (e.g.) which is NP[+DAT][-NOM]: this is what the dummy feature approach implies. This, however, may lead to a case

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[103] See (48b), (49b), and (66b) where every NP is marked with **-ka**. Further consult our particle feature specification of case particles in (45).

clash.

More importantly, this is not the way metarules work in GPSG, either. Metarules are rule-to-rule statements which override the FSDs. Thus, the ID rule 'VP ---> NP, NP[+DAT]' will sanction the following set of ID rules via the NFIM:

71.a. VP[+NACT] ---> NP[+NOM], NP[+DAT]
b. VP[+NACT] ---> NP, NP[+DAT][+NOM]
c. VP[+NACT] ---> NP[+NOM], NP[+DAT][+NOM]

Now, FSD 1 cannot apply to any NP[+NOM] in (71), since these are ID rules. Thus we can instantiate neither [+ACC] nor [-NOM] to XP[+NOM]. This phrase, however, will accept [+TOP] or [+FOC], for instance. If NP[+DAT][+NOM] is focused, it will turn out as NP[+DAT][+FOC][+NOM] whose overt form will be associated to the string 'NP-(eykey)-ka' through the morphological convention suggested in (45) in this chapter. This base-feature approach provides the basis for XP[+NOM] being focused by the nominative focus marker.

The second point comes from analogy. As previously mentioned in connection with examples in (29) in section 1.2.2.1, the so-called delimiters in Korean are not case particles but special particles which convey some semantic or/and pragmatic information. Some of the well-known delimiters are the topic marker, **-to** meaning 'too' **-man** meaning 'only', and **-cocha** meaning 'even'. These cannot cooccur with nominative, accusative, and genitive case particles. However, they can cooccur with the dative particle and PPs, in which case the dative marker and postpositions are optional, as shown below:

72.a. Na-nun ku salam-eykey chayk-ul cwuko sipta.
I-Top the person-Dat book-Acc give want
'I want to give a book to the person'

b. Na-nun ku salam-(eykey)-nun chayk-ul cwuko sipta.
Top
c. Na-nun ku salam-(eykey)-**ka** chayk-ul cwuko sipta.
?
d. Na-nun ku salam-(eykey)-to chayk-ul cwuko sipta.
too
e. Na-nun ku salam-(eykey)-man chayk-ul cwuko sipta.
only
f. Na-nun ku salam-(eykey)-cocha chayk-ul cwuko sipta.
even

This distributional property suggests that **-ka** in (72c) is most probably one of the delimiters in the desiderative auxiliary construction.

As extensively discussed in section 2.1.3, the topic marker and the focus marker have similar distributions. These two pragmatic delimiters have another distinct feature in that they can follow another delimiter, as shown in (73) where **-man** is a non-pragmatic delimiter:

73.a. Na-nun ku salam--eykey-man-un chayk-ul cwuko sipta.
I-Top the person-Dat-only-Top book-Acc give want
'As for that person specifically, I want to give a book (to him)'

b. Na-nun ku salam-eykey-man-**i** chayk-ul cwuko sipta.
I-Top the person-Dat-only-? book-Acc give want
'As for that person only, I want to give a book (to him)'

That is, pragmatic delimiters can be placed after some non-pragmatic delimiters.

Our claim that **-ka/-i** is a focus marker in (72) or (73b) does not imply that XP[+NOM] in the metarule always ends up being focused in a desiderative AUX construction. For instance, NP[+NOM] in (57a) can simply add [-ACC] only, being realized as identical to the nominative object of non-auxiliary stative verbals, or it can freely further focused or topicalized. NP[+DAT][+NOM], on the other hand, turns out to be always focused. This is due to the FCR 13: (([+NOM] OR [+ACC])

& ([+DAT] OR [PFORM] OR [GEN])) ⊃ [+FOC]: This FCR is mainly motivated for pragmatic reasons, and is crucial for the whole argument.

Thus, we shall now examine why the sequence of **NP + DAT/+P +ka** should be analyzed as a focused phrase. The main reason for such an analysis comes from the context-boundedness of the phrase. It sounds very marked pragmatically: it connotes more than what a bare dative NP would do.

Although pinning down the pragmatic content of the alleged focus marker may require further research, we believe that the following statement is appropriate as a general interpretation convention:[104] if a given phrase is marked with **-ka/-i**, it implies that the rest of the string in the sentence is a specifically and exclusively true description of the phrase in question among the alternatives given for the discourse. For instance, consider each sentence in (74):

74.a. John-nun Mary-(eykey)-ka chayk-ul cwuko sipta.
Top Dat Foc book -Acc give want
'It is to Mary that John wants to give a book'

b. John-nun Mary-(eykey)-ka chayk-i cwuko sipta.
FOC FOC

The translation in (74) is not an accurate one, of course. What we mean by 'the rest of the string is a specifically and exclusively true description of the phrase among given alternatives' can be elaborated as follows. In (74a), for instance, the string exclusively true with respect to the dative NP is 'John-un chayk-ul cwuko sipta' meaning 'John wants to give __ a book'. Thus, this sentence could be more accurately paraphrased as 'what is specifically and exclusively true with 'to Mary'

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104 I am aware of no previous work which deals specifically with the focus marker in Korean, although Kuno (1973) suggests that the subject marker has an 'exhaustive listing property' in Japanese. This property is not well defined, either.

is that John wants to give a book (to her)' in a situation the book could be alternatively given to other persons introduced during the discourse. -**Ka** should be stressed and followed by a pause. Therefore, this sentence is used in a situation where the speaker connotes that John wants to give a book exclusively 'to Mary' out of other alternatives given for the discourse. Let us imagine a more concrete situation where a group of girls (e.g., Sue, Cindy, Alice, Mary, and no more) are graduating from high school and their boy friends in the peer group are talking to each other about what they are going to do 'to the graduating girls'. Now, suppose that the topic involves John's gift idea and that everyone knows John has a good book suitable as a gift but John does not mention it until gift items for the first two girls are given. In that case some ignorant boy who does not catch John's intention may wonder what John will do with the book, and somebody else who knows that John is closest to Mary can comment on the question, as follows:

75. A: Ku chayk-un ettekhey ha-l-kka? (unheard to John)
That book -Top how do-PRT-Q
'(I wonder) what (he) will do with the book?'

B: John-un Mary-eykey-ka ku chayk-ul cwuko sip-keyss-ci.
Top Dat-Foc the book-Acc give want-MODL-DCL
'(I guess) he wants to give the book **to Mary**'

This implies that 'Mary' is exclusively chosen among the four **given** girls who could alternatively receive the book.

For the sake of clarification, we shall provide another example. Suppose an old millionaire has been running several companies of different sizes and there is a rumor that he considers retiring form his business and he wants to transfer his largest company to his second son. Now, all the executives and even his close rel-

atives are opposed to the transfer for some reasons. After several individuals have tried to persuade him against his will, a group of relatives got together and visited the millionaire with a good purpose. Now, we can find a situation for the focused dative NP in the millionaire's statement:

```
76. Rel: mat     atul-un cenmwun   cisik-ppwunanila
    (A)  eldest son-Top technical knowledge-as well

         tayinkwankyey-to   coha-se          A-hoisa-lul
         human relation-too is-good-at-since A-company-Acc

         matkiki-ey    de   cekhahal-kes-kat-sumni-ta.
         committing-in more suitable-Comp-seem-POL-DCL

         'Since the eldest son has a good technical knowledge
          and good relations to people, he seems to be more
          suitable for managing company A.'

          Twulccay-eykey-nun     B-hoisa-ul    matki-nun kes-i
          the second son-Dat-Top B-company-Acc leave-ing-top-Nom

          ette-sumni-kka?
          how-POL-Q

         'As for the second son, how about letting him run company B'

 Mill: A-hoisa-nun   nay-ka cal  alko    isse.
  (B)  A-company-Top I-Nom  well knowing is
       'As for company A, I know it very well'

         Pwunmyenghi malha-nunte na-nun twulccay-eykey-ka
         clearly     speaking    I-Top  second son-Dat-Foc


         A-hoisa-lul  matkiko sip-e.  Te isang  chaca oci ma.
         A company-Acc give   want-DCL more any visit come not[IMP]

         'I am clearly telling (you). I want to let the second son
         take over company A. 'Don't (come and) bother me any more'
```

In (76B) the string NP+Dat+Foc is exclusively chosen among the two alternatives **given for the discourse,** the second son out of the two sons.

We next examine (74b) which contains two nominative focus markers. (74b) can, according to our previous interpretation convention, be paraphrased as 'what is specifically true about the book and 'to Mary' is that John wants to give (the book) (to her)'. So, as compared to (74a) which can allow the possibility that John can also give something else to Mary (since the 'book' is not exclusively chosen among alternatives), (74b) has two objects exclusively selected for John's performance of giving. Thus, (74b) rules out the possibility that John may give some other 'talked-about' item to Mary.

Likewise, in (76B), the millionaire's statement does not exclude the possibility that company B may be handed over to the second son as well. If the wealthy man used two **ka**'s in (76B) (i.e., if he used another **ka** after **hoisa** in (76B)), it implies that the second son can only inherit company A out of the given two. The use of two **-ka**'s, however, does not exclude the possibility that company C which are not talked about may be given to the second son.

In the case of PP[+NOM], we can provide the exact same argument as we did with the dative NP. So we simply provide a situation and example which points to 'exclusiveness' of the phrase. Let us consider the following:

77. **Na-nun ku cicem-ey-ka kyenchalkwan-ul paychihako sipessta.**
I-Top the spot-at-Foc policeman-Acc place wanted
'It was at that spot that I wanted to place a policeman'

(77) can be used by a police chief who received a report of an accident at the spot where he wished to place a policeman more than at any other spot which he thinks is as treacherous. In this statement it is implied that there are some other (alternative) spots that he is thinking of from which he could divert policemen and that he could not manage to place a policeman at the spot anyhow.

As can be expected from the parallelism observed previously, the same can be said for the ordinary stative verbal construction. For instance in (78) it is implied that Mary is the only person to whom John dislikes writing a letter among the given people to whom John is supposed to write a letter.

78. John-un Mary-eykey-ka pyenci-lul ssuki-ka silta.
J.-Top May-Dat-Foc letter-Acc write-Nom dislike
'It is to Mary that John dislikes to write a letter'

Up to this point we have argued that NP[+DAT][+NOM] and PP[+NOM] are always focused in the desiderative AUX construction, on the basis of distributional and pragmatic considerations. We have also argued that **-ka** is a nominative focus marker which conveys 'exclusiveness among alternatives' given for the discourse.

2.3.5 Further Data

We need to provide some ancillary measures for our grammar, since we find an unexpected pattern in coordination: the particle alternation between the accusative and nominative markers is not found in the coodinate stative verbal construction. This anomaly is not unusual as we pointed out in connection (65c) of this chapter, considering that complex NPs and coordinate structures constitute 'islands' for various syntactic phenomena.

As will be argued in Chapter 5, one of the coordination schema in Korean can roughly be given as follows:

79. X ---> H^{+}[CONJ α], H[CONJ NIL]
where $\alpha \in$ { **kwa/wa, ko, na**}

cf. LP statement: [CONJ α] < [CONJ NIL]

This schema sanctions the following sentence:

80. Na-nun piano-lul chi-ko nolay-lul pwulessta.
I-top piano-Acc play-and song-Acc sang
'I played piano and sang a song'

If (80) is embedded in the desiderative AUX construction, we have the following unexpected pattern:

81.a. Na-nun piano-lul chi-ko nolay-lul pwuluko sipessta.
I-Top piano-Acc play-and song -Acc sing wanted
'I wanted to played piano and to sing songs'

b.*Na-nun piano-ka chi-ko nolay-lul pwuluko sipessta.
c.*Na-nun piano-ka chi-ko nolay-ka pwuluko sipessta.
d.?Na-nun piano-lul chi-ko nolay-ka pwuluko sipessta.
e. Na-nun piano-to chi-ko nolay-to pwuluko sipessta.
too too

If we attach the desiderative AUX at each conjunct, the ill-formednees disappears as shown below:

82.a. Na-nun piano-lul chiko sip-ko nolay-lul pwuluko sipessta.
I-Top piano-Acc play want-and song -Acc sing wanted
'I wanted to played piano and wanted to sing songs'

b. Na-nun piano-ka chiko sip-ko nolay-lul pwuluko sipessta.
want-and
c. Na-nun piano-ka chiko sip-ko nolay-ka pwuluko sipessta.

d. Na-nun piano-lul chiko sip-ko nolay-ka pwuluko sipessta.

Thus, the ill-formedness does not seem to be attributable to the inherent conceptual conflict in the coordinated structure which might arise between the exclusiveness property of **-ka** which would not allow the other coordinated pair and the coordination which requires a coordinated pair. Furthermore, this problem is specific to the metarule output:

83. Na-nun Mary-ka coh-ko Alice-ka silhta.
I-Top M.-Nom is-fond-of A.-Nom hate
'I like Mary and hate Alice'

(83) is not be a metarule output since a basic ID rule liceses it.

Furthermore, as is expected, this problem is also found with the daughters of VP embedded in the context of an ordinary stative verb.

84.a. Na-nun piano-lul chi-ko nolay-lul pwuluki-ka silhta.
I-Top piano-Acc play-and song -Acc sing-ing-Nom hate
'I hate to played piano and to sing songs'

b.*Na-nun piano-ka chi-ko nolay-lul pwuluki-ka silhta
c.*Na-nun piano-ka chi-ko nolay-ka pwuluki-ka silhta.
d.?Na-nun piano-lul chi-ko nolay-ka pwuluki-ka silhta.
e. Na-nun piano-to chi-ko nolay-to pwuluki-ka silhta.

An appropriate generalization seems to be that if the coordinated structure is embedded in the stative construction, the feature precipitation is impeded.[105] It is also revealing that these facts about coordination and the complex NP blockage discussed in connection with examples in (65) are reminiscent of the English Complex NP Constraint and the Coordinate Structure Constraint.[106] In the Korean case, certain FOOT features are prohibited from propagating through certain 'is-

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105 As suggested by Thomas Hukari (private communication), it is worth noting that in English FOOT features seemingly percolate through coordinate structures, but they must go into all conjuncts, an across-the-board phenomena which has not been solved in GPSG:

What do you think Fred ate and drank (*a coke)?
I wonder which salad and which /*a sandwich Fred ordered?

But [STV] seems to be absolutely proscribed from percolating through coordinate structures in Korean.

106 See Ross (1986: 266-80) for the Complex NP Constraint and the Coordinate Structure Constraint in English.

lands', whereas English phrasal categories are kept from 'moving' out of certain 'islands'. Thus, the problem which we are faced with is not unusual.

There seem to be a few possible solutions which can filter out the ill-formed cases. One is to revise the proposed metarule as in (85a) and the other is to set up an FCR as in (85b):

85.a. Nominative feature Introduction Metarule(Revised)
VP ---> XP, W
===>
VP[+STATIVE][~CONJ] ---> XP[+NOM], W

b. FCR 15: (([CONJ] & [VEMBD] & [-NOMF]) OR NP) ⊃ ~[STV]

We choose (85b) rather than revise the metarule, since we want the metarule to be stated as generally as possible and the FCRs to take care of parochial details.[107]

We also find a symmetrical set of ill-formed sentences with respect to another subset of the FOOT features: [+NOM] and [+ACC] are also blocked from penetrating through the coordinated structure, as shown below:

86.a. John-kwa Mary-ui sensayngnim-i ywumenghata.
and Gen teacher-Mon is-famous
'John and Mary's teacher ia famous'

b.*John-kwa-i Mary-ui sensayngnim-i ywumenghata.
and FOC

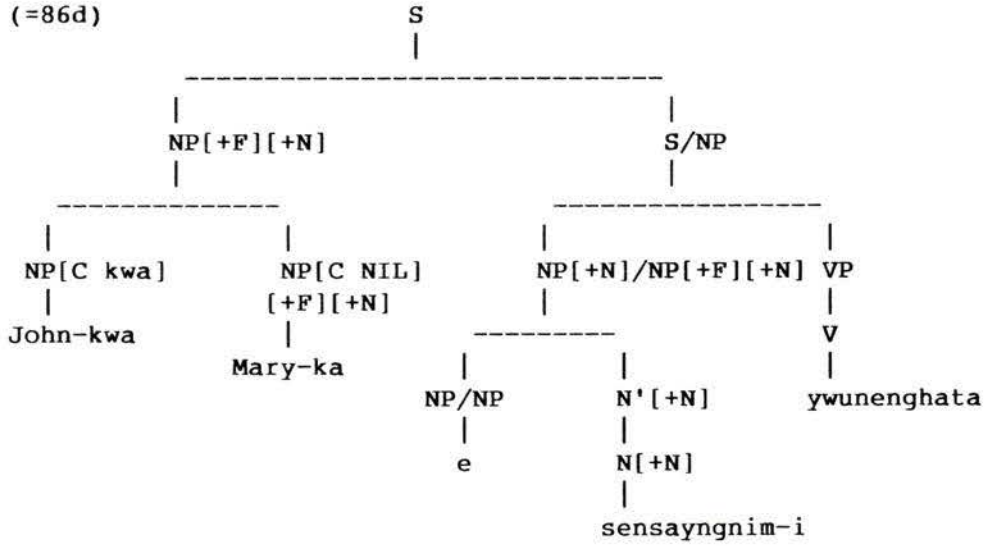
c.*John-kwa-ka Mary-ka sensayngnim-i ywumenghata.
and FOC FOC
d. John-kwa Mary-ka sensayngnim-i ywumenghata.
and FOC

---

107 Furthermore, the revised metarule in (85a) is not complete either, because it only deals with VP. That is, (85a) is impossible because the metarule should mention V" instead of VP and because the [+STV] specification is resistant to coordination of embedded VP only.

The ill-formed sentences in (86) can be accounted for, if we say that a combination of the conjunction marker with any case or focus marker is a morphological impossibility. [108] Or we can set up a syntactic constraint FCR 19: ~([NPRT] & [CONJ α]). Then this admits XP[CONJ kwa], but not XP[CONJ kwa][NPRT], as shown below:

87. (=86d)



Since NP 'John' corresponds to NP[CONJ α] in a coordination schema 'NP ---> H^{+}[CONJ α], H[CONJ NIL]', no other conjunct than the last can have [+FOC][+NOM] because of FCR 19. Thus, (86b) and (86c) are rejected and (86d) is accepted by our grammar.

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[108] So we are assuming that there is a kind of morphological constraint such as ~([NPRT] & [CONJ α]) where NPRT is mnemonic for Noun PARTicle features.

2.4 Double Accusative Constructions

Korean has not only multiple nominative constructions but also multiple accusative constructions. The following data, as contrasted in (88) and (89), suggest that we are seemingly dealing with a symmetrical construction of the same kind:

88.a. Mwunmyeng kukka-ui namca-ui pyengkywun swumyen-i calpta.
civilized nation-Gen men-Gen average life-span-Nom is-short
(lit.)'Civilized countries' men's average life span is short'

b. Mwunmyeng kukka-ka/-ui namca-ka/-ui pyengkywun swumyen-i calpta.
Foc[+NOM]/Gen Foc[+NOM]/Gen

c.*Mwunmyeng kukka-lul namca-ui pyengkywun swumyen-i calpta.
Foc[-+ACC] Gen
d.*Mwunmyeng kukka-lul namca-lul pyengkywun swumyen-i calpta.
Foc[+ACC] Foc[+ACC]

89.a. Chimlyakcatul-un namca-ui sinchey-ui ilpwu-lul pwulkuhwahayssta.
invaders-Top men-Gen body-Gen part-Acc crippled
'The invaders crippled part of men's body'

b. Chimlyakcatul-un namca-lul/-ui sinchey-lul/ui ilpwu-lul
Foc[+ACC]/Gen Foc[+ACC]/Gen
pwulkuhwahayssta.

c. Chimlyakcatul-un namca-*ka/-ui sinchey-*ka/-ui ilpwu-lul
Foc[+NOM]/Gen Foc[+NOM]/Gen
pwulkuhwahayssta.

Let us illustrate some more examples:

90.a. Nay-ka John-ui elkwul-ul ttayryessta.
I-SM J.-Gen face-OM hit
'I hit John's face'

b. Nay-ka John-ul/*-ka elkwul-ul ttaylyessta.
I-SM J.-Acc/*-Nom face-OM hit
(lit.)'It is John whose face I hit __'

cf. John-i/-*ul apeci-ka ywumenghata.
J.-Foc/*Acc father-Nom is-famous
'It is John whose father is famous'

91.a. Nay-ka John-eykey chayk-ul cwuessta.
I-SM J.-Dat book-OM gave
'I gave the book to John'

b. Nay-ka John-(eykey)-lul/-*ka chayk-ul cwuessta.
I-SM J.-(Dat)-ACC/*-NOM book-ACC gave
'It is to John that I gave book'

92.a. Kyengchal-i i kos-ey swunkyeng-ul paychihayssta.
police-SM this spot-at policeman-OM placed
'The police placed policemen at this spot'
b. Kyengchal-i i kos(-ey)-ul/*-ka swunkyeng-ul paychihayssta.
police-SM this spot(-at)-Acc/*-Nom policeman-OM placed
'It is at this spot that the police placed policemen'

93.a. Ku-ka Canada-ey kassta.
He-SM Canada-to went
'He went to Canada'

b. Ku-ka Kanada-(ey)-lul/*-ka kassta.
he-SM Canada-(to)-Acc/-*Nom went
'He went to Canada'

As shown in (89) to (93), the accusative focus marker is in complementary distribution with the nominative particle in question: subcategorized-for elements or elements embedded within them can be optionally marked with the accusative particle in a manner which parallels the way in which nominative focus particles are attached to non-complements of a verb.[109] Furthermore, the oblique particles are optionally deleted between the NP and the particle in question, as shown in (91b) and (93b), as was the case with the nominative focus marker.

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109 A systematic exception to this statement is the desiderative construction which is discussed in Section 2.1.2. Some postpositions such as **lo** 'with', **eyse** 'in' are also incompatible with the accusative marker.

This symmetrical distribution allows us to make an inference that the accusative marker in question is also some kind of focus marker in Korean. In the following, we attempt to establish the accusative marker in question as a focus particle, by comparing the particle in question with others.

The actual use of the sentences in a discourse tells us that the accusative particle does not seem to convey the same pragmatic connotation as the nominative particle does. Thus, we first compare the nominative and accusative focus markers with each other with respect to their pragmatic contents. For this purpose we choose an example where these two focus markers as well as the basic particle can be used in a single slot.

Suppose some Koreans became boat people like the Vietnamese, and found no hospitable country in which to settle. By the initiation of some humanitarian association, in the end they are allowed to enter the U.S.A. or England. Now, if the interviewer from the association asks a question such as (94A), (94B) are possible responses:

94.A: tangsin-nun mikwuk-kwa yengkwuk cwung eti-ka
you-top U.S. and England between where-Nom [+FOC]
kako sip-eyo?
go want
(lit.) 'Where do you want to go between U.S.A. and England?

B:(1) (Na-nun) mikwuk-i kako sip-eyo.
U.S-Nom[+FOC] go want
(I) want to go to the U.S.A.

(2)!(Na-nun) mikwuk-(ey)-ul kako sipeyo.
Acc[+FOC]

(3)!(Na-nun) mikwuk-ey kako sipeyo.
to
(4) (Na-nun) Kanada-lul kako sip-undey-yo.
Canada-Acc[+FOC]
'I want to go to Canada, but ...'

(B1) is a desiderative construction where [+NOM] is introduced by the NFIM; (B2) is also a desiderative construction where the NFIM has not applied, but focusing has applied as in (93); (B3) is a pragmatically unmarked form; (B4) is a desiderative construction where not the NFIM but focusing has applied as in (B2). As we have observed in the discussion of the desiderative construction, the pragmatic content of the nominative focus marker is the 'exclusiveness among the alternatives given for the discourse'. This assertion is borne out in this case, too. As to A's question, B can respond with (1), implying that he would not go to the other country. The canonical form (3) does not seem to be pragmatically appropriate here. The claimed-to-be accusative focus marker is not suitable for the given information as marked in (2), but is most appropriate for the new information, and seems to exclude the possibility of choosing among the given alternatives. Thus, if B wants to go to Canada, he uses the accusative focus marker as in (B4) since 'Canada' is not among the alternatives given for the discourse. From these examples we can infer that that the accusative marker is used for the information being newly introduced as focused. Focusing in this case means 'excluding all the other (given) alternatives'.

We apply to some other cases our hypothesis that the optional accusative marker -- like the extra nominative marker in the data discussed earlier -- is actually a focus particle. We also employ an example which can contain the nominative and accusative focus markers as well as the basic particle. Let us suppose A and B are close friends.

95. A: Ne-un yet tongchangtul cwung nwuku-lul sosik-ul alko sip-nya?
You-Top old classmates among whose-Acc news-Acc know want-Q
[+FOC]
'Whose news do you want to know among your old classmates?'

B:(1) Na-nun John-i sosik-i alko sipta.
I-Top J.-Nom news-Nom know want
'I want to know John's news'

(2) Na-nun John-ul sosik-ul alko sipta.
Acc
[+FOC]

(3) Na-nun John-ui sosik-ul alko sipta.
Gen

In this case, all the responses seem to be possible, but with different pragmatic connotations. (1) implies that 'John' is among the close friends of A and B, and so 'John' is one of the expected candidates for curiosity. This is in line with our hypothesis that 'John' is somehow the exclusively chosen among the alternatives given for the discourse. In contrast, (2) implies that 'John' is one of the remote friends whom the other discourse participant (=A) might have forgotten about and that to the surprise of A, B is introducing the new information, rejecting the given alternatives. (3) does not sound particularly bad, but it has no special connotations.[110]

Our claim is not unusual in that English also has some type of discourse-oriented sentence use:[111]

96.A: What happened to John?
B:(1) He was hit by a truck.
(2)? A truck hit him.

---

110 Without argument, K.-H. Kim (1985) independently proposes that the accusative marker is used as an expression of 'surprise' or 'unexpectedness'.

111 See Givon (1978) for further details.

As to (96A), (B1) would be more appropriate than (B2). That is, the subject of S usually plays a role of some type of connector in a sequence of sentences (discourse), which picks up the previously given information, to which new information is added. It is not surprising that the Korean subject particle, or the particle homophonous to it, takes up the given information and that if focusing is involved, it is among the given alternatives. Furthermore, it does not seem mere coincidence that we find an expected symmetry in that the accusative focus marker is used mainly to introduce new contrasting information.

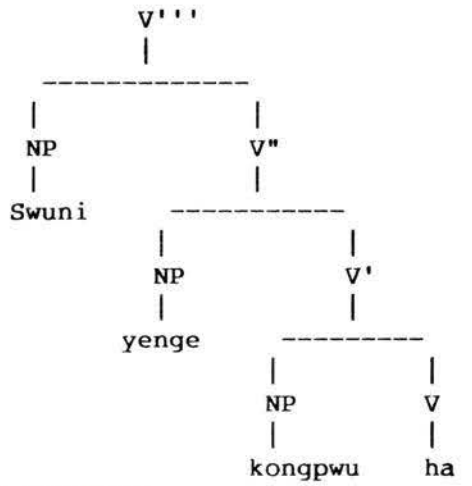
Our main concern in this dissertation is not the pragmatic content of the focus markers but the syntactic distribution of those particles. Our elaboration, however, is necessitated due to the almost total lack of research in this area in Korean linguistics. Although we admit that our hypothesis has to be subjected to further tests, we believe that the substantial part of our claim is true.

We next examine some proposals made by B.-S. Park (1981), K.-H. Kim (1985), and Y.-S. Kang (1987) pointing out their shortfalls and providing our alternative explanations.

We first turn to Park (1981) who suggests, rather than argues, that sentence (97a), for instance, has the structure (97b):

97.a. Swuni-ka yenge-lul kongpwu-lul hanta.
S.-Nom English-Acc study-Acc do
'Swuni studies English'

b.



(Park 1981:99)

Without giving a full justification to the X-bar system he employs, Park states that

> the NP dominated by V''' is the subject, the NP dominated by V" is the direct object, and the NP dominated by V' is also the direct object. (Park, p100)

We first turn to the cases which have to do with verb **ha** 'do'. Park (1981: 99) allows only the double (not 'multiple') appearance of object markers when the verb **ha** 'do' is concerned. However, there seems to be a multitude of apparent counterexamples such as the following:

98.a. Ku-ka yenge-lul kicho-lul kongbwu-lul ha-yess-ta.
he-SM English-ACC basics-ACC study-ACC do-PST-DCL
'He studied basic English'

b. Ku-ka John-ul ku cengpo-lul ceykong-ul hayessta.
He-SM J.-ACC that information-ACC provision-ACC did
'He provided John with that information'

c. Ku-ka so-lul payk mali-lul saywuk-ul hayssta.
he-SM ox-ACC 100 head-ACC raising-ACC did
'He raised a hundred of oxen'

99.a. Chimlyakcatul-un namca-ui sinchey-ui ilpwu-lul
invaders-Top men-Gen body-Gen part-Acc

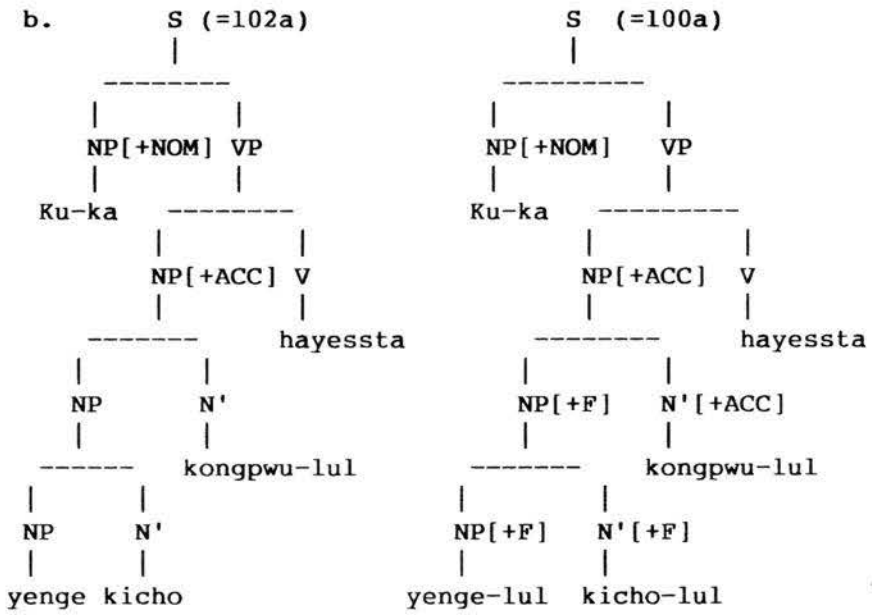
pwulkuhwahayssta.
crippled
'The invaders crippled part of men's bodies'

b. Chimlyakcatul-un namca-lul/-ui sinchey-lul/ui ilpwu-lul
Foc[+ACC] Foc[+ACC]
pwulkuhwahayssta.

c. Chimlyakcatul-un namca-*ka/-ui sinchey-*ka/-ui ilpwu-lul
Foc[+NOM] Foc[+NOM]
pwulkuhwahayssta.

These examples are problematic for Park, but not for us. They are, in our opinion, instances of focused NPs within the governing domain of transitive lexical verbs. For instance, (98a) will have as a pragmatically unmarked form (100a) and the respective trees are of the following form:

100.a. Ku-ka yenge kicho kongpwu-lul hayessta.
He-Nom English basics study-acc did
(lit.) 'He did the study of the basics of English'



(Some particles are ignored)

Note that in the tree for (98a) no extraction is involved in focus marking in our analysis.

The impossibility of the following sentences is handled with a separate restriction called the 'Object-over-Object' constraint by Park (1981).[112] We however consider the unacceptability of these sentences a natural output of our constraints which do not allow the extraction of heads:

```
101.a.*Ku-ka  kongpwu-lul yenge-lul   kicho-lul ha-yess-ta.
       he-SM  study-ACC   English-ACC basics-ACC do-PST-DCL
       'He studied basic English'
```

---

[112] Park's 'Object-over-Object' constraint involving the double accusative construction is stated as follows:

Object-over Object Constraint (Park 1981:108)
The second object cannot move over the first object in a double object construction.

b.*Ku-ka yenge-lul kongpwu-lul kicho-lul ha-yess-ta.
he-SM English-ACC study-ACC basics-ACC do-PST-DCL
'He studied basic English'

c.*Ku-ka kicho-lul yenge-lul kongbwu-lul ha-yess-ta.
he-SM basics-ACC English-ACC study-ACC do-PST-DCL
'He studied basic English'

d.*Ku-ka kicho-lul kongpwu-lul yenge-lul ha-yess-ta.
he-SM basics-ACC study-ACC English-ACC do-PST-DCL
'He studied basic English'

e.*Ku-ka kongpwu-lul kicho-lul yenge-lul ha-yess-ta.
he-SM study-ACC basics-ACC English-ACC do-PST-DCL
'He studied basic English'

In our grammar, the prohibition of the head-extraction naturally follows from our analysis in which only BAR-2 level categories are allowed to be extracted and that SLASH is not a HEAD feature. It should be noted that the word order of the examples in (101) would entail extraction, which is impossible here.

If our account is true in this regard, the examples (91b) and (92b) should allow scrambling. Scrambling is possible here because the relevant elements are not heads of the phrase, and this fact would be harmful to Park's 'Object-over-Object' constraint:

91'.b. John-(eykey)-lul nay-ka chayk-ul cwuessta.
J.-(Dat)-Acc I-SM book-Acc gave
'It is to John that I gave book'

92'.b. I kos-ul kyengchal-i swunkyeng-ul paychihayssta.
this spot-ACC police-SM policeman-OM placed
'It is at this spot that the police placed policemen'

Next, we make a brief comment on the proposals by K.-H. Kim (1985) and Kang (1987). The basic idea of these two authors regarding this multiple accusa-

tive construction is that the construction in question should be lexically accounted for: there is a separate specification in the lexicon to the effect that certain verbs allow 'double' object NPs.[113] Thus, their suggestion is almost identical to a null hypothesis as far as syntax is concerned. K.-H. Kim's suggestion needs further comment: Kim, following Gazdar (1982), employs a kind of lexical redundancy rule to the effect that certain verbs which usually take one complement can take another element if the latter is in a 'whole-part' relation with the former. However, as we have seen, the data we are dealing with do not necessarily manifest a 'whole-part' relation (see examples (91) and (92)).

Kim (1985) further states that the relation between the single accusative and double accusative constructions is not to be captured by transformational rules, but by lexical rules. His contention, furthermore, would need an ad hoc constraint among the multiple NPs because of the strict linear order among the multiple objects (which motivated Park (1982) to set up the 'Object-over-Object' constraint):

```
102.a.?Chelswu-ka son-ul    Younghee-lul capassta.
       C.-NOM     hand-ACC Y.-ACC       caught
       'Chelswwu caught Younghee by the hand'

    b. Chelswu-ka Younghee-lul son-ul    capassta. (Kim 1985: 106)
       C.-NOM     Y.-ACC       hand-ACC caught
       'Chelswwu caught Younghee by the hand'
```

Note that no linear order requirement can be found among the complements of other ordinary ditransitive verbs.

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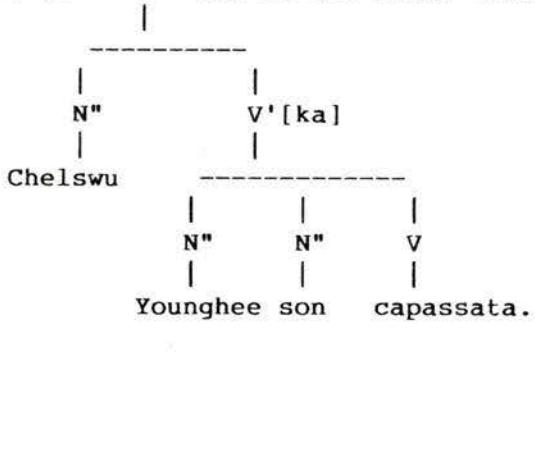
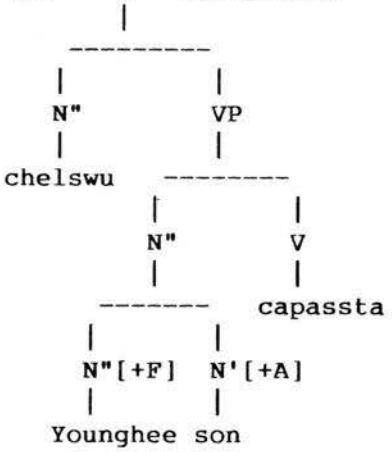
[113] See K.-H. Kim (1985: 106-107, 123) and Y.-S. Kang (1987) for further details.

Although we agree with K.-H. Kim (1985) that the use of accusative marker is more or less discourse-oriented and is related to focusing, we reject his/their lexical treatment which lexically generates the multiple accusative markers. For ease of exposition, (102b) is represented in a tree: (103a) is an entailment of Kim's and Kang's suggestion.

103. a. (K.-H. Kim 1985: 123)



b. (proposed)



Instead of (103a), we propose (103b) in which the focused phrase can be optionally extracted. (Note that extraction of adnominal phrase is allowed only if the NP is focused or topicalized due to FCR 23: NP[SLASH NP] ⊃ NP[SLASH NP([+FOC] OR [+TOP] OR [+REL])].)

Furthermore, their approach ignores cases such as (91) through (93) and cannot account for why there is a particle alternation between the accusative marker and oblique postpositions. Another important fact is not incorporated into their analysis: the phrases are felt very pragmatically marked if the accusative marker is placed after the postpositions.[114]

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[114] See our previous discussion involving examples (72) to (74) and FCR 13: (([+NOM] OR [+ACC]) & ([+DAT] OR [PFORM])) ⊃ [+FOC], which says that if the accusative marker or the nominative marker is attached to dative NPs or

Still another reason for rejecting (102b) is that contrary to their claim there is no limit on the number of accusative NPs, as shown in (98) and (99); it is only in a very cumbersome way that one can lexically specify all the possible cases of multiple accusative construction. In fact, this is impossible if the lexicon is finite. Furthermore, the relationship between **Younghee** and **son** 'hand' is represented in a more transparent and general way in (103c) than in (102b).

2.5 Conclusions

We have argued that some uses of **-ka/-i** and **-ul/-lul** are discourse-oriented and that they can be grouped together with the other discourse maker i.e., the topic marker **-nun/-un.** Further, we proposed that the nominative focus marker encodes 'exclusiveness' for given information, whereas the accusative marker denotes new information.

We have also argued in this section that the desiderative AUX contains the feature [+STV] which is an FOOT feature and that any nominal phrasal category can optionally be marked with the nominative marker if it is dominated by V"[+STV]. Furthermore, it is claimed that if XP[+NOM] is a dative NP or PP, it is always focused in the desiderative AUX construction. It is also claimed that case features are FOOT features, as well as HEAD features when their value specification is '+'.

Our argument presented in this chapter might need a slight extension, since, as far as can be confirmed, nominative focus markers are used with great frequency and with full acceptability, while the use of the accusative focus marker seems to be more restricted than that of the former. The following are some of the

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PPs, they are focused.

asymmetries between the two focus markers:

104.a. Ku salam-i atul-i ywunenghata.
that person-Foc son-SM is-famous
'It is he whose son is famous'

a'. Na-nun ku salam-ul atul-ul kkuciessta.
I-Top that person-Foc son-OM scolded
'It is that person whose son I scolded'

b. Ku salam-i catongcha-ka kocangnassta.
that person car broke down
'It is that person whose car broke down'

b'. ?*Na-nun ku salam-ul catongcha-lul ttaylyessta
I-Top that person-Foc car-OM hit
'This is the person whose car I hit'

cf. Na-nun ku salam-ul elkwul-ul ttaylyessta.
face

cf. Ku salam-i elkwul-i pwulkta.
Foc face is-red
'It is that person whose face is red'

Although the two focus markers show a parallel distribution in most cases, examples like (104b') seem to be very marginal at best. One of the solutions to this asymmetry would be to appeal to the distinctive properties which some nouns may have. The acceptability of (104a'), as contrasted with (104b'), seems to be due to a different character of the head noun: **atul** in (104a') may be termed as 'a noun of relation'[115] which may require the other pair in 'father(mother)-son' relations, whereas **catongcha** 'car' in (104b') does not seem to contain this relational property.

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[115] This type of noun may be seen as associated with what is traditionally known as inalienable possession.

The analysis put forth up to this point may encounter some other delicate problems with respect to honorific agreement and the subjecthood of a certain noun. The problem has to do with the particle alternation that can be observed between the nominative marker **-ka** (and **kkeyse**[+HON]) and the dative marker **-eykey** (and **kkey**[+HON]). It appears that the dative marker sometimes might be used to mark the subject of the sentence, and the nominative marker is viewed as pragmatically marked, as shown below.

105. a. Na-eykey ton-i philyohata.
I-DAT money-NOM is-needed
'Money is need for me'
or 'I need money'

b. Nay-ka ton-i philyohata.
I-NOM money-NOM is-in-need-of
'I need money'

c. Na-eykey halapeci-ka calangsulepta.
I-DAT gr.father-NOM is-proud-of
'Grandfather gives pride to me'
or I am proud of Grandfather'

d. Nay-ka halapeci-ka calangsulepta.
'I am proud of Grandfather'

The translation of (105b) and (105d) is not satisfactory; this is because (105b) can be derived from (105a), and (105d) from (105c), by focusing the first dative phrase of each. Whether a phrase is the subject of S or not is hard to determine, because the subject marker can also be used as a focus marker. The only test for the subjecthood of a phrase seems to be the subject honorific agreement in Korean. What makes matters worse is that the acceptability of the use of the honorific infix **-SI-** seems to vary slightly depending on individuals, and especially regarding 'stative' verbs.

In the following we suggest a FCR which will account for the regional (or societal) variation, thereby showing that the framework assumed in this thesis is flexible enough to account for some degree of linguistic variation in a simple way. We expand the examples given in (105) as shown below and attempt to locate a subject in the sentence which would be used by some speakers different from us.

```
106.a. Halapeci-kkeyse ton-i      philyoha-SI-ta.
       Gr.father-NOM   money-NOM is-in-need-of-HON-DCL
          [+HON]                              [+HON]
       'Grandfather needs money.'
    b.??Halapeci-kkeyse   ton-i  philyohata.
          [+HON]                   [-HON]
       'Grandfather needs money'

    c.%Halapeci-kkey  ton-i   philyoha-SI-ta.
              DAT[+HON]             [+HON]
       'Money is needed by Grandfather'

    d. Halapeci-eykey  ton-i philyohata.
              DAT[-HON]     [-HON]
        'Money is needed by Grandfather'

    e. Ku    halapeci-ka ton-i  philyohata.
       that            NOM[-HON]   [-HON]
       'The old man needs money'
```

The construction under discussion involves lexical stative verbals. If (106b) and (106c) are grammatical,[116] then this would imply that NP[+DAT] may be the subject in the stative verbal construction. Thus, (106c) would be canonical form; (106a) would be the focused version of (106c); (106d) would be a non-honorific form; and (106e) would be a focused version of (106d). We suggest that this type of variation can be taken care of by an FCR such as FCR: VP[+STATIVE][AGR NP] ⊃ AGR[NP[+DAT]. This FCR induces the following configuration and its extensions:

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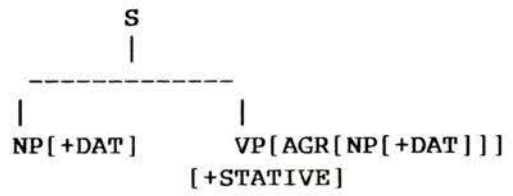
[116] Some would treat (106c) as grammatical, but I would consider it an 'over-exalted' expression.

107.a.



As we have shown above, it is very simple to account for these variants within a GPSG framework. The linguistic variation shown above is accounted for by minor changes in the grammar which has already been established. This should be so since if the core of grammar is described by general principles, the peripheral facts should be taken into account by parochial statements.

Chapter 3

MISSING OBJECT CONSTRUCTIONS AND STATIVE VERBS.

In this chapter we identify and analyze two types of constructions which appear analogous to each other but do not seem to have the same structure: sentential subject constructions and missing object constructions. The former contain the nominative marker attached to the sentential subject as in (1a) and (2a); the latter mark the embedded VP with the postposition **-ey,** as shown in (3a) and (4a):[117]

1.a. [Nay-ka yeki-eyse Halla-san-ul po-ki]-**ka** swipta.
I-Nom here-from H.-Mt.-OM see-VEMB-Nom is-easy
'It is easy for me to see Mt. Halla from here'

b. Nay-ka yeki-(eyse)-**ka** Halla-san-ul po-ki-ka swipta.
I-Nom here-(from)-Nom H.-Mt.-Acc see-VEMB-Nom is-easy
'It is easy for me to see Mt. Halla from here'

c. Nay-ka yeki-(eyse)-**ka** Halla-san-**i** po-ki-ka swipta.
I-Nom here-from-Nom H.-Mt.-Nom see-VEMB-Nom is-easy

2.a. John-un [Nay-ka ku pwun-ulopwute cengpo-lul
J.-Top I-Nom that person-from information-OM

et-ki]-**ka** swipta-ko sayngkakhanta.
obtain-VEMB-Nom is-easy-COMP think

'John thinks it is easy for me to get information from him'

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[117] N.B. VEMB: Verbal Embedding Affix.

b. John-un Nay-ka ku pwun-(ulopwute)-**ka** cengpo-lul/-**ka**
J.-Top I-Nom that person-from-Nom information-Acc/-Nom

et-ki-ka swipta-ko sayngkakhanta.
obtain-VEMB-Nom is-easy-COMP think

'John thinks it is easy for me to get information from him'

3.a. Ku chayk-i [__ ilk-ki]-**ey** swipta.
the book-Nom read-ing-in is-easy
'The book is easy to read'

b. Ku chayk-i ilki-**ka** swipta.
the boo-Nom reading-Nom is-easy
'The book is easy to read'

4.a. Ku-ka [yenge-lul kaluchiki]-**ey** nemwu elita.
he-Nom English-Acc teaching-in too is-young
'He is so young that we cannot teach him English'
or
'He is so young that he cannot teach English'

b. Ku-ka wuli-ka sletukhaki-ey nemwu wankohata
He-Nom we-Nom persuading-in too is-stubborn
'He is too stubborn for us to persuade'

There are, however, three factors which render difficult the problem of distinguishing between the two constructions in question: the multiple occurrence of nominative markers, the possibility of nominative focusing and word order flexibility. Firstly, as shown in (1b-c) and (2b), the nominative markers are almost freely attached to any phrase in the embedded S. The concurrent presence of the 'easy'-type verbals further complicates the matter so that one can suspect that (1b-c) and (2b) may be a kind of missing object construction in the sense of GKPS. Secondly, as discussed in chapter 2, if the embedded VP phrase in (3a) marked by -**ey** is focused, being replaced by the nominative focus marker, the 'surface' form

of (3a) would not be different from the examples in (1) or (2). The third factor is that the subject of the sentence is not necessarily placed in the sentence-initial position. Thus, unlike English, word order does not give any clue in a search for the subject of the matrix sentence.

In the following, it will be claimed that all the examples in (1) and (2) are sentential subject constructions (i.e., quasi-tough constructions) and the ones in (3) and (4) except (3b) are the missing object construction in the sense of GKPS (pp150-2) and Hukari and Levine (1987a). We provide some independent reasons for treating the two constructions separately.

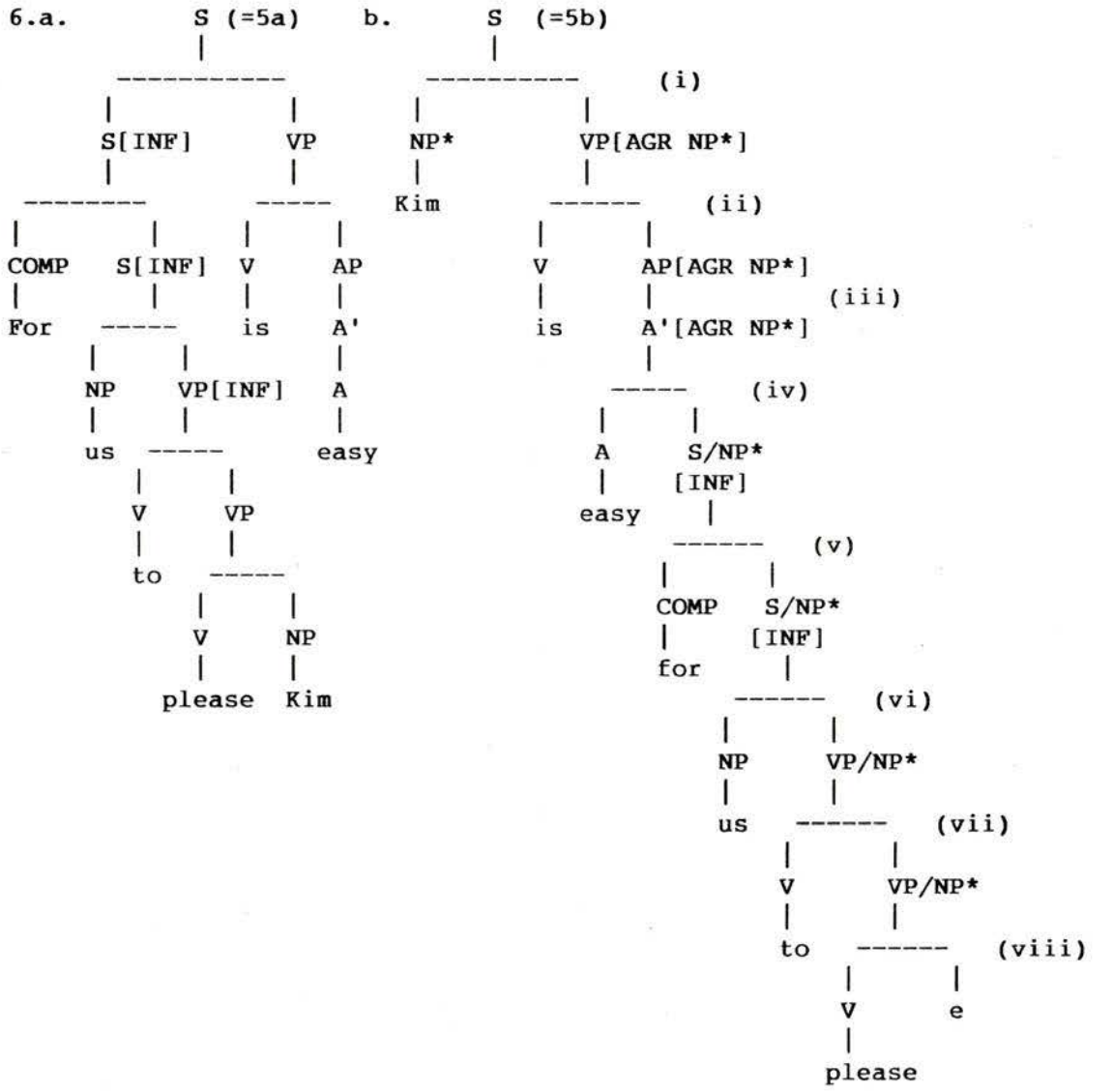
Before proceeding with our discussion, we briefly summarize some formal characteristics of the English **tough** construction. Consider the following two sentences:

5.a. For us to please Kim is easy.
  b. Kim is easy for us to please. (GKPS: 150)

English sentences (5a) and (5b) may be analyzed as having the structures shown in (6).

(5b) (or (6b)), which is called a missing object construction in English, has the 'underlying' object as its 'surface' subject. The matrix verb agrees with the logical object of the embedded VP and the object is missing without any morphological change of the embedded verb (cf. passive constructions). From a formal point of view, there is no overt object, and so it is called a missing object construction.

Now, one problem is how we can explain why the verb **solve** requires an overt object in some cases and not in some other. GPKS's solution to this problem is to build an ID rule so that 'easy'-type adjectives require their VP complement to con-



tain a gap: thus, an ID rule 'A[1] ---> H, VP[INF]/NP[-NOM]' is proposed.[118] As shown in (6b), SLASH must not percolate up the tree but precipitate down the tree via the FFP, since it is specified in the daughter, and this forces a gap down in the tree.

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[118] This rule licenses local tree (iv) of (6b).

Furthermore, for reasons which need not concern us here, the gap occupying the object position of **solve** and the subject of the matrix S should be related somehow. This is accomplished through the feature percolation principles presented in chapter 1: the FFP, the HFC, and the CAP. We will check each local tree in (6b) with respect to these principles and elaborate on how such a connection is obtained by these principles.

Local tree (viii) is introduced by the STM 1 suggested by Hukari and Levine (1987b). The metarule gives us as an output another ID rule such as 'VP/NP ---> H, [e]', given the basic ID rule 'VP ---> H, NP' for **solve.** The STM is formulated in such a way that NP, the value of SLASH picks up the identical feature specifications of the object of the verb. (See STM 1 in (9) in chapter 1.) Local tree (vii) is admitted by a lexical ID rule 'VP[INF] ---> H, VP[BSE]' which has no SLASH specification. Thus, SLASH in VP[BSE]/NP (is an instantiated one and) must appear on its mother as well via the FFP. Local trees (vi) and (v) pass up the SLASH feature in the same way as (vii), since the licensing ID rules of the respective trees are 'S ---> X", H[-SUBJ]' and 'S[COMP a] ---> {[COMP a]}, H[COMP NIL]' which have no SLASH specified. In (iv), the CAP, especially clause (ii),[119] requires that the 'inherited' SLASH (control feature) feature specification should be identical to the feature specification of AGR (control feature) of the mother, if there is no controller. Thus the CAP forces the connection of relevant syntactic features (i.e., NP[*]) between the vaule of SLASH of the daughter and AGR of the mother.[120] This is how SLASH feature specification which, as we have seen, is ultimately

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[119] SLASH is a **control feature** if inherited; otherwise AGR is.

[120] Since the SLASH feature in the daughter is inherited from the ID rule, the mother must not contain SLASH.

related to the feature specification of the object NP of 'solve' is related to the feature specification of AGR which will eventually be equated with the subject of the matrix S.

Now, in local tree (iii), since AGR is a HEAD feature and the HFC requires that the head feature specification of the daughter be as close to that of the mother as it possibly can, the AGR feature specification of A' must be identical to that of AP. In (ii), the CAP requires that the control feature (AGR) specification of the daughter must be identical to that of the mother, since there is no controller. In the top local tree, the CAP sets in again, requiring that the controller, the subject NP, have the same feature specification as the control feature (AGR) specification of its controllee (VP). Thus, the linkage between the subject of the matrix clause and the gap is established.[121]

3.1 Quasi-Tough Construction

Now, returning to the problem of making a distinction between the sentential subject construction and the missing object construction in Korean, we first consider how the examples in (1) and (2) can be generated in our framework. If these examples manifest the sentential subject construction, the structure will be similar to (6a).

Now, the main probem out of the three pointed out previously in this chapter seems to be that these examples contain more than two NPs marked with the nominative maker regardless of the 'underlying' particle features.[122] This situ-

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[121] There is a problem with this linkage, but we will ignore it for the time being. We checked the tree from bottom to top, but we could have done it the other way.

[122] Since there has been no argument that **-ka** can be a focus marker in Korean,

ation, however, is not new, since we have already encountered the exact same phenomenon in the stative verbal construction. Thus, we first attempt to identify the sentence patterns in (1) and (2) as the stative verbal construction.

Firstly, the nominative markers are optional and any number of NP (NP[CASE] or NP[PFORM]) can be marked with the nominative marker, as shown below:

7.a. Nay-ka yeki-(eyse)-ka Halla-san-i/ul po-ki-ka pwulkanunghata.
I-Nom here-from-Nom H.-Mt.-Nom see-VEMB-Nom is-impossible
'It is impossible for me to see Mt. Halla from here'

cf. Nay-ka yeki-(eyse)-ka Halla-san-i/ul po-ko sipta.
I-Nom here-from-Nom H.-Mt.-Nom see-VEMB want
'I want to see Mt. Halla from here'
(Stative Verbal Construction)

b. Nay-ka ku pwun-(ulopwute)-ka cengpo-lul/-ka et-ki-ka swipta
I-Nom that person-from information-OM obtain-VEMB-Nom is-easy
'It is easy for me to get information from him'

cf. Nay-ka ku pwun-(ulopwute)-ka cengpo-lul/-ka
I-Nom that person-from information-OM

et-ko sipta. (Stative Verbal Construction)
obtain-VEMB want
'I want to get information from him'

Secondly, just as in the stative verbal construction, the construction in question allows a deeply embedded NP to show the particle alternation:

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as far as I am aware, no one has distinguished between the first two sets of examples and the second ones. Indeed, Gerdts and Youn (1987), Im (1972, 1974), and Yang (1972) simply assume that the sentence like (1), (2), (3), and (4) involves the tough construction.

8.a. John-i Mary-(eykey)-ka i chayk-ul/-i sala-ko
Nom -(Dat)-Nom this book-Acc/-Nom buy-VEMD

seltukha-ki-ka swipta.
persuade-VEMBD-Nom is-easy
'It is easy for John to persuade Mary to buy this book'

cf. John-i Mary-(eykey)-ka i chayk-ul/-i sa-tolok
Nom -(Dat)-Nom this book-Acc/-Nom buy-VEMD

seltukha-ko sipta. (Stative Verbal Construction)
persuade-VEMBD want
'John wants to persuade Mary to buy this book'

b. [John-i [Mary-(eykey)-ka [kukes-ul/-i sa-tolok] coenha-ye]
Nom Dat Nom it-Acc/-Nom buy-VEMB advise-VEMB
po-ki-ka] swipta. (Stative Verbal Construction)
try-VEMB-Nom is-easy
'It is easy for John to try to advise Mary to buy it'

cf. Nay-ka [Mary-(eykey)-ka [kukes-ul/-i sa-tolok] coenha-ye]
Nom Dat Nom it-Acc/-Nom buy-VEMB advise-VEMB
po-ko] sipta.
try-VEMB want
'I want to try to advise Mary to buy it'

Furthermore, when coordination is involved, the identical ill-formed pattern is observed: the elements contained in both conjuncts do not manifest particle alternation, as shown below:

9.a. John-i Mary-eykey-(*ka) cenhwaha-ko
Nom Dat Nom phone-Conj

Sue-lul/-*ka chacaaka-ki-ka swipta.
Nom Acc-*Nom visit-VEMB-Nom is-easy
`It is easy for John to phone Mary and to visit Sue'

cf.John-i Mary-eykey-(*ka) cenhwaha-ko
Nom Dat Nom phone-Conj

Sue-lul/-*ka chacaaka-ko sipta. (Stative Construction)
Acc-*Nom visit-VEMB want
`John wants to phone Mary and to visit Sue'

Still another similarity is that complex NPs seem to be islands for particle alternation in the construction in question, as is in the stative verbal construction:

10.a. Nay-ka [$_{NP}$ [$_{S}$John-i Mary-lul/-*ka ttayly-ess-ta-nun]
I-Nom Nom Acc/Nom hit-PST-VTERM-that

somwun-ul] hwakinha-ki-ka swipta.
rumor-Acc confirm-VTERM-Nom is-easy

'It is easy for me to confirm the rumor that John hit Mary'

cf. Nay-ka [$_{NP}$ [$_{S}$John-i Mary-lul/-*ka ttayly-ess-ta-nun]
I-Nom Nom Acc/Nom hit-PST-VTERM-that

somwun-ul] hwakinha-ko sipta.
rumor-Acc confirm-VTERM want

'I want to confirm the rumor that John hit Mary'

b. Nay-ka [$_{S}$ [$_{NP}$John-i Mary-eykey-(*ka) __ cwu-n] chayk-ul]
I-Nom Nom Dat-Nom give-Rel book-Acc

ilk-ki-ka swipta.
read-VTERM-Nom is-easy

'It is easy for me to read the book which John gave to Mary'

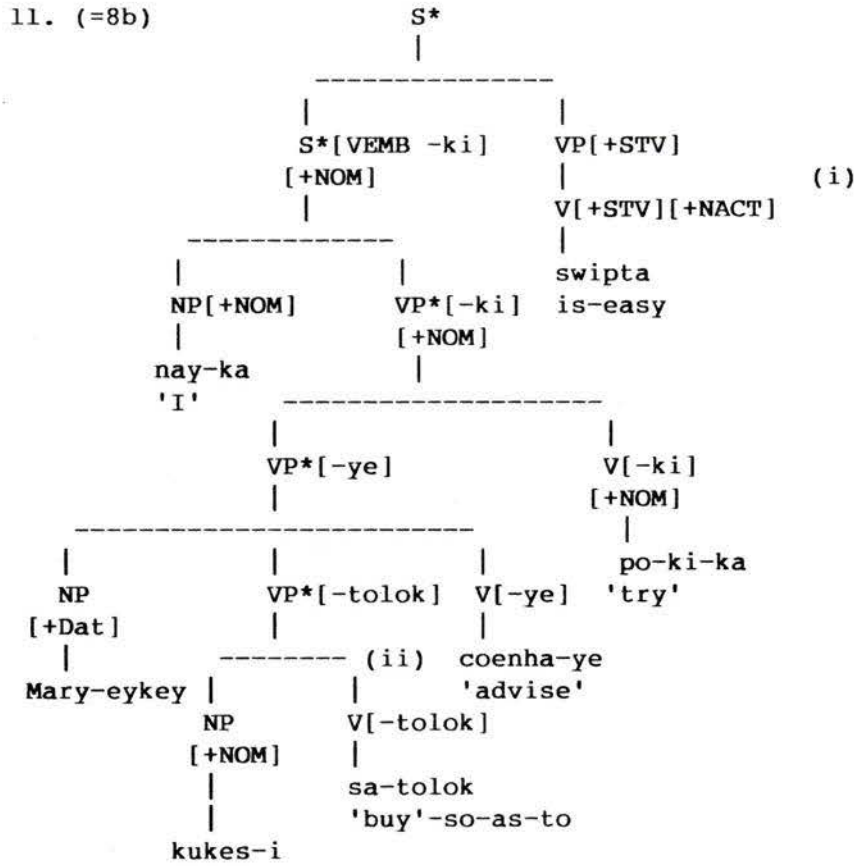
cf. Nay-ka [[John-i Mary-eykey-(*ka) __ cwu-n] chayk-ul]
I-Nom Nom Dat-Nom give-Rel book-Acc

ilk-ko sipta.
read-VTERM want

'I want to read the book which John gave to Mary'

It should be reminded that these island facts are accounted for by the FCR 15: ([CONJ]&[VEMBD]&[-NOMF]) OR [NP]) ⊃ ~[STV] which says that the STV feature cannot cooccur with feature CONJ, VEMBD and [-NOMF], or NP, and has the effect of preventing STV from precipitating down into embedded VP conjuncts or inside NPs.

We cannot find any difference between the sentence pattern in question and the stative verbal constructions with respect to particle variation. Thus, we can explain the particle alternation in the same manner in which the stative verbal structure is accounted for. What we need to do in order to explain the construction in question is to assign [+STV] to the lexical verbals in question. That is, the question under investigation is **a stative sentential subject constuction.** We illustrate one of the above examples in order to clarify the point:



N.B. *: [+STV], [--tolok]: [VEMB -tilok], [-ki]: [VEMB -ki].
NACT: N(on)-ACT(ive)

Our grammar has an ID rule 'VP ---> H[+NACT]' for the lexical verbal 'swip-ta' which licences the local tree (i) in the above tree. FCR 7: [+NACT] ⊃ [+STV] forces the lexical V to contain [+STV] which is a FOOT feature as well as a HEAD feature. On the other hand, the bottommost local tree (ii), for instance, is admitted by the output of the NFIM (Nominative Feature Introduction Metarule) which introduces [+STV] on V" and [+NOM] on NP simultaneously. (See (58) of Chapter 2.)

These data also point to the fact that metarules should be able to apply to non-lexical ID rules. The indication that this metarule should be able to apply to non-lexical ID rule comes from the grammaticality of (7a) where the adverbial adjunct can have [+NOM], regardless of the particle alternation of the object NP of **po-** 'see'. Also see our previous example (71) of Chapter 2 for another instance which seems to indicate that the NFIM needs to apply to the non-lexical ID rule.

In order to complete our argument, we should also show that NPs marked with the nominative marker are the elements of the embedded clause but not the subject of the matrix S. Since subject honorific agreement is the only available formal test for such relations, our examples below involve the subject-verb concord with respect to honorific expression. Consider the following example where the logical object of the embedded verb is marked with the nominative marker:

12.a. Wuli-ka ku pwun-kkeyse mosi-ki-ka
we-Nom that person[+HON] 'wait-on'-VEMB-Nom

eylep-(*SI)-ta.
is-difficult-(HON)-DCL
'It is difficult for us to cater to the gentleman'

a'. Ku pwun-uy selkyo-ka elyewu-SI-ta
the person-Gen sermon-Nom is-difficult-HON-DCL
`The gentlemen's sermon is difficult'

a". Ku pwun-uy selkyo-ka wuli-ka ihayha-ki-ka
the person-Gen sermon-Nom we-Nom understand-VEMB-Nom

elyep-(*SI)-ta.
is-difficult-(HON)-DCL
`It is difficult for us to understand the gentleman's sermon'

b. Ku pwun-kkeyse wuli-ka mosi-ki-ka
that person[+HON] we-Nom 'wait-on'-VEMB-Nom

eylep-(*SI)-ta.
is-difficult-(HON)-DCL
'It is difficult for us to cater to the gentleman'

The noun **pwun** is an honorifc expression which requires its predicate to contain the honorific infix **-si-** in ordinary cases as shown (12a') but the examples (12a), (12a"), and (12b) do not show such agreement, suggesting that the NP in question (i.e., the logical object of the embedded verb) is not the subject of the matrix S.[123] We give another set of examples to show that the examples in (12) are not a lexically special phenomenon:

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123 See the [HON] Calculation Convention in (18) and (32) of Chapter 4. Let us assume that no [HON] is specified for some nouns such as body parts, speech, etc, but that they inherit [HON] feature specification from their adnominal NP. For instance,

a. Ku pwun-uy elkwul-i pwulku-SI-ta.
the person-Gen face-Nom is-red-HON-DCL
[+HON] [~HON] [+HON]
`The gentleman's face is red'

b. Ku aki-uy elkwul-i pwulku-(*SI)-ta.
the baby-Gen face-Nom is-red-HON-DCL
[-HON] [~HON] [-HON]
`The baby's face is red'

13.a. Nay-ka ku pwun-(kwa)-ka sangtamha-ki-ka cohu-(*SI)-ta.
I-Nom the gentleman-with-Nom talk-VEMB-Nom is-good-HON-DCL
'It is good for me to talk to the gentleman'

cf. Ku pwun-i cou-SI-ta.
that gentleman-Nom is-good-HON-DCL
`That gentleman is good'

3.2 Missing Object Construction

This section attempts to identify and analyze a missing object construction as distinct from the quasi-tough construction (i.e., the stative sentential subject construction) discussed above. The differentiation of the two will depend crucially on the honorific system involving the subject of S, on nominal particle alternation, and on the different uses of verbal particles.

We begin our discussion by examining some clearer cases. (14a) is obviously one sub-type of the missing object construction:[124]

14.a. Ku halapeci-kkeyse wuli-ka seltukhaki-ey nemwu wankoha-SI-ta.
the old-man-Nom we-Nom persuade-in too stubborn[+HON]
[+HON]
'The old gentleman is too stubborn for us to persuade'

b. Ku halapeci-kkeyse/-lul wuli-ka sultukhaki-ka swipta.
Nom[+HON]/Acc Nom [-HON]
'It is easy for us to persuade the old men'

c. Ku halapeci-ka/*ul wuli-ka seltukhaki-ey nemwu wankoha-(SI)-ta.
the old-man-Nom/-Acc we-Nom persuade-in too stubborn[+HON]
'The old gentleman is too stubborn for us to persuade'

The subject-verb honorific agreement is obtained in (14a) when the NP **Ku halapeci** 'the old man' is marked with the nominative particle, and this indicates that the NP which is the logical object of the embedded VP is the subject of the matrix S.

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124 We will call this type of sentence like (14) 'Too/Enough Optional Object Construction', following Hukari and Levine (1987b).

On the other hand, this formal relation is not observable in (14b) which we have argued is the quasi-tough construction and involves a sentential subject.

The particles attached to the embedded VP are different from each other. In the case of missing object constructions, the postposition **-ey** is used, whereas **-ka** is used in the other structure. This distinction seems to be crucial in that V" marked with **-ey** (translated as 'in' or 'for' in English) is not possibly a subject whereas the other one can be. It is also evident that the predicate 'is-stubborn' is more likely to have as its subject an animate entity than it would have 'to persuade someone'.

What is more important is that if the embedded VP is marked by **-ey** which is a locative postposition, the logical object **Ku halapeci** 'old man' cannot be marked with the accusative marker, regardless of honorific agreement, as shown in (14c). On the other hand, if the VP is marked with **-ka**, the 'underlying' object of the embedded VP can be marked with either the nominative or the accusative particle, as shown in (14b). That is, particle alternation is not allowed in the missing object construction: the 'underlying' object is always marked with the nominative particle, but never with the accusative marker. In other words, the embedded VP in (14c) (and (14a)) is missing the logical object (hence, the missing object construction).

However, the missing element (which turns out to be always marked with the nominative particle) is not restricted to the logical object of the embedded verb. A dative NP and PP-type NPs can also be missing:

15.a. Ku pwun-i wuli-ka hamkkey iyakiha-ki-ey nemwu yenlohasita.
the man-Nom we-Nom together talk-ing-in too is-old
[+HON] [+HON]
'He is too old for us to talk (to)'

b. Ku-ka wuli-ka kukes-ul kitayha-ki-ey nemwu posucekita.
He-Nom we-Nom it-acc expect-ing-in too is-conservative
'He is too conservative for us to expect it (from him).'

c. Jonn-un nay-ka krismas kad-lul cwu-ki-ey nemwu kakkapta.
J.-Top I-Nom Christmas card-Acc give-ing-in too is-close
'John is too close for me to give a Christmas card to'

In this regard, another striking difference is that the missing object construction does not allow optional postpositions when the phrase is marked with the nominative particle, whereas such optionality is observable in the quasi-tough construction:

16. Missing Object Construction
a. Ku-(*lopwute)-ka wuli-ka cengpo-lul etki-ey nemwu elita.
he-(*from) -Nom we-Nom infor.-Acc getting-in too is-young
'He is too young to get information from'

Quasi-Tough Construction
b. Ku-(lopwute)-ka wuli-ka cengpo-lul etki-ka swipta.
is-easy
'It is from him that we get information with ease'

In addition to this, no more than one element can be marked with the nominative particle except for the embedded subject in the case of the missing object construction, whereas any number of NPs can be marked with the nominative particle in the quasi-tough construction, as shown below:

17.a. Ku-ka wuli-ka kukes-ul/*-ka kitayha-ki-ey nemwu posucekita.
He-Nom we-Nom it-acc/*-Nom expect-ing-in too is-conservative
'He is too conservative for us to expect it (from him).'

a'. Ku-(eykey)-ka wuli-ka kukes-ul/-ka kitayha-ki-ka swipta.
He-(Dat)-Nom we-Nom it-acc/-Nom expect-ing-Nom is-easy
'It is easy for us to expect it from him.'

b. Jonn-i nay-ka krismas kad-lul/*-ka cwu-ki-ey nemwu kakkapta.
J.-Nom I-Nom Christmas card-Acc/*-Nom give-ing-in too is-close
'John is too close for me to give a Christmas card'

b'.Jonn-(eykey)-ka nay-ka krismas kad-lul/-ka cwu-ki-ka eyrepta
J.-(Dat)-Nom I-Nom X-mas card-Acc/-Nom give-ing-Nom difficult
'It is difficult for me to give a Christmas card to John'

(17a) and (17a') point to the stark difference between the missing object and the quasi-tough (i.e., stative sentential subject) constructions: (17a) allows only two NPs to be marked with **-ka**, which are the matrix subject and the subject of the embedded S; (17a') contains XP[+NOM] introduced by the Nominative Feature Introduction Metarule which sanctions any XP being marked with the nominative particle. The distinguishing features presented so far seem to strongly point to two separate structures: the missing object construction and the quasi-tough construction.

Given what was pointed out above, we can now provide a crucial set of examples showing the contrast in subject honorific agreement:

18.a. Ku pwun-uy selkyo-ka wuli-ka tuk-ki-ey
the person-Gen sermon-Nom we-Nom listen-VEMBD-in
[+HON] [+HON]
cohu-SI-n kes katta.
is-good-HON-MDFR that seem
`It seems that his sermon is good for us to listen to'

a'. Ku pwun-uy selkyo-ka wuli-ka tuk-ki-ka cohu-(*SI)-ta.
the person-Gen sermon-Nom we-Nom listen-VEM-Nom is-good-DCL
[+HON] [+HON]
`It is good for us to listen the gentleman's sermon'

b. Ku pwun-uy enhang-i wuli-ka ponpat-ki-ey
the person-Gen behavior-Nom we-Nom follow-VEMB-in
[+HON] [+HON]
mopemceki-SI-ta.
is-model-HON-DCL
`His behavior is a model for us to follow'

b'. Ku pwun-uy enhang-i wuli-ka ponpat-ki-ka
the person-Gen behavior-Nom we-Nom follow-VEMB-Nom
[+HON] [+HON]
elyewu-(*SI)-ta.
is-difficult-HON-DCL
`HIs behavior is modelistic for us to follow'

(18a) and (18b) are considered **tough** constructions, and (18a') and (18b') are thought of as stative sentential subject constructions.[125]

The Korean missing object construction, however, is allowed only if the adjectival verb can stand alone with the subject, whereas this is not the case in English. That is, the Korean missing object construction is more restricted than its English counterpart, and in the following examples (19b') is not possible since (19b) is awkward:

19.a. Ku mwuncey-ka swipta.
the problem-Nom is-easy
'The problem is easy'

a'. Ku mwuncey-ka pwul-ki-ey swipta. (missing object)
in
'The problem is easy to solve'

b.*Ku-ka pwulkanunghata
he-Nom is-impossible
'He is impossible'

---

[125] See next section on the classification of the missing object constructions. The **tough** construction is a subcase of the missing object constructions.

b'.?*Ku-ka kippwukeyha-ki-ey pwulkanunhata.
please in is-impossible
'He is impossible to please'

b". Ku-ka kippwukeyhw-ki-ka pwulkanunghata.(quasi-tough)
Nom
'To please him is impossible'

c. * Ku-ka swipta.
he-Nom is-easy
'*He is easy'

c'.?* Ku-ka manaki-ey swipta.
he-Nom meeting-in is-easy

c". Ku-ka manaki-ka swipta
Nom

cf. Ku pwun-i manaki-ka swiwu-(*si)-ta.
[+HON] [+HON]

As shown above, 'is-easy' type verbals in Korean allow the missing object construction as well as the quasi-tough construction, which is similar to the situation in English. There are, however, differences in the lexical selection between the two languages.[126] Thus, the unavailability of Korean sentences such as (19b') and (19c') is not due to the lack of rules or structures, but due to selectional properties of the matrix verbals. That is, the ungrammaticality of (19b') and (19c') is related to the awkwardness of (19b) and (19c), respectively.

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126 We also admit that there are individual differences as to the acceptability of (19b') and (19c'). Younger generations tend to accept them, probably because of the influence of English translations at school. In my opinion, however, they are marginal at best. Whichever way the empirical confirmation of the grammaticality judgement on these sentences may turn out to be, it does not affect our argument greatly.

3.2.1 Two Sub-types of the Missing Object Constructions

As discussed in the preceding section, there is a subtle difference between the stative sentential subject construction and the missing object construction. In this section, we will be concerned with fomulating some rules and principles which can generate the missing object constructions. We limit our discussion to two subcases of the missing object constructions in question: 'tough' constructions and 'too/enough' constructions.[127]

(A) Tough Construction

(1) Ku chayk-i ilki-ey swipta.
the book-Nom reading-in is-easy
'The book is easy to read'

(2) Ku mwuncey-ka chwulceyhaki-ey eyreypta
the problem-Nom formulating-in is-difficult
'The problem is difficult to make'

(B) Too/Enough Optional Missing Object Construction

(1) Ku-ka yenge-lul kaluchiki-ey nemwu elita.
he-Nom English-Acc teaching-in too is-young
'He is so young that we cannot teach him English'
or
'He is so young that he cannot teach English'

(2) Ku-ka wuli-ka sletukhaki-ey nemwu wankohata
He-Nom we-Nom persuadeing-in too is-stubborn
'He is too stubborn for us to persuade'

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127 See Hukari and Levine (1987a) for another type and for motivation of their classification.

128 Hukari and Levine (1987a) propose a separate feature GAP and an ID rule 'A_1 ---> H, V"[INF]//NP'. GAP is restricted to infinitival V" due to the FCR: GAP ⊃ [+V][INF]. GAP is also a 'control' feature, when inherited, and it is a HEAD feature as well as a FOOT feature.

Generally following Hukari and Levine (1987a),[128] we suggest a special feature GAP (represented as '//') and an ID rule as in (20) for type (A), since the gap represented as GAP seems to be restricted to the inside of [+V][VEMB ki][PPORM -ey].[129]

20.a. VP ---> H[40], V"[VEMB ki][PFORM -ey]//NP

21.a.??Ku chayk-i John-i Kanada-eyse sa-ss-ta-ko
the book-Nom Nom Canada-in buy-PST-DCL-COMP

mitki-ey elyepta
believing-in is-difficult
'??The book is difficult to believe that John bought in Canada'

b.??Ku mwuncey-ka wuli-ka John-i pwul-ess-ta-ko
the problem-Nom we-Nom J.-Nom solve-PST-DCL-COMP

cwucanghaki-ey eyrepta.
claiming-in is-difficult
'??The problem is difficult for us to claim that John solved'

c. Ku chayk-i ilki-ey elyepta.
the book-Nom reading-in is-difficult
'The book is difficult to read'

c'.??Ku chayk-i selon-ul ilki-ey elyepta.
the book-Nom introduction reading-in is-difficult
'The book is difficult to read (its) introduction'

cf. Ku chayk-i/ul selon-ul/-i ilki-**ka** elyepta.
the book-Nom introduction reading-in is-difficult
'The book is difficult to read (its) introduction'

---

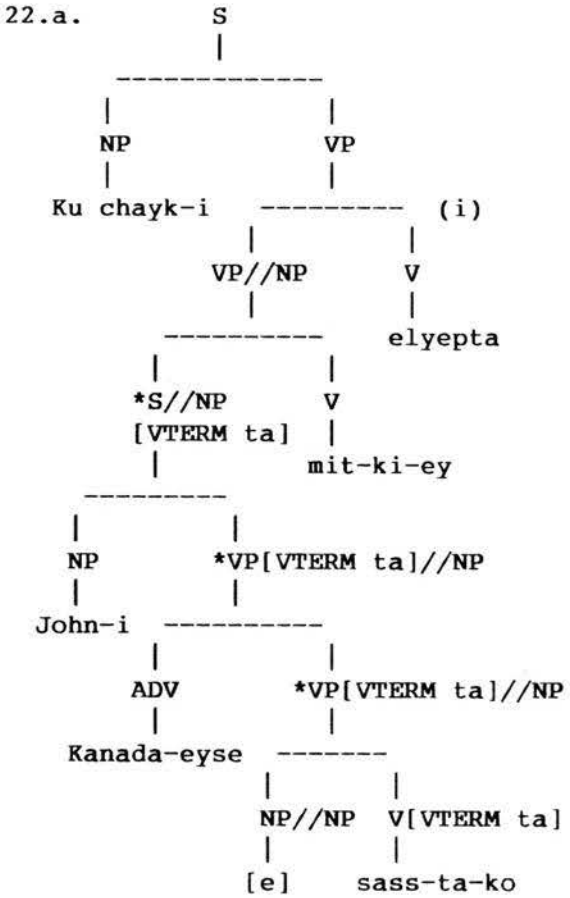
129 We need a restriction such as FCR 11: [GAP] ⊃ [VEMB -ki][PFORM -ey] to contain the GAP feature within the V"[VEMB -ki][PFIRM -ey].

d.??Ku chayk-i John-i selon-ul ihayhay-ss-ta-ko
The book-Nom John-Nom introduction-Acc understanding-PST-COMP

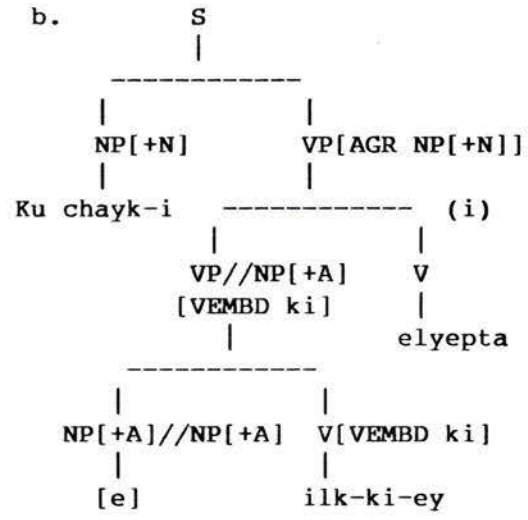
mitki-ey eleypta.
believing-in is difficult
'??The book is difficult to believe that John understood (its) introduction'

The examples in (21) all contain tensed V" (i.e., V"[VTERM]) and sound marginal at best, except for (21c) which contains GAP within VP[VEMB] and which sounds far more grammatical than others. (21a) is illustrated as distinct from (21c) with respect to the feature GAP in the following:

22.a.

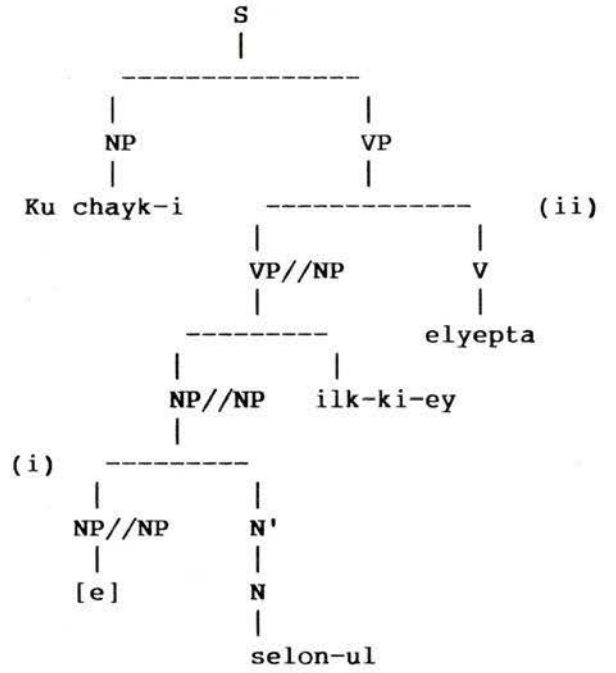


b.



In (22a), the node labels marked with * contain [GAP] but not [VEMBD] or [VPRT -ey], violating FCR 11: [GAP] ⊃ [VEMBD -ki] & [VPRT -ey], whereas all the categories in (22b) obey the FCR. Further, GAP, unlike SLASH in Korean, seems to be a HEAD feature, since (21c') sounds marginal at best. This would imply that the distribution of GAP is more restricted than that of SLASH. (21c') is ruled out as shown below:

22.c. (=21c')



That is, local tree (i) above violates the HFC, since the HFC will insist that N' in (i) should have '//' because it is the head.

Although it is hard to further verify that GAP is a HEAD feature since there is no independent case which uses GAP, postulating GAP as HEAD feature seem to be one of the most plausible explanations as to the contrast between (21c) and (21c').

As extensively discussed in Hukari and Levine (1987a), the above trees have some undesirable consequences if we follow the CAP as formulated in GKPS. The problem arises in local tree (ii) of (22c). The CAP insists that the value of GAP (=NP[+ACC][-NOM]) should be identical to the value of AGR of the mother VP(=NP[+NOM][-ACC]). However, the equation between the two values is not obtained in local trees (ii) and the trees should be ruled out by the CAP of GKPS.

Although there may be some other solutions to this problem, we, generally following Hukari and Levine (1987), propose the relativization of the clause (ii) of the CAP in GKPS (p89), to the effect that if the feature specifications are determined by other components of grammar, then the CAP should disregard those feature specifications:

24. Control Agreement Principle (clause (ii), informal version)

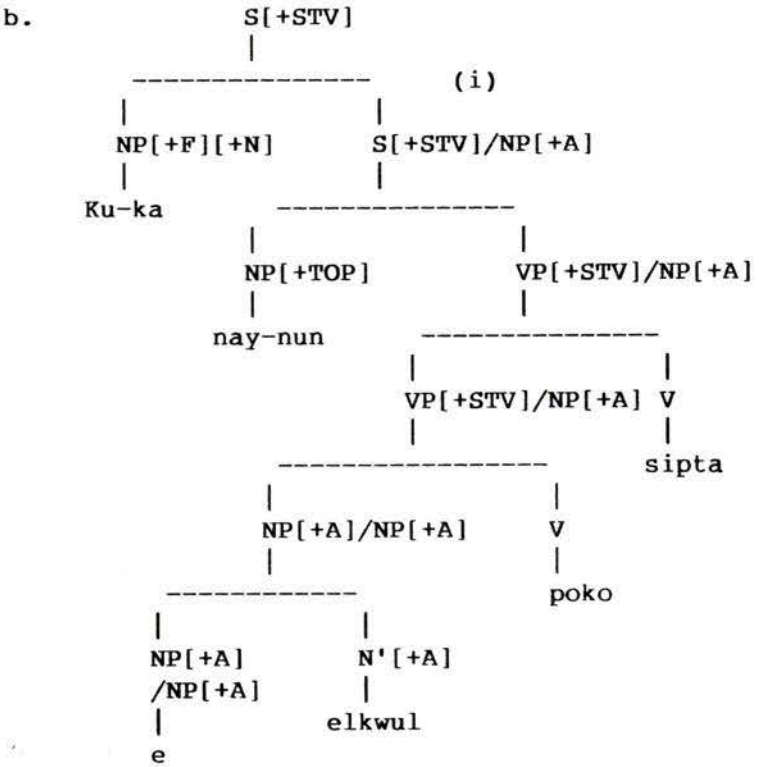
> The value of the **control** feature of the mother should be maximally equal to the value of the value of the **control** feature of the daughter with respect to the feature specifications which are not regulated by other components of grammar.

Relaxing clause (ii) in this way allows the feature specifications in question to differ if the difference is forced by other components of grammar. Suppose the **control** feature of the mother, AGR, has as its value NP[-ACC] via FCR 8, then case feature [-ACC] should be invisible to the CAP in equating NP[-ACC] with some portion of the value specification of GAP (**control** feature specification of the daughter), i.e., NP[+ACC]. Conversely, if some rule (e.g., FCR) requires that the value of GAP should be non-nominative, then [+ACC] should be invisible to the CAP. This revision of the CAP is reminiscent of the HFC in GKPS, and this move seems to be further supported by some other cases, as will be discussed next. See (27) below for a formal statement of the revised Control Agreement Principle.

As pointed out in connection with the examples in (70) and (71) of Chapter 2, there is a discrepancy between the feature specifications of the filler and the gap:

25.a. Ku ka na-nun __ ellwul-ul poko sipta. (=71)
He-Foc I-Top face-Acc see want
[+NOM]
'It is he whose face I want to see'
'It is him whose face I want to see'

b.



(NP* = NP[+ACC])

Recall that in local tree (i) the filler category contains [+NOM] introduced by the NFIM whereas the gap category includes [+ACC] because of the FFP.[130] The CAP in GKPS would insist that the filler and the gap contain identical feature

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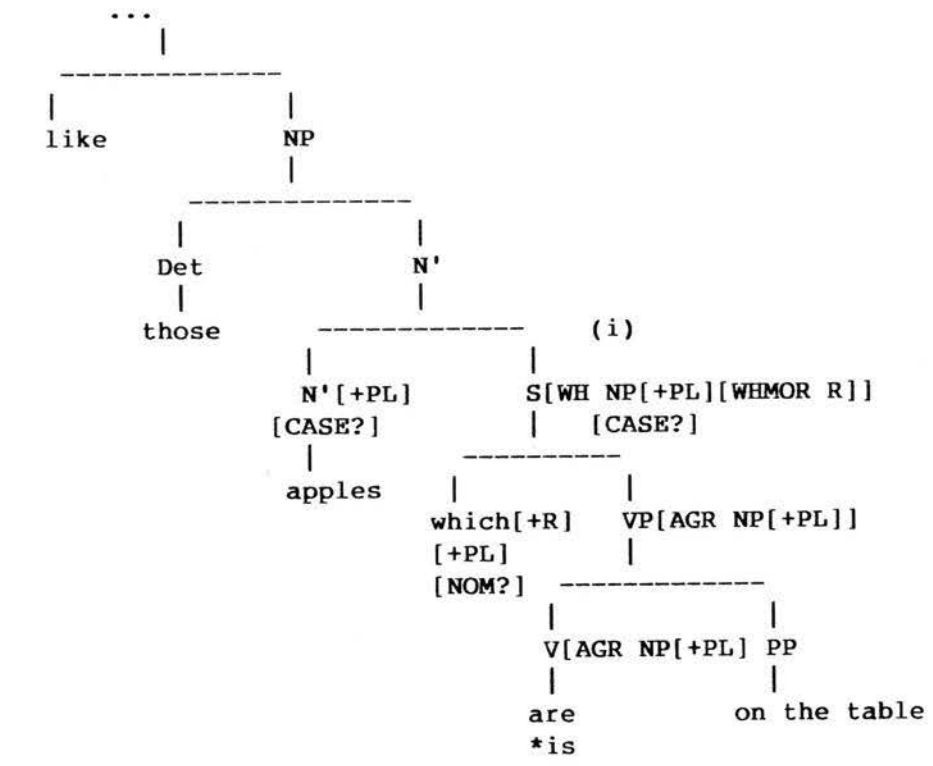
[130] More accurately, [+ACC] is freely instantiated in this local tree. But the gap should have [+ACC] if the local tree in question is to be combined with the rest of the tree.

specifications in local tree (i) of (25b), but this cannot be satisfied. In order to account for this situation and other problems to be introduced shortly, we seem to need to further relativize clause (i) of the CAP, in the same vein as the revision of clause (ii) of the CAP as already suggested in (24). Thus, in the top local tree of (25b), the case feature specification should somehow be exempt from participating in the equation of the CAP.

Relative clauses provide motivation not only for such revision but also for revision of some other part of grammar. In relative clauses, extracted elements and the nominal heads do not seem to satisfy the identity relation required by the CAP of GKPS, as shown below:

26.a. I like those apples which are/*is on the table.

b.



[+R] is an abbrevation of [WH NP[WHMOR R]] which is a FOOT feature, and it should be considered a Control feature, when it is inherited, if the agreement shown in (26a) is to be taken care of. The CAP, as in GKPS, would require an absolute identity between the feature specification of the nominal head (i.e., N'[+PL][~NOM?] = {[+N], [-V], [BAR 1], [+PL], ([ACC]?)} and the non-FOOT HEAD feature portion of NP[WHMOR R] (= {[+N], [-V], [BAR 2], [+PL], [NOM](?)}) in local tree (i), but this cannot be achieved: the head has <BAR 1> whereas the value of WH contains <BAR 2>; if Case features[131] are relevant to the CAP the two categories may have different values for CASE.

In the following, we revise the CAP by combining the strategies employed by GKPS in the formulation of the HFC and the ones found in Hukari and Levine (1987a). The above configuration suggests that the CAP should not impose any restriction on those features specifications which are already regulated by ID rules (as in BAR level), and particularly by the HFC (as in CASE feature, if it is a HEAD feature), as well as by the FFP and by the FCRs. That is, the CAP should be a more permissive than some other components of the grammar, especially than the HFC, just as the HFC condones the HEAD feature discrepancy when the discrepancy is required by ID rules, the FFP, etc. This can be achieved by placing the CAP after the HFC in checking trees, simultaneously making the CAP irrelevant to **free** feature specifications needed by the HFC.

Now, in a parallel way to what GKPS did for the HFC, we postulate a set of 'truly free' feature specifications of a category, which we will call **FREE** feature specifications. That is, the **FREE** feature specifications of a category are the set of those feature specifications which are not regulated by the FFP, HFC, FCRs,

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[131] Case features are best treated as HEAD features in Korean.

or ID rules in any projection of an ID rule. The next step is to state the CAP in such a way that only those **FREE** feature specifications are visible to the CAP. Thus, for instance, in local tree (i) of (26b), BAR specifications are not in the **FREE** specifications of the head noun since the bar level is regulated by the HFC; the CASE feature are not **FREE**, either, since it is regulated by the HFC in the local tree. Therefore, these features should be invisible to the CAP.

Although the basic idea seems to be fairly simple, the formalization of the notion seems to be very complex. We formalize the proposed Control Agreement Principle as follows:

27. **Control Agreement Principle**[132]
For $\kappa(\phi(C_i), \Phi_r)$ which is a set of **FREE** feature specifications of category C in $\phi \in \Phi_r$, a set of projections of an ID rule $r = C_0 \dashrightarrow C_1 \ldots C_n$, then $\phi \in \Phi_r$ meets the CAP if and only if

i) if $\phi(C_j)$ controls $\phi(C_i)$,
a) $\chi(\phi(C_i)) \cap \kappa(\chi(\phi(C_j), \Phi_r))$ is extended by $\phi(C_i)(f_i)$, and
b) $\phi(C_i)(f_i) \cap \kappa(\chi(\phi(C_j), \Phi_r))$ is extended by $\chi(\phi(C_j))$;

ii) if there is a $\phi(C_i)$ which is a predicative category with no controller,
a) $\phi(C_0)(f_0) \cap \kappa(\phi(C_0)(f_0), \Phi_r) \cap \kappa(\phi(C_i)(f_i), \Phi_r)$ is extended by $\phi(C_i)(f_i)$, and
b) $\phi(C_i)(f_i) \cap \kappa(\phi(C_i)(f_i), \Phi_r) \cap \kappa(\phi(C_0)(f_0), \Phi_r)$ is extended by $\phi(C_0)(f_0)$
where f_i and f_0 are the CONTROL features of $\phi(C_i)$ and $\phi(C_0)$, respectively.

This revision of the CAP is reminiscent of the HFC in GKPS. Although it is hard to make an intuitive sense out of this formalism, the readers who are familar with HFC in GKPS will not have much difficulty understanding what the above formalism intends to do. '$\chi(\phi(C_j)) \cap \kappa(\chi(\phi(C_j), \Phi_r))$' in the first part of clause (i) is the

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132 I owe Thomas E. Hukari much for the formalization of the idea expressed in the CAP. As it turns out there are more than two ways of formalizing the idea. See appendix A for a formal definition of FREE feature specification set.

truly free feature specifications actually instantiated on the **controller** in the tree under inspection. Thus, the first part of clause (i) says that the actual **FREE** specifications of C_j should be included in the given projection of C_i in a tree. Although the second part of clause (i) is not symmetrical with the first part, it says that if the actual feature specifications on the controllee are in the **FREE** feature specification set of the controller, they should be included in the actual feature specification of the controller. Clause (ii) is almost identical to the HFC in GKPS: the first part says that if the feature specifications of the mother's control feature value are included in the **FREE** feature specification sets of the mother's and daughter's control feature value, then the daughter's control value specifications should also contain the specifications. The second part of clause (ii) is similar. This formalism allows the CAP to disregard those feature specifications which are determined elsewhere in the grammar (i.e., by ID rules, the FFP, the HFC, the FCRs.), and to avoid undesirable consequences. See appendix A for the definition of FREE feature specification.

3.2.2 Too/Enough Optional Missing Object Constructions

We next consider ID rules and other rules which generate the second sub-type of the missing object construction, Too/Enough Optional Missing Object Construction. This type is somewhat different from the tough construction since it obligatorily uses the degree adverbial **nemwu** 'too', and the embedded V" does not necessarily contain a gap:

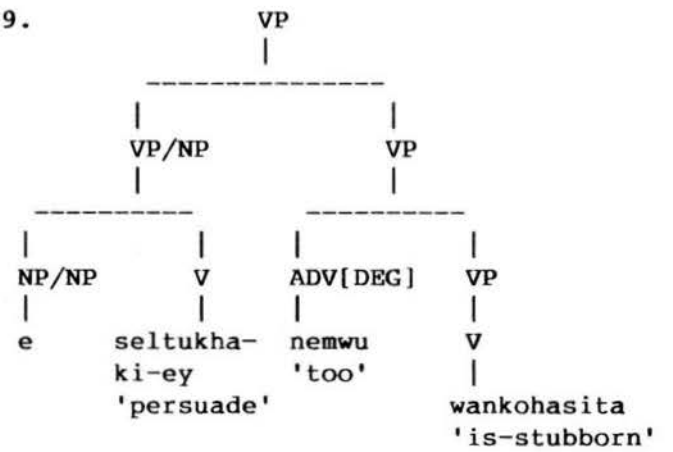
28.a. **Ku halapeci-ka wuli-ka seltukhaki-ey nemwu wankoha-SI-ta.**
the old-man-Nom we-Nom persuade-in too stubborn[+HON]
'The old gentleman is too stubborn for us to persuade'

b. Ku-ka yenge-lul kaluchiki-ey nemwu elita.
He-Nom English-Acc teaching-in too is-young
'He is too young to teach English'

Because of the optionality of the gap, sentence (26b) is ambiguous between 'He is so young that he cannot teach English (to others)' and 'He is so young that English cannot be taught to him'.

Now, how can we generate these sentences? We cannot use the ID rule in (20) because of the differences mentioned above. Furthermore, if we treat V"//NP as a subcategorized-for element, the obligatorily intervening degree adverbial becomes problematic. For instance, (28a) would then contain following local trees:

29.



The problem is that the ID rule suggested in (20) does not fit anywhere in this tree. This is because the degree adverbial intervenes between the lexical verb and VP/NP[NOM] and it is impossible to make a local tree which contains the two.

Most importantly, the gap is found unrestricted in the 'too/enough' construction in the sense that it may be located in any position in V"[EMBD] as well as in V"[VTERM] clause, as shown below:

30.a. Ku-nun ku san-ey ollaka-ss-ta-ko mitki-ey nemwu elita.
He-Top the mount.-up climb-PST-**VTERM** believe too young
'He is too young to believe __ climbed the mountain'

b. Ku chayk-i John-i selon-ul ihayhay-ss-ta-ko
The book-Nom John-Nom introduction-Acc understanding-PST-**VTERM**
mitki-ey nemwu eleypta. (cf. (21d))
believing-**VEMBD** is-difficult
'The book is too difficult to believe that John understood (its) introduction'

c. Ku chayk-i (selon-i) John-ul hontongsiki-ess-ta-ko
the book-Nom introduction-Nom J.-Acc confuse-PST-**VTERM**
sangsanghaki-ey nemwu swipta. (cf. (21e))
imagining-in too is-easy
'The book is to easy to imagine ((its) introduction) confused John'

That is, the gaps in the above examples cannot be encoded as GAP ('//'): furthermore examples (30b) and (30c) show that the gap in this construction is not HEAD feature. These facts seem to indicate that gaps in this construction must represented by the SLASH feature, a non-HEAD FOOT feature in Korean.

In the following, based on suggestions by Hukari and Levine (1987a), but somewhat differently from them, we propose the following ID rule:

31. VP ---> V"[+ADV](/NP), H[+DEG]

In our grammar, DEG is a FOOT feature specified in degree adverbials and degree adverbials are just like ordinary adverbials except for the feature [+DEG].[133] Since DEG is considered a FOOT feature and mentioned in the daughter in an ID rule, it will not go higher than the category containing it. This suggestion is based on the following examples:

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[133] See Hukari and Levine (1987a) for an compound analysis.

32.a. Ku-ka wuli-ka ihayhaki-ey nemwu ppali kuliko

He-Nom we-Nom understanding-in too fast and

nemwu katanhakey iyakihayssta.
too simply talked
'He talked too fast and too simply for us to understand'

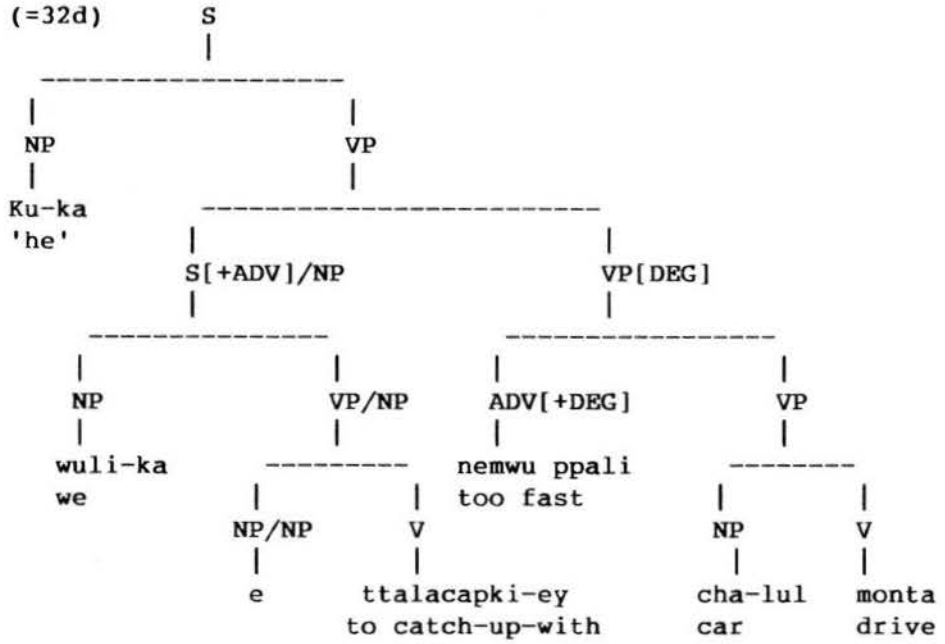
b. Ku-ka wuli-ka ttalacapki-ey nemwu ppaluta
He-Nom we-Nom catching-up-with-in too is-fast
'He is too fast for us to catch up with'

c. Ku-ka wuli-ka ttalacapki-ey nemwu ppali kednunta.
He-Nom we-Nom catching-up-with-in too fast walk
'He walks too fast for us to catch up with'

d. Ku-ka wuli-ka ttalacapki-ey nemwu ppali cha-lu monta.
He-Nom we-Nom catching-up-with-in too fast car-Acc drive
'He drives the car too fast for us to catch up with'

For instance, (29d) will have the following structure:

33. (=32d)



'S/NP' does not seem to be a complement of the embedded verb; ADV[+DEG] is introduced by a recursive VP expansion rule just like ordinary adverbs.[134] There would be no problem with **control**, since SLASH is inherited in V"[ADV]/NP. SLASH becomes the control feature of the daughter V" in the local tree (i) of (33) and the clause (ii) of the CAP guarantees a match between the value of SLASH and the control feature of the mother (AGR). Intuitively, the matrix subject controls the gap embedded in the adverbial VP.

3.2.3 Some Other Details

Next, we provide some minor rules in order to take care of some minor details: FSD 10: ~[DEG] and FCR 21: ~([SLASH]&[DEG]). FSD 10 is self-evident; FCR 21 is to explain that the Korean degree adverbials are not dislocated unlike other phrases in Korean, as shown below:

34. Ku-ka wuli-ka yenge-lul kalulchiki-ey nemwu elita.
He-Nom we-Nom English-Acc teaching-in too is-young
'He is too young for us to teach English'

---

134 As Thomas Hukari has pointed out (personal discussion) the rule (31) poses two problems for English data, if we extend it to English. One has to do with the fact that SLASH is treated as a HEAD feature in GKPS, and so the approach taken in Korean is not compatible with the following example:

(a) What was John too angry to talk to about?

One further problem is that 'enough' intervenes the head and the complement and such configuration cannot be obtained by our approach:

(b) John is angry enough with Mary to talk to about him.

In Korean, however, SLASH is not a HEAD feature, as pointed out in Section 4.2., and an exceptional degree adverb such as 'enough' does not exist, either.

cf.*Ku-ka wuli-ka yenge-lul nemwu kalulchiki-ey elita.
He-Nom we-Nom English-Acc too teaching-in is-young
'He is too young for us to teach English'

cf.*Ku-ka wuli-ka nemwu yenge-lul kalulchiki-ey elita.
He-Nom we-Nom too English-Acc teaching-in is-young
'He is too young for us to teach English'
cf.*Ku-ka nemwu wuli-ka yenge-lul kalulchiki-ey elita.
He-Nom too we-Nom English-Acc teaching-in is-young
'He is too young for us to teach English'
cf.*Nemwu ku-ka wuli-ka yenge-lul kalulchiki-ey elita.
too He-Nom we-Nom English-Acc teaching-in is-young
'He is too young for us to teach English'

In conclusion, we have argued that there is a missing object construction in Korean along with the quasi-tough construction: the differentiating features are so pervasive and evident that they require distinct analyses with respect to the subjecthood of the matrix sentence in each case. In the former the subject of the main clause is the logical object of the embedded verb (or subcategorized-for elements of the embedded V") whereas the latter has a sentential subject.

Furthermore we have argued that the **tough** construction is different from the 'too/enough optional missing object construction' in that the former uses GAP which is a HEAD feature as well as a FOOT feature, while the latter employs SLASH which is a FOOT feature but not a HEAD feature.

Most importantly, we have argued that the CAP should be relativized in such a way that it forgives feature discrepancies between filler and the gap, avoiding feature clash and descriptive overlap.

Chapter 4

HONORIFIC AGREEMENT AND CONTROL

4.1 Introduction

In this chapter, we analyze the Korean honorific system using formal principles as heuristics particularly the Control Agreement Principle. In Korean linguistics, great effort has been exerted to clarifiy the nature of the honorific system from diachronic and synchronic perspectives.[135] This seems to be mainly because the honorific system is one of the rare cases which show syntactic agreement in Korean. However, there has been no satisfactory concensus on the exact nature of the system: it has not even been established which honorific phenomenon is to be described through which component of the grammar.

This chapter will focus on four issues. The first one involves inherent vs interpretive honorific features in nouns. It will be claimed that some nouns, namely triggers of subject honorific agreement, should be specified as containing inherent honorific features in the lexical entry. Secondly, we will attempt to give a clearer picture of the Korean honorific system. For this purpose the system will be classified according to a more objective criterion. More importantly, we will determine whether a certain phenomenon lies within or beyond the domain of syntactic description. Thirdly, a formalized treatment will be attempted within a GPSG

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[135] See Y.-K. Ko (1974), I.-S. Lee (1974), Y.-K. Park (1975), H.-P. Im (1975), H.-K. Kim (1975), B.-H. Ahn (1982), Y.-S. Park (1978), and B.-S. Park (1985), to name a few.

framework. An agreement principle will be formulated and it will be tested in several constructions such as inalienable possessive constructions, double nominative constructions, tough constructions, and quasi-tough constructions, as well as Raising- and Equi-type verbs. In this process, it will be shown that the Control Agreement Principle can be extended to the Korean honorific system as well. Fourthly, we claim that some domain in the honorific system, which used to be considered pragmatically-oriented can be and should be syntactically approached.

4.2 Korean Honorific System

Traditionally, three types have been recognized within the Korean honorific system, as summarized in (1):[136]

1. Korean Honorific System (traditional classification)
   - Polite Expression
   - Humble Expression
   - Honorific Expression
     - Subject Honorific Expression
     - Object Honorific Expression

The polite form has to do with showing respect to a listener. Namely, if the listener is an honorable person, the polite infix 'supni/upni/pni' is inserted into the main verb as shown in (2a) and (2a'). For instance, POL infixes are used when the child speaks to his father.

2.a.A(to his son): John-i eti iss-nuya?
Nom where is- Q
'Where is John?'

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[136] This is based on Choi (1983) and Lee and Im (1983).

B(to his father): Hakkyo-ey ka-ass-upni-ta.
school to go PAST POL DCL
'(He) went to school.'

a'.A(to his father): John-i eti iss-upni-kka?
where POL Q
'Where is John?'
B(to his son): Hakkyo -ey ka-ass- ta.
'He went to school.'

As can be noticed in (2) POL is inserted when someone is speaking up to someone else and it is absent when he is speaking down.

The humble infix **-sao-** is related to showing the humbleness of the speaker in the presence of an honorable person. Sentence (3b) is related to this type of expression.

(3) a. King: Nwuka keki-ey ka-keyss-nun-ka?
who there go- will-PRS-Q
'Who will go there'
b. Subject: Soin-i ka-keyss-sao-pni-ta.
I(HUM) go-will-HUM-POL-D
'I will go(HUMBLE).'

The first person singular in (3b) is different from the ordinary pronoun **na** which is [-HUMBLE]. This humble expression (i.e., NP[+HUMBLE]) might be thought of as requiring the humble verbal infix **-sao-**, but the following sentence can be used by the same speaker instead of (3b) and this shows shows that **-sao-** is not necessarily related to **soin** 'I (humble)':

4. cenha-kkeyse hayngchaha-si-ci anh-keyss-sao-pni-kka?
King-Nom[+HON] go-HON-PRT not-will-HUM-POL-Q
[+HON]
'Wouldn't you (=The King) go for yourself?

This sentence has a honorable subject but contains HUM infix. This indicates that the humble expression is more related to the speaker's social status than to the subject of S.

The third type, which is shown in (5) and (6), has to do with expressing respect to the subject and object of a sentence. If the subject NP denotes an honorable person, the honorific infix SI is used, as shown in (5a), as opposed to (5a'). If the addressee is an honorable person as well, we could also insert the polite form infix independently of the use of the subject honorific infix, as shown in (5b) and (5b'):

```
5.a. Apenim-kkeyse   ku   chayk-ul  sa-  SI- ess- ta
     Father-Nom(HON) that book-Acc  buy- HON-PAST-DCL
     'Father bought that book.'

  a'.Tongsayng-i     ku   chayk-ul  sa-  ass-  ta.
     Younger Brother that book- Acc buy- Past- DCL
     'Younger Brother bought that book.'

  b. Apenim-kkeyse   ku   chayk-ul  sa-  SI- ess-upni-ta
     Father-Nom(HON) that book-Acc  buy- HON-PAST-POL-DCL
     'Father bought that book.'

  b'.Tongsayng-i     ku   chayk-ul  sa-  ass-upni-ta.
     Younger Brother that book- Acc buy- Past-PLO-DCL
     'Younger Brother bought that book.'
```

If the object denotes a conventionally honorable person, a kind of suppletive form is used as shown in (6).

```
6. Nay-ka  emeni-lul   mosiko- ka-ass-ta.
   I - Nom mother-Acc  accompany-go-PAST-D
   'I accompanied mother.'

  cf.Nay-ka  tongsayng-ul    teylko-  ka-ass- ta.
     I -Nom  yr. Brother-Acc accompany-go-PAST-D
     'I accompanied Younger Brother.'
```

This traditional classification (shown in (1)) looks conceptually plausible. However, if we are to analyze the system within the formal framework of the current linguistic theory, there arise some problems with this classification.

As is assumed in current Korean linguistics, we will assume that the phenomenon which we will identify as honorific agreement involves grammatical agreement. What current linguistic theories require of agreement phenomena is that there should be an argument NP which triggers morphological variation on the side of the predicate categories. In other words, agreement is initiated by an argument NP and is manifested in the morphological inflection of predicate categories.

Thus in accordance with this spirit, I have listed the possible triggers of these honorific expressions in a discourse context, as shown in (7).

```
7. [CONTEXT  speaker   listener  [S  NP  NP ... ]    ]
             |____A_____|
             |______________B_____|___|___...
```

Some honorific expressions are only a matter of relationship between speakers and listeners. Polite and humble expressions fall into this plane, namely Plane A. The trigger in this plane is the relative status of the speaker and listener in the societal hierarchy. One thing to note is that the speaker and listener are all sentence-external and so plane A is not within the domain of syntax, but has to be studied from the perspective of sociolinguistics or pragmatics. Plane B, on the other hand, involves the speaker which is sentence-external and NP which is sentence-internal. Furthermore, this plane has no direct connection with listeners and

should be treated separately from plane A. This implies that there are two different planes from a formal point of view. Therefore, we suggest the following classification:

8. Korean Honorific System (Proposed)

Deference Plane (Plane A)
- Polite Expression
- Humble Expression

Honorific Plane (Plane B)
- Subject Honorific Expression
- Object Honorific Expression

Since Plane A has to do with sociolinguistics or pragmatics, it will not be discussed here.[137] Plane B might not be a purely syntactic phenomenon, either, because the sentence external element is involved as shown in (7).[138]

Now, the problem is whether we can eliminate the speakers' involvement and secure a proper syntactic domain within plane B. Let us take a look at the examples in (9). Sentences in (9) are instances of subject honorific expressions.[139]

9.a. John-uy apeci-ka o- SI-n- ta.
POSS father-Nom come-HON-PRES-D
'John's father is coming.'

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137 Thus, we assume that deference infixes are freely inserted (or relevant features are freely instantiated) into the verb stem with no syntactic filter applicable to them.

138 What have been discussed up to this point have been independently pointed out by I.-S. Lee (1974), although he still classified the system along the traditional line and did not specify which subdomain of of the system is studied in which area of grammar.

139 We will be mainly concerned with subject honorific expressions for the moment since object honorific expressions are restricted only to certain suppletive forms and may as well be treated as a lexical phenomenon.

b. John-uy apenim-kkeyse o- SI- n- ta.
Nom(HON) come-HON-PRES-D
'John's father is coming.'

c. John-uy apeci-ka o-n-ta.
POSS father-Nom come
'John's father is coming.'

d.*John-uy apenim-kkeyse o-n-ta.
father Nom(HON) come
'John's father is coming.'

(9a), (9b), and (9c) are acceptable , but (9d) is not. The current approach to this contrast could be summarized as follows: if the speaker considers or interprets the referent of the subject NP as honorable, he assigns honorific features to the subject NP and also inserts the subject honorific infix SI into the corresponding verb. Thus (9a) and (9b) are the cases where the speaker interprets the subject NP as referring to someone honorable. Hence, these two sentences are used by the person who is inferior to John's father in the societal hierarchy. Furthermore, as shown in (9b), the honorific suffix '-nim' can be attached to the NP, if NP in question is considered honorable. (9c), on the other hand, is used by the person who interprets the subject NP as non-honorable and does not assign the honorific feature to the subject NP. Let us call this approach an 'interpretative' analysis in the sense that the speaker makes judgement on the honorific expression.[140]

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[140] This approach is taken by I.-S.Lee (1974) and B.-S. Park (1985). Park (1985) states:

> ... the honorific particle occurs only when the speaker chooses to look upon a particular individual as someone (or something) that deserves to be respected. If the speaker thinks otherwise, he is free from using the particle **-si-**. ... (Thus) Clearly, the occurrence or nonoccurrence of the honorific particle reveals one's view about the world. Thus, on the one hand, it belongs to the realm of semantics of pragmatics of the Korean language, and on the other is is intricately interwoven with the syntax of

If we attempt to incorporate the intuition expressed in the interpretative analysis directly into a formal principle similar to the CAP without any ancillary provision, then the agreement principle will become asymmetrical because this approach entails an implicational statement, rather than the bi-implicational one which is formulated in GKPS. That is, the interpretative analysis forces a statement such as: if [+HON] is instantiated on the subject NP, the corresponding verb must contain an honorific infix **si.** In other words, this approach disregards the logical possibility that the implicational statement may be satisfied, even when the subject is [-HON] and the verb is [+HON], since the implicative statement is always satisfied if the conditional part is false. Thus, it will allow the following:

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the language.

H.-B. Im (1976) argues that the whole honorific system in question should be described in connection with the topic of the discourse (and discouse context) giving examples such as:

a. Sensengnim-eykey i pang-i cwupta. (Im 1976: 250)
teacher-Dat this room-Nom is-cold
[+HON]
'This room is cold for the teacher'
or 'The teacher feels cold in this room'
b.*Sensengnim-eykey i pang-i cwuwu-SI-ta.
c. Sensengnim-eykey-nun i pang-i cwuwu-SI-ta.
d.*Sensengnim-eykey-nun i pang-i cwupta.

It seems to me that sentence (c) should use '**-kkeyse-**' (honorific nominative marker) instead of **-eykey-** and should be contrasted with the following sentence which contains a uncontroversial honorific dative marker:

Sensengnim-kkey-nun i pang-i cwuwu-(*SI)-ta.

This simply suggests that the topic of the sentence is not necessarily the trigger of the honorific expression. Furthermore, since 'topic' is not precisely defined in Im, our argument against him is difficult to continue.

10.*Nay atul-i ecey Seoul-ey ka-si-ess-ta.
my son-Nom yesterday -to go-HON-PST-DCL
[-HON] [+HON]
'My son went to Seoul'

More importantly, this approach cannot explain why some nouns do not allow honorific interpretation under the theory where the [+HON] feature is freely assigned to nouns by the speaker. Relevant examples are shown in (11a), (11b), and (11c):

11.a.*Ku halapenim-uy twulccay atul- i phanse-i- SI- ess- ta.
that grandpa. POSS second son-Nom minister-is-HON-PAST-DCL
'That grandfather's second son was a minister,'

b. Ku halabenim-uy twulccay atuNIM-kkeyse phanse-i-SI-ess-ta.

c. Ku halapeci-uy twulccay atul-i nay chinkwu-i-ta.
son-Nom my friend-is-DCL
'That old man's second son is my friend.'

Atul 'son' should be eligible for honorific interpretation if the word refers to an honorable person, e.g., great grandfather's son. But the plain form **atul** is not acceptable in those cases as shown in (11a), as opposed to (11c). Furthermore we have to regard **NP+nim** as containing [+HON] in the lexicon because it always requires the honorific infix on the side of the corresponding predicate, and because the word formation **NP+nim** should better be considered a morphological process involving the honorific suffix. Furthermore, some nouns such **hana-nim** 'heavenly God' and **nim** 'loved one' have no non-honorific counterpart and are to be specified as [+HON] in the lexicon.

4.3 GPSG Analysis

Before presenting our solution to this problem, we will consider more familiar examples in English as shown in (12).

12.a. Who are responsible for the accident?
b. Who is responsible for the accident?

In principle, the two **who**'s are to be treated as two separate lexical items which happen to be homophonous. The first **who** should contain the [+PLU] feature among others, and the second one must contain the [-PLU] feature. Roughly speaking, what syntax does in the grammar is to generate all and only well-formed sentences of a language by using a finite set of rules and lexicon. Given a certain syntactic configuration, all we have to do is to search for an appropriate lexical item in the lexicon and insert it into the corresponding slot.

We can solve the problems in (10) and (11) in the same way as we did in (12). If we enter two different **apeci** in the lexicon as in (13), what speakers have to do is to choose the appropriate lexical item. In contrast, **atul** will uniquely be specified as [-HON] in the lexicon whereas **atunim** will always be [+HON], as shown below:

13.a. apeci^{1}[...[+HON]...] 'father'
b. apeci^{2}[...{-HON]...]
c. apenim [...[+HON]...]
d. atul [...[-HON]...] 'son'
e. atunim [...[+HON]...]

The specification shown in (13) explains the paradigms in (9) and (10), and this approach accordingly allows us to eliminate the speaker's interpretation from the honorific plane: it becomes a matter of choosing well-formed sentences which are

in conformity with a certain agreement principle when syntactic configurations are generated. This approach is also welcome because we can formulate a bi-implicational agreement principle which can rule out (10).

Now, we can say that the verb of a matrix S agrees with the subject NP with respect to honorific expressions. Since information about such syntactic agreement can be encoded in the feature AGR, we formulate an agreement principle in such a way that the value of VP covaries with the feature specification of the subject in a local tree which is licensed by an ID rule 'S ---> XP, H[-SUBJ]'.[141] This idea can be formalized as follows:

14. **Subject Honorific Agreement Principle (SHAP)**[142]
(first approximation)
Let Φ be the set of projections for the rule r,
where r= S ---> XP, H[-SUBJ].
Then $\phi \in \Phi$ meet the SHAP on r if and only if
$\phi(XP) = \phi(VP)(AGR)$.

This principle can be seen as a combination of part of the CAP and part of definition given in **Control** and **CONTROL feature** in GKPS (p88-9).[143] This principle is exemplified by using (15a):

---

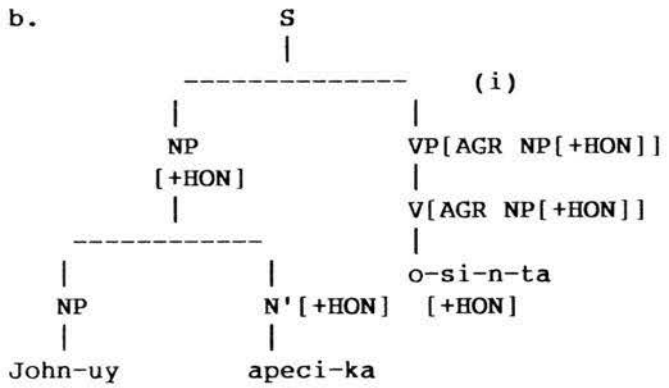
[141] Then the HFC will transmit the information to lexical verbs where their morphological forms are realized. Further, for the time being let us also assume that [+HON] is a HEAD feature specified in nominal categories.

[142] Geoffrey Pullum points out that if r is just one rule, then the SHAP should be considered a condition on a rule, rather than a principle.

[143] Informally speaking, parts of definitions given in **Control** and **CONTROL feature** specify that the subject phrase **controls** its predicate VP, in which case AGR is the control feature.

15.a. John-uy apeci-kkeyse o- si- n- ta. (9a)
Gen father-Nom(HON) come-HON-PRS-DCL
'John's father is coming'

b.



The SHAP is a condition on local tree (i) in (15) and requires that the feature specification of the subject NP (= {<N +>, <V ->, <BAR 2>, <HON +>} in this case) be identical to the AGR value of the VP (= {<N +>, <V ->, <BAR 2>, <HON +>} in this case).[144] Thus, local tree (i) satisfies the SHAP. The featural connection between VP and V with respect to AGR is catered to by the HFC, since AGR is a HEAD feature.

There are, however, some problematic cases with respect to calculation of honorific features within a nominal category, especially when the head noun denotes body parts, speech, behavior, etc. As is intuitively predicted, in an ordinary possessive construction, the head determines the honorific value of the whole NP as shown in (16a) and (16b):

---

144 Since only HEAD features are visible to the CAP, we assume that [HON] is a HEAD feature.

16.a. John-uy apeci-ka o- SI- n -ta.
Gen father-Nom come-HON-PRES-D
[+HON] [+HON]
'John's father is coming.'

b. Apenim-uy kay-ka pwulk-ta.
father Gen dog-Nom is-red-D
[-HON] [-HON]
'Father's dog is red.'

c. Apenim- uy elkwul-i pwulk-u- SI- ta.
father POSS face Nom is-red -HON- D
[+HON] [~HON] [+HON]
'Father's face is red.'

d. Aki- uy elkwul-i pwulk-u- (*SI)- ta.
baby POSS face Nom is-red -HON- D
[-HON] [~HON]
'Baby's face is red.'

However, as shown in (16c) and (16d), terms for body parts, age, speech, etc. show some peculiar property with respect to honorific features. In this case, not the head noun but the adnominal NP determines the honorific value. This phenomenon is problematic since the agreement pattern becomes different depending on the admoninal NP. Some argue that the solution to this problem should be pragmatic.[145] However, we provide a syntactic account for this problem, giving a formalized convention for calculating honorific features of NP. In the following, we classify all the Korean nouns into three categories, as follows:

---

145 As summarized in Im (1976), W. Huh (1973) and C.-S. Suh (1972) consider this phenomenon as 'indirect honorification' by which the head is affected by [+Respect] in the adnominal NP. However, no formalization has been made. Y.-K. Park (1975) argues that the honorific infix is used if the NP marked with the nominative marker is honorable 'experiencer' as in the following example:

Apenim-kkyse kasum-i ttuy-SI-n-ta. (Adapted from Im (1976: 248))
Father-Nom(HON) heart-Nom beat-HON-PRS-DCL.
'Father's heart is beating'

17. Noun Classes (with respect to [HON]) (first approximation)

Class I: (N[+HON])	a. nouns with suffix '-nim' or 'pwun' b. terms for persons who have a higher social position seen from ego's point of view.
Class II: (N[-HON])	a. same as CLASS I-b b. terms for animals and inanimate things.
Class III: (N[~HON])	body parts, speech, behavior, attitude, etc.

The first two classes are straightforward. Class III is postulated to account for cases where the adnominal NP transfers the [HON] feature specification in the possessive construction. So our general idea is as follows: when NP is rewritten as some adnominal phrase and a head, the honorific value of the whole NP is the same as that of the head, if the head is specified for [HON]; otherwise, the [HON] value of the whole NP is identical to the value of the adnominal elements. This idea could be formalized as follows:

18. **[HON] Calculation Convention (first approximation)**

Let 'NP ---> XP[+ADN], H' be a rule where H is a head
a) if HON $\in$ DOM(ϕ(H)), then ϕ(NP|HON) = ϕ(H|HON)
b) otherwise, ϕ(NP|HON) = ϕ(XP[+ADN]|HON)

So the Korean lexicon can be divided into nouns which are specified for the feature HON (either positively or negatively) and those which are not specified for the feature HON, in which case its adnominal phrase determines whether the matrix NP is [+HON] or [-HON]. Thus, (16c) can be exemplified as in (19), and the honorific value of the whole NP is determined by the adnominal elements:[146]

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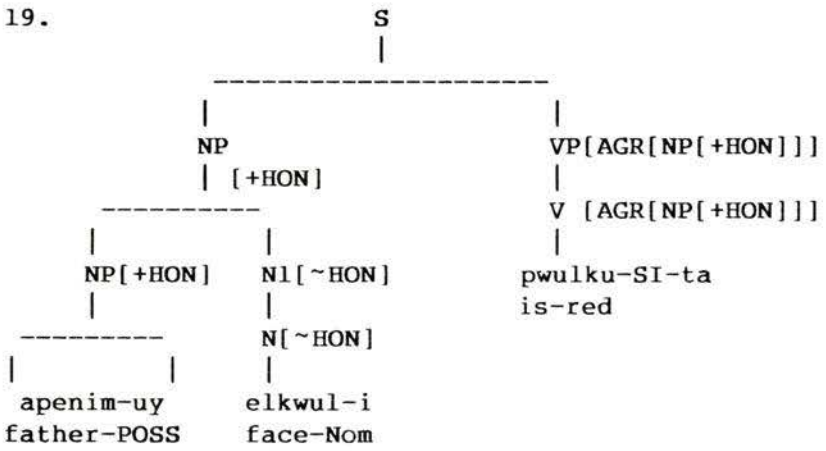
146 [~HON] is used here to denote relevant cases where no honorific specification is present.

19.



We give some other examples which can be taken care of in the same way:

20.a. Ku pwun-uy selkyo-ka coh-u-sita.
that person-Gen sermon-Nom is-good
[+HON] [~HON] [+HON]
'That person's sermon is good'

b. Ku pwwun-uy phwumhayng-i pangcengha-si-ta.
that person-Gen behavior-Nom is-decent
'His behavior is decent'

The second problem which we will discuss is related to so called double nominative constructions in Korean. (21a) and (21c) have two nominative markers in a simple sentence.

21. a. Ku tangsi-ka halapeci-kkeyse yumengha-si-ess-ta.
that time-Nom gr.father-Nom was-famous
'It is at that time that Grandfather was famous'

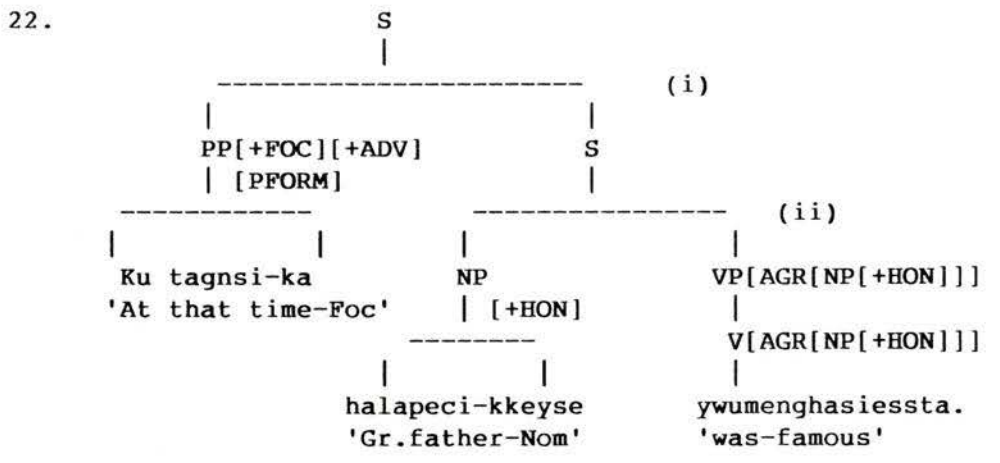
b. Ku tangsi-ey halapeci-kkeyse yumengha-si-ess-ta.
that time-at gr.father-Nom was-famous
'At that time Grandfather was famous'

c. Apeci-ka nwun-i ku- SI- ta.
father-Nom eye-Nom is-big-HON-D
'It is Father whose eyes are big.'

d. Apeci-uy nwun-i ku-SI-ta.
POSS
'Father's eyes are big.'

This construction is not problematic since we have already argued that the first 'NP-Nom' is a focused phrase, not a subject. Thus, (21a) will have the following configuration, satisfying the SHAP:

22.



In the above tree, the SHAP does not apply to local tree (i) but to (ii), since the latter but not the former is the projection of the ID rule 'S ---> XP, H[-SUBJ]'.

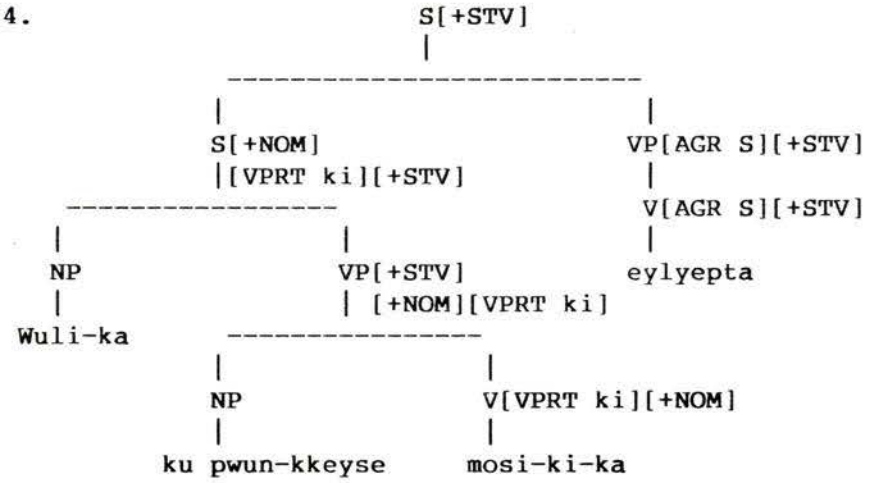
Next, we test the SHAP in the quasi-tough construction. Consider the following which is one of our previous examples:

23. Wuli-ka ku pwun-kkeyse mosi-ki-ka
we-Nom that person[+HON]-Nom[+HON] 'wait-on'-VEMB-Nom

eylyep-(*SI)-ta. ((12a) of Chapter 3)
is-difficult-(*HON)-DCL
'It is difficult for us to cater to the gentleman'

As we have argued before, (23) has a stative verbal **sentential** subject; none of the NPs inside of the embedded S triggers subject honorific agreement on the matrix verb, as shown below:

24.



This is as it should be, since a sentential subject cannot not be specified for [HON]. [HON] is restricted to nominal categories; no subject-honorific morphology is involved.

We next apply the SHAP to the missing object construction. We exemplify the SHAP by using examples similar to the previous ones. Since the logical object of the embedded V" is featurally related to the subject of the matrix of S in this construction, it is predicted that the 'underlying' object of the embedded V" should be able to trigger the subject honorific agreement; we also expect to find the object honorific agreement[147] if a suppletive object-honorific verb form is available:

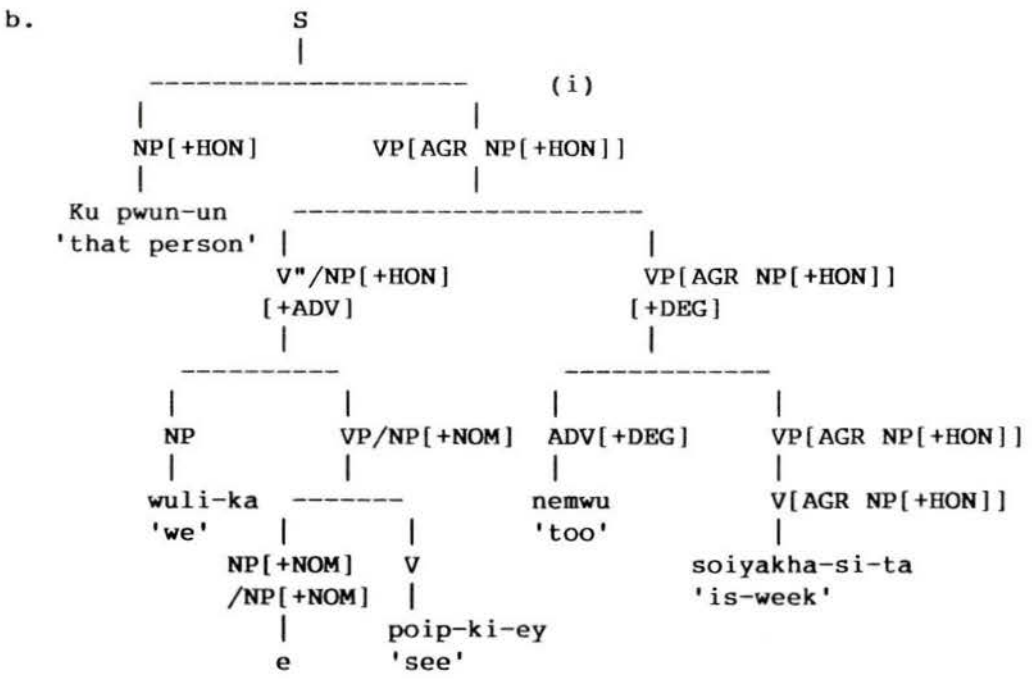
---

147 We consider that the object-honorific phenomenon should be captured lexically rather than by agreement rules, since they are very scarce and irregular. For instance, compare it with the subject honorific form:

plane from:	subject honorific form:	object honorific form	
po	po-si	poip	'see'

25.a. Ku pwun-un wuli-ka poip-ki-ey nemwu soyyakha-si-ta.
the person-Top we-Nom see-VEMB-PRT too weak-HON-VTERM
[+HON]
'The gentleman is too weak for us to (go and) see'

b.



The tree in (25b) where the SHAP applies to local tree (i) satisfies the SHAP (and the agreement value is passed down to V by the HFC). This tree also connects the subject NP to the object position crucially via the CAP[148] so that the object honorific agreement could be observed.

---

ponay	ponay-si	N/A	'send'
ha	ha-si	N/A	'do'
pwuyangha	pwuyanha-si	mosi	'support'
manci	manci-si	N/A	'touch'
...	...	...	...

So object-honorific suppletive forms such as **poip** and **mosi** are assumed to have a separate ID rule corresponding to them, such as 'VP ---> H, NP[+HON]'.

148 See our previous illustration of the missing object construction and related discussion in (6b) of Chapter 3.

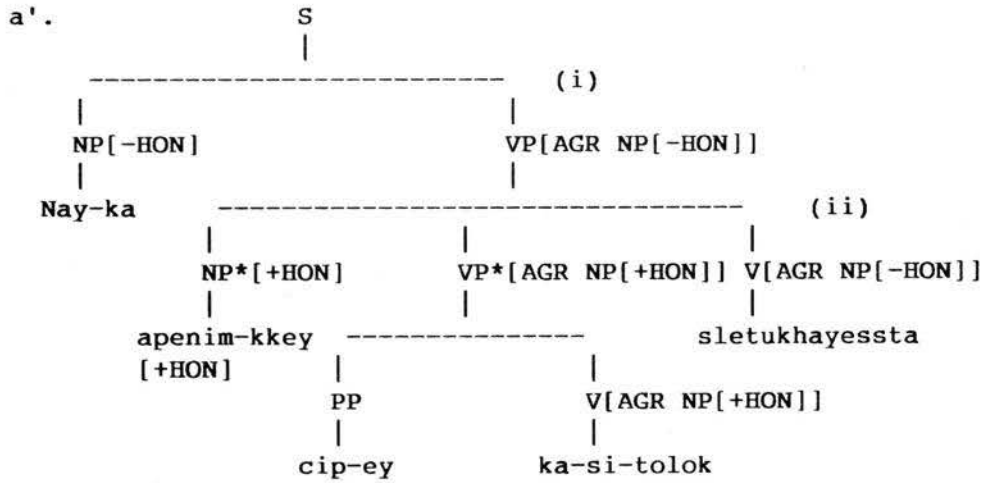
4.4 Universal Principle

We next examine the SHAP in the so-called Equi- and Raising-type[149] verbals:

26.a. Nay-ka apenim-kkey cip-ey ka-si-tolok seltukhayessta.
I-Nom father[+HON]-dat home-to go-HON-so-as-to persuaded
'I persuaded Father to go home'

b. Nay-ka apenim-kkey cip-ey ka-si-lul wanhan-ta.
I-Nom father[+HON]-dat home-to go-HON-so-as-to want
'I want Father to go home'

a'.



Given this example, the SHAP, as proposed in (14), is not general enough to take care of the Equi-type verbs (and Raising-type verbs):[150] the honorific expression is somehow triggered in local tree (ii) but not in (i). Informally speaking, the notion subject which is implicit in the SHAP is not compatible if the surface object triggers honorific agreement. Apparently, the honorific verb is controlled by the dative NP (or accusative NP) in (ii) of (26a). That is, we should define

---

149 Korean raising-type verbs involves only 'subject-to-object raising' such as **mit** 'believe', **pala** 'hope', etc. No analogue of the English 'subject-to-subject raising' is found in Korean.

150 For brevity we illustrate Equi-type verbs only.

another **control** situation in our grammar other than the SHAP. Thus, we follow GKPS and define another case of **control**, as in clause (ii):

27. **Control**
If ϕ is a projection of r, where r = C_0 ---> C_1,... C_n,
then a category $\phi(C_i)$ controls $\phi(C_j)$ in ϕ, $1 \leq i, j, \leq n$, if and only if
(i) $TYP(\chi(\phi(C_j))) = \langle TYP(\chi(\phi(C_i))), TYP(\chi(\phi(C_0)))\rangle$, or
(ii) $TYP(\chi(\phi(C_j))) = TYP(VP)$ and one of the types associated with the head of r is $\langle TYP(VP), \langle TYP(\chi(\phi(C_i))), TYP(VP)\rangle\rangle$. (GKPS p88)

In the above definition $\chi(\phi)(C)$[151] has the effect of eliminating the instantiated FOOT features from the category $\phi(C)$ which is a tree projection of C in an ID rule. Clause (ii) says, in effect, that when the head verb is of the appropriate semantic (intensional logic) type -- that of **persuade** or **want** -- its object controls the complement VP.

Now, the verb `persuade' is of type <TYP(VP), <TYP(NP), TYP(VP)>> and it is associated with the head of the ID rule `VP ---> H, NP*, VP*'. Thus, ϕ(NP*) **controls** ϕ(VP*). (See (26a').) That is, in the local tree (ii) of (26), NP* controls VP*; therefore, the value of the control feature should be as close to the feature specification of NP*. Thus, AGR has NP*[+HON] as its value.[152]

The phenomenon described above is analogous to what the CAP in GKPS attempt to capture. Then, we can abandon the SHAP and employ the CAP for the description of the Korean honorific system. We repeat the CAP, as formulated in (26) of Chapter 3:

28. Control Agreement Principle (revised)

---

151 This notation allows us to deal with types associated with ID rules.

152 This identity requirement is specified in the CAP clause (ii) in GKPS. However, as we have seen in chapter 3, the requirement should be relaxed so as to allow some disagreement if it is required by other components of the grammar.

For all $\phi' \in \Phi_r$ which is a set of possible projection of an ID rule C_0 ---> C_1 ... C_n,

i) if $\phi(C_j)$ controls $\phi(C_i)$, then $\phi \in \Phi_r$
   a) $(\chi[\phi(C_j)) \cap \phi'(C_i)(f_i)$ is extended by $\phi(C_i)(f_i)$
   b) $\phi(C_i)(f_i) \cap (\chi[\phi'(C_j))$ is extended by $(\chi[\phi(C_j))$
where f_i is the CONTROL feature of $\phi(C_i)$.

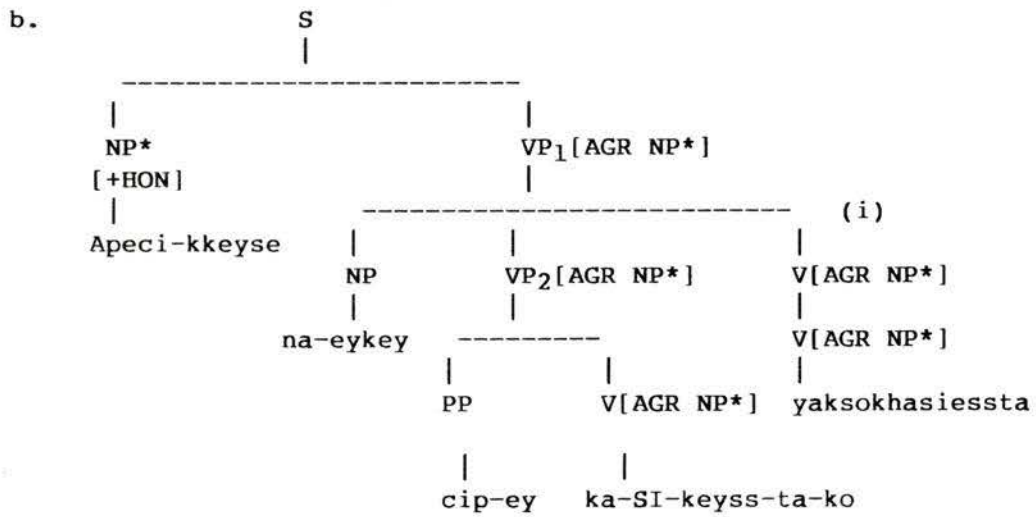
ii) if there is a $\phi(C_i)$ which is a predicative category with no controller, then $\phi \in \Phi_r$
   a) $\phi(C_0)(f_0) \cap \phi'(C_i)(f_i)$ is extended by $\phi(C_i)(f_i)$
   b) $\phi(C_i)(f_i) \cap \phi'(C_0)(f_0)$ is extended by $\phi(C_0)(f_0)$,
where f_i and f_0 are the CONTROL features of $\phi(C_i)$ and $\phi(C_0)$, respectively. (Clause (ii) from Hukari and Levine 1987)

This is a revision of the CAP of GKPS (p.89) part of which has already been reformulated by Hukari and Levine (1987), and was presented in the previous chapter. Clause (i) takes care of the cases where functor categories have a sister NP argument. Clause (i) says that if there is a controller in the local tree, the value of the Control feature of a functor category must be identical to the feature specification of the sister argument to the degree that it possibly can, and vice versa. Clause (ii) is to account for cases where there is no NP argument. Clause (ii) says that if there is no controller in the local tree, the value of the control feature of a daughter is identical to that of the mother to the possible maximal degree, and vice versa.

We will next examine one of the cases to which the second clause of the CAP crucially applies. It is the case where `promise'-type verbs are involved. Unlike `persuade'-type verbs, these verbs show honorific agreement between the matrix subject and the embedded verb as well as the matrix verb:

29. Apeci-kkeyse na-eykey cip-ey ka-SI-key-ta-ko yaksokha-SI-ess-ta.
    Father-Nom I-Dat home-to go-HON-will-DCL-COMP promise-HON-PST-DCL
    [HON]
    'Father promised me to go home'

b.



The difference between the above example and (26) is taken care of by the difference in the semantic type of the main verbs. Unlike `persuade'-type verbs, `promise'-type verbs are considered of type <NP, <VP, VP>> and so no local **controller** is assigned by the definition in (27) and nowhere else in the grammar. What makes the control possible is the second clause of the CAP which states that if there is no controller, the value of the control feature of the daughter must be identical to that of the mother as much as it possibly can. Thus, the AGR (control feature) value of VP_2 must be analogous to the AGR (control feature) value of VP_1 to the maximal degree in local tree (i) of (29b).

4.5 Further Data

There arises a local problem, however, in the case of possessive constructions. The simple [HON] calculation convention presented in (18) does not seem to be general enough: The examples shown in (30) cannot be explained by the convention:

30.a. Ku pwum-uy malssum-i cikum-to saynnsayngha-si-ta.
that person-Gen saying-Nom noe-even is-vivid-HON-DCL
[+HON] [+HON] [+HON]
'Even until now, the man's saying is vivid'

b. *Ku salam-uy malssum-i cikum-to saynnsayngha-(si)-ta.
person's [+HON]
[-HON]

c. *Ku pwun-uy mal-i cikum-to sayngsayngha-(si)-ta.
[+HON] saying
[-HON]

d. Ku salam-uy mal-i cikum-to saynnsayngha(-*si)-ta.
person's [-HON]
[-HON]

Words for 'speech' or 'saying' have two different forms with respect to the honorific feature in Korean and they are **malssum**[+HON] or **mal**[-HON]. Furthermore, if they are head nouns, they seem to show agreement with adnominal NP: if the head NPs are [+HON], the possessive NPs are [+HON]; if the former are [-HON], the latter are [-HON]. The reverse is also true. Therefore, (30b) and (30c) are ill-formed regardless of the verbal form: the honorific head should be matched with the decent genitive NP **pwun** 'gentleman' and the non-honorific head with the plain form NP **salam** 'person'. These data indicate that **malssum** should be considered inherently [+HON] as opposed to **mal** which is inherently [-HON], since the former is always used with honorific verbal forms, and the latter with plain forms. This implies that our CLASS III in (17) also needs to be re-classified.

There seem to be two approaches that we can choose, but we consider our solution suggested immediately below is the more appropriate than the one following it. Our approach is to revise the honorific value calculation convention by employing the notion 'unification', and thereby eliminating CLASS III from the

lexicon. First, we eliminate Class III from the lexicon and assign [HON] specification to the nouns of Class III in the same way as we did to Class I-b (or Class II-a): they can be either [+HON] or [-HON]. Thus, the new classification will look as follows:[153]

31. Honorific Classes of Nouns

CLASS I: a. nouns with suffix '-nim' or 'pwun'
[+HON] and some inherently honorific nouns, e.g., **malssum, conham, yensey,** etc
b. terms for peoples who have a higher social position seen from ego's point of view.
c. body parts, behavior, attitude, etc which are [+PART]

CLASS II: a. the same as CLASS I-b and CLASS I-c.
[-HON] b. terms for animals and inanimate things.

We also assign [+PART] (which is a HEAD feature) to those nouns classified under CLASS I-c and their [-HON] counterparts. Next, we revise the honorific feature calculation part, as follows:[154]

32. **[HON] Calculation Convention**
Let 'NP ---> C_1, ...H , ...C_n be an ID rule where H is a head.
a) if [+PART] ∈ ϕ(H), then ϕ(NP|HON) = |__| ϕ (C_i|HON), (1 < i < n)
b) otherwise, ϕ(NP|HON) = |__| ϕ(H|HON), where nouns are classified as in (31). N.B. |__|: unification

What part (a) says is that if the feature specification of [+PART] belongs to the projection of the head daughter(s), then the honorific value of the mother in the tree should be determined by the unification of the honorific values of all the daughters. Thus, the following paradigm is accounted for:

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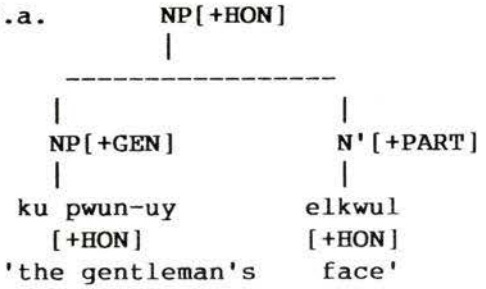
153 See appendix B for noun classes for honorific features.

154 We have further generlized the NP expansion rule so that coordinate structures can also be accounted for. See (36) and (37) of this chapter for its relevance.

33.a.



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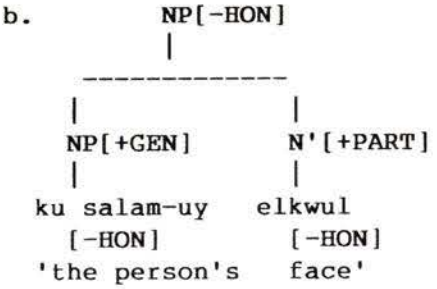

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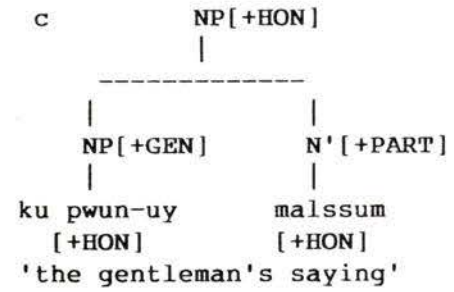

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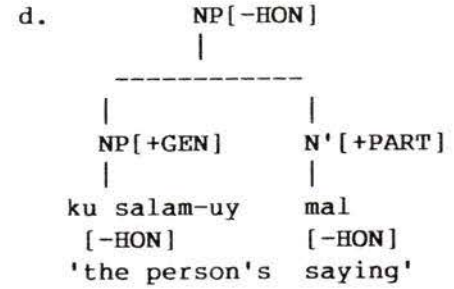


The following is also what part (i) predicts:

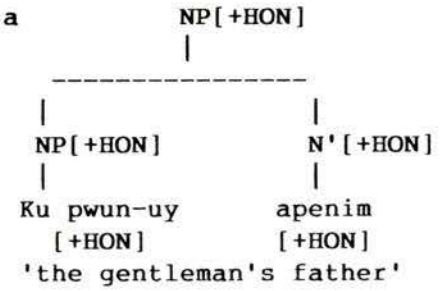
34.a.*Ku pwun-uy [+HON] mal [-HON] 'the gentleman's saying'

b.*Ku salam-uy [-HON] malssum [+HON] 'the person's saying'

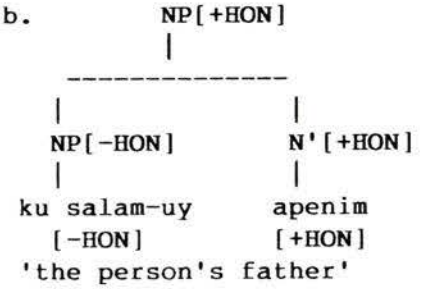
That is, unification fails, since the matrix NP cannot contain these conflicting values, and these examples are ruled out.

Part (b) says that if feature [+PART] is not specified in the legal projection of the head in the local tree, the mother's value of [HON] is the unification of the [HON] specifications of all the heads. This statement sanctions the following local trees:

35.a



b.



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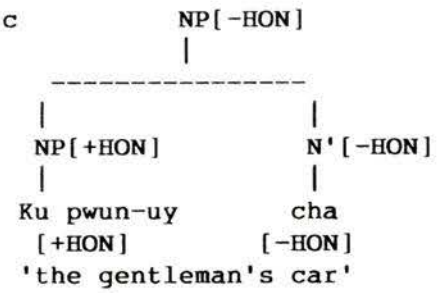

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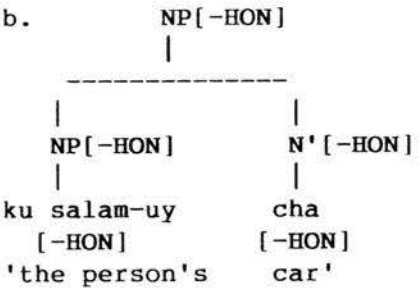

What the paradigms (33) and (35) indicate is that in ordinary cases the head of the noun phrase determines the honorific value of the constituent as a whole, whereas when the head is occupied by N[+PART] the value of the head should unify with its sisters.

This approach further provides an explanation for the calculation of the honorific value of a coordinate structure, as shown below:[155]

---

[155] See the coordination schema of Korean in Chapter 4.

36.a. Apenim-kwa hyungnim-i ililo o-si-n-ta.
father-and elder brother-Non here come-HON-PRS-DCL
[+HON] [+HON] [+HON]
'Father and elder brother are coming here'

b.*Apenim-wa ku-uy kay-ka ililo o-(si)-n-ta.
father-and his dog-Nom here come-PRS-DCL
[+HON] [-HON] [-HON]
'Father and his dog are coming here'

c. Apenim-kkeyse ku-uy kay-lul teliko ililo o-si-n-ta.
father-Nom his dog-Acc taking here come-HON-PRS-DCL
[+HON] [+HON]
'Father is coming here having his dog with him'

The conjoined NPs in (36a) will be admitted by the part (ii) of the definition given in (32), since two NPs[+HON] are conjoined and their unification is obtained. In contrast, (36b) is correctly predicted as ill-formed since one conjunct has [+HON] and the other [-HON], yielding a feature clash. Thus, when Koreans want to express an idea corresponding to the translation of (36b), they have no choice but to use (36c) instead of (36b), unlike English speakers.

Furthermore, this approach accounts for the cases where no agreement is overtly involved:

37.a. Na-nun kekise apenim-kwa hyennim-ul poassta.
I-Top there father-and elder-brother-Acc saw
'I saw Father and elder brother there'

b.?* Na-nun kekise apenim-kwa ku-uy kay-ul poassta.
I-Top there father-and his dog saw
'I saw Father and his dog there'

While (37a) is fully acceptable, (37b) sounds awkward and this is predicted by our grammar.

The other approach would be to extend the CAP to the agreement between the possessive NP and the head NP. This approach requires some ad hoc statements since **kay** 'dog', for instance, would agree with any possessive NP, [-HON] or [+HON], whereas **malssum** 'saying' would agree with NP[+HON] only. This approach could, in principle, take care of the local problem involving the agreement between the head noun and its sister, but the data do not seem to manifest what the CAP is motivated for: the CAP seems to be concerned with phenomena with more regular morphological variation. Our data, however, seem to be simply a matter of local relationships among the daughters' feature components in the possessive construction, without any morphological variation being involved.

4.6 Conclusions

We have argued that some nouns are inherently [+HON], while others [-HON]. Therefore, our honorific agreement principle can be stated in a bi-implicational statement as the CAP in GKPS is. This allows us to incorporate our SHAP to the CAP, which implies that the CAP is supported by a Korean grammar as a universal principle.

We have further provided an objective criterion to which the Korean honorific system can be classified: what is the trigger of a certain expression? This groundwork has allowed us to argue that there is some proper domain which can be described through syntactic mechanisms rather than any other component of the grammar. We have also provided solutions to some problematic cases involving body parts and coordination.

Chapter 5

SCRAMBLING AND COORDINATION

5.1 Introduction

This chapter will be devoted to the discussion of **scrambling** and coordination found in Korean.[156] In the ensuing sections, it will be shown that a phrase structure treatment of scrambling and coordination in Korean can offer better explanation for the facts which are insufficiently accounted for within the Government and Binding theory. The controversies involving the topic construction and scrambling will be settled without any ad hoc principle or convention. A unified account will be provided so that topicalization and scrambling are treated as subcases of

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[156] **Scrambling** in the context of Korean and Japanese linguistics is never identical to what is found in Ross (1967) in which the rule 'scrambles major constituents subject to the restriction that they be in the same clause'. Scrambling is defined in Ross (1967: 75), shown as below:

```
X -   NP     -    NP   -  Y
      VP          VP
     ...         ...

1     2           3      4     ====> OPT(ional)
1     3           2      4

Condition: Si dominates 2 if and only if
           Si dominates 3.   ('...' is mine.)
```

The term **scrambling**, as we use in the Korean and Japanese context, however, is not restricted to a sentence boundary and has some special meaning: it is a 'extraction' **without particle change,** as opposed to topicalization which involves addition of particle **-nun/-un.**

'extraction'; some differences between the two phenomena involving the Subjacency Condition and the use of resumptive pronouns, which induced two separate generation mechanisms in Kang (1986) and Saito (1985), will be accounted for through FCRs in a simple manner in our grammar. It will also be shown that the focus construction is isomorphic to the topic construction in every detail.

In Section 5.6, it will be shown that Korean coordination schemata set up analogously to GKPS's English ones can generate substantial parts of Korean coordinate structures. It will be also shown that phrasal affixation is not necessary in Korean coordination but avoidable in GPSG framework, contra Cho and Morgan (1986). Somewhat surprisingly, it will also be seen that there are non-'Across-The-Board' (ATB) phenomena as well as ATB extractions in Korean.[157]

5.2 Scrambling and Topicalization

There has been much debate in Korean and Japanese linguistics in connection with the similarity and the dissimilarity between scrambling (i.e., extraction without particle change) and topicalization. We first identify **scrambling** and topicalization, and then compare the two.

As Kang (1986) and Saito (1985) point out, scrambling can be seen as an instance of **Move-α** in GB theory, which obeys Subjacency. In Korean, for instance, any phrase directly dominated by some verbal node can be 'moved' (i.e., scrambled) leftward to any other position along the verbal path:

---

[157] The term ATB first appears in Williams (1978), although a similar idea is found in Ross (1967). The Across The Board rule application can be summarized as follows:

In a coordinate structure, a rule applies to all conjuncts.

e.g.,

*Did John go to school and Mary went to church(?)

*What did John eat __ and drink a cup of water?

1.a. Na-nun [John-i Mary-eykey pyenci-lul ponayssta-ko] saynkakhanta.
I-Top J.-Nom M.-Dat letter-Acc sent-Comp think
'I think that John sent a letter to Mary'

b. Na-nun pyenci-lul [John-i Mary-eykey __ ponayssta-ko] saynkakhanta.
I-Top letter-Acc J.-Nom M.-Dat. sent-Comp think
'I think that John sent a letter to Mary'

c. Pyenci-lul Na-nun [John-i Mary-eykey __ ponayssta-ko] saynkakhanta.
letter-Acc I-Top J.-Nom M.-Dat. sent-Comp think
'I think that John sent the letter to Mary'

d. Mary-eykey pyenci-lul na-nun [John-i __ __ ponayssta-ko]

sayngkakhanta.

Sentences (1b), (1c), and (1d) are considered some of the scrambled versions of (1a). As (1d) shows, more than one element can move unlike in the case in English topicalization.

Scrambling, however, is subject to the Subjacency Condition.[158] In Korean, NPs are islands for scrambling, as shown below:

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158 The Subjacency Condition is given as follows: (Chomsky 1973)

Subjacency Condition
No rule can relate X, Y in the structure ... X ... [α ... [β ... Y ... (or: ... Y ...] β ...] α ... X ...)
where α, β are bounding nodes.

S (or S') and NP are known as for bounding nodes in English.

e.g.,
*Which book [did you ask John where [Bill bought]]?
*What [did Bill reject the evidence that [John did]]?

Again, it is rather inaccurate to talk about the Subjacency in Korean. What is involved here seems to be the Complex NP Constraint (CNPC). However, since the Subjacency Condition subsumes the CNPC, it is not totally incorrect to use the term.

2.a. Wuli-ka [John-i Mary-eykey ponay-n pyenci-ka
We-Nom J.-Nom M.-Dat sent-Mod letter-Nom

pwunsiltoyessta-nun sasil-ul] palhyessta.
is-lost-Mod fact-Acc find-out

'We confirmed the fact that the letter which John sent to Mary has gone astray'

b.*Mary-eyeky wuli-ka [John-i __ ponay-n pyenci-ka
M.-Dat We-Nom J.-Nom sent-Mod letter-Nom

pwunsiltoyessta-nun sasil-ul] palhyessta.
is-lost-Mod fact-Acc find-out

'We confirmed the fact that the letter which John sent to Mary has gone astray'

3.a. Nay-ka [John-uy apeci-lul] anta.
I-Nom J.-Gen father-Acc know
'I know John's father'

b.*John-uy Nay-ka [__ apeci-lul] anta.
Gen

The examples show that an NP cannot be extracted from within another NP in Korean, if the NP being extracted retains its original case particle.

The extraction site cannot be filled by the resumptive pronouns in the case of scrambling, unlike in the case of Topicalization to be discussed shortly:

4.a. Mary-eykey nay-ka John-i (*kunye-eykey) penci-lul ponayssta-ko
M-dat I-Nom J.-Nom she-Dat letter-Acc sent-Comp

sayngkakhanta. (Scrambling)
think
'I think that John sent a letter to Mary'

b. Mary-nun nay-ka John-i (kunye-eykey) penci-lul ponayssta-ko
M-Top I-Nom J.-Nom she-Dat letter-Acc sent-Comp

sayngkakhanta. (Topicalization)
think
'I think that John sent a letter to Mary'

On the other hand, topicalization or the topic construction which is characterized by the presence of the topic marker and (sometimes) by movement, seems to manifest some difference although it shares some properties with scrambling. For instance, **pyenci** 'letter' in (5) is marked with the topic marker and can be in the basic or displaced position, just as it was the case with scrambling in (1). From a syntactic point of view, topic marking and the extraction of a topic marked phrase are optional, as is scrambling.

5.a. Na-nun [John-i Mary-eykey pyenci-NUN ponayssta-ko] saynkakhanta.
I-Top J.-Nom M.-Top letter-Top sent-Comp think
'I think that John sent a letter to Mary'

b. Na-nun pyenci-NUN [John-i Mary-eykey __ ponayssta-ko] saynkakhanta.
I-Top letter-Top J.-Nom M.-Dat. sent-Comp think
'I think that John sent a letter to Mary'

c. Pyenci-NUN Na-nun [John-i Mary-eykey __ ponayssta-ko] saynkakhanta.
letter-Top I-Top J.-Nom M.-Dat. sent-Comp think
'I think that John sent the letter to Mary'

d. Mary-eykey pyenci-NUN na-nun [John-i __ __ ponayssta-ko]
sayngkakhanta.

Since topic marking is optional insofar as syntax is concerned, every other phrase in (5) can be marked with the topic marker as shown below:

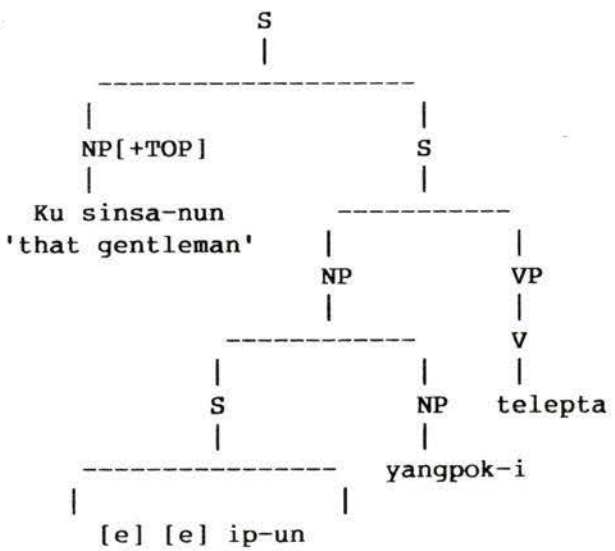
6. Pyenci-NUN Na-nun [John-UN Mary-(eykey)-NUN __ ponayssta-ko]
letter-Top I-Top J.-Top M.-(Dat)-Top sent-Comp
saynkakhanta. (cf. 5c)
think
'I think that John sent the letter to Mary'

However, unlike ordinary scrambled phrases, topicalized phrases are not subject to Subjacency, as shown by the following example which is the Korean counterpart of Kuno's (1973: 249) Japanese example:

7. Ce sinsa-nun ip-un yangpok-i telepta. (cf. (2) and (3))
that gentleman-Top wear-Mod suit-Nom is-dirty
'As for that gentleman, the suit that (he) is wearing is dirty'

It is widely accepted that (7) has the structure (8a), which shows that the first phrase is extracted from the relative clause. That is, **NP[+TOP]** is extracted from within another NP, which would be a violation of the Complex NP Constraint if it were an ordinary extraction (i.e., scrambling):

8.a.



In the same manner, sentence (2b), which is unacceptable with the original case marker, becomes acceptable if we attach the topic marker, as shown below:

9. Mary-NUN wuli-ka [John-i __ ponay-n pyenci-ka
Mary-Top we-Nom J.-Nom sent-Mod letter-Nom

pwunsiltoyessta-nun sasil-ul] palhyessta. (cf. (2b))
is-lost-Mod fact-Acc find-out

'As for Mary, we confirmed the fact that the letter which
John sent to (her) has gone astray'

As is expected, the possessive NP can be dislocated if it is marked by the topic marker:

10.a. Nay-ka John-uy apeci-lul anta.
I-Nom J.-Gen father-Acc know
'I know John's father'

b. Nay-ka John-**NUN** apeci-lul anta.
I-Nom J.-Top father-Acc know
'I know John's father'

c. John-**NUN** nay-ka apeci-lul anta. (cf. 3b)
J.-Top I-Nom father-Acc know
'I know John's father'

As mentioned before, another difference is that unlike scrambling topicalization allows resumptive pronouns. Compare the following triples:

11.a. Mary-nun John-i **kunye**-eykey chayk-ul cwuessta.
M.-Top John-Nom she-Dat book-Acc gave
'As for Mary, John gave her a book'

b.John-i Mary-nun **kunye**-eykey chayk-ul cwuessta.
John-Nom M.-Dat she-Dat book-Acc gave
'As for Mary John gave her a book'

c.*Mary-eykey John-i **kunye**-eykey chayk-ul cwuessta.
M.-Dat John-Nom she-Dat book-Acc gave
'John gave her a book'

12.a. Nay-ka John-un ku-uy apeci-lul anta.
I-Nom John-Top he-Gen father-Acc know
'As for John, I know his father'

b.*Nay-ka John-uy ku-uy apeci-lul anta.
I-Nom John-Gen he-Gen father-Acc know
'As for John, I know his father'

c.*John-uy nay-ka ku-uy apeci-lul anta.
John-Gen I-Nom he-Gen father-Acc know
'As for John, I know his father'

These differences are summarized by Saito, as follows:

13.a. Topicalization, but not scrambling, allows resumptive pronouns.
b. Scrambling, but not topicalization, is subject to Subjacency.
(Saito 1985: 325)

Given these differences, Kang (1986) could not give a unified treatment of these two phenomena but had to employ two separate mechanisms, although they look closely related. The dilemma of the GB approach is that one instance of move-α (e.g., scrambling) is subject to Subjeacency and does not allow resumptive pronouns, while another instance of movement (e.g., extraction of topic phrase) ignores Subjacency and allows resumptive pronouns, apparently in the same configuration. Presumably because of the asymmetries of these two phenomena, Kang (1986), following Kuno (1973), base-generates the topic construction on the one hand, and derives a scrambled structure through move-α. Thus, the following configurations in (14) are assumed for the two constructions.[159] We consider this type of approach to be inevitable in a theory which cannot make a full use of the featural characteristics of categories and which only allows a 'direct' movement into the A/A'-positions.[160] Saito (1985) also attempts to give an unified treatment of the two phenomena within a GB framework, but has to concede that 'a sentence-initial topic can be base-generated and also can be moved to that position'(Saito 1985: 326). Actually the above two approaches fail to give a unified account of the phenomena which point to the same analysis.

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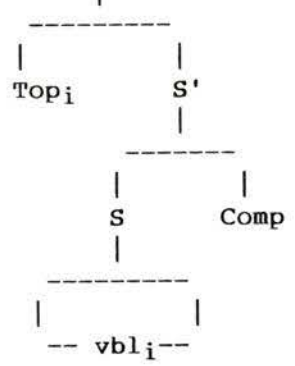
[159] Vbl: variable

[160] 'Direct' is simply to mean 'moves in one fell swoop'.

14.a. Korean Topic Construction

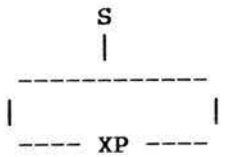


[base generated]

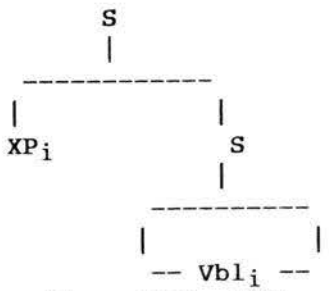
(Kang 1986: 254)

b. Scrambling Construction

1. D-Structure



2. S-Structure



(Kang 1986: 246)

Furthermore, GB-type approaches may not provide a easy explanation for the fact that movement is particle-sensitive, as we pointed out in section 1.3., probably because 'move-α' moves categories to A'/A positions 'directly'. For instance, (15b) and (15c) do not have the same meaning as (15a) and this means that a phrase cannot move across another phrase with the same particles.[161]

15.a. Na-nun Mary-eykey John-i Sue-eykey chayk-ul cwuessta-ko malhayssta.
I-Top M.-dat J.-Nom S.-Dat book-Acc gave-Comp said
'I said to Mary that John gave a book to Sue'

b. Na-nun Sue-eykey Mary-eykey John-i __ chayk-ul cwuessta-ko
I-Top S.-Dat M.-dat J.-Nom book-Acc gave-Comp
malhayssta.
said
'!I said to Mary that John gave a book to Sue'

---

161 Also see examples in (69), (72) and (73), the statement in (64), and related discussions in Chapter 1.

c. Sue-eykey Na-nun Mary-eykey John-i __ chayk-ul cwuessta-ko
S.-Dat I-Top M.-dat J.-Nom book-Acc gave-Comp
malhayssta.
said
'!I said to Mary that John gave a book to Sue'

More importantly, the above authors ignore a large set of examples involving the focus construction which was discussed in Chapter 2. Focusing is identical to topicalization in the sense that it is not subject to Subjacency and that it allows resumptive pronouns. Neither of the above authors discuss the symmetrical construction shown below. The following example shows the parallelism with topic constructions:

16. John-i Na-nun __ apeci-ka ywumenghata-ko saynakakhanta.
J.-Foc I-Top father-Nom is-famous-Comp think
'It is John whose father I think is famous'

cf. Na-nun John-uy apeci-ka ywumwnghata-ko sayngkakhanta.
Gen
'I think Joh's father is famous'

To give a more familiar example, the sentence in (7), which is a well-known example of topicalization, can have a focused counterpart, as shown below:

17. Ce sinsa-ka ip-un yangpok-i telepta.
that gentleman-Foc wear-Mod siut-Nom is-dirty
'It is that gentleman that the suit which (he) wears is dirty'

cf. Ce sinsa-nun ip-un yangpok-i telepta. (=7)

If we place some stress on -**ka** and a pause after the first phrase, as we do in the case of (7), the connotation of (17) will be analogous to (7) except for the difference which the focus marker creates. Thus, (17) is believed to have the same structure as (8a) except for the focus marker. There are far more examples

resembling the above two that are not discussed in any current GB literature in Korean. In the following we include the focus construction in our unified account.

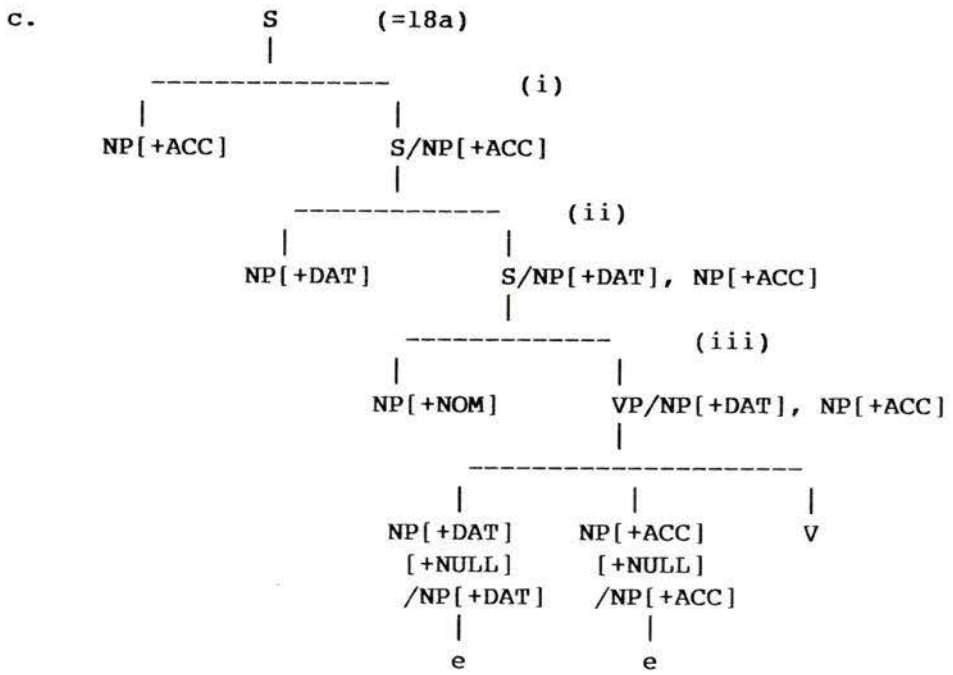
5.3 Topicalization, Focusing, and Scrambling as Sub-Cases of Extraction

In this section we will offer a unified treatment of the three allegedly separate constructions: topicalization, focusing, and scrambling. It will be shown that the former two are independent of scrambling and that the three can be explained by a single 'extraction' rule that makes use of the SLASH feature. As has partly been presented, we exploit the unbounded dependency feature SLASH of GKPS and extend it so that it can take a set of categories as its values.

Since SLASH takes as its value a set of categories, the FFP found in GKPS cannot be applicable to the percolation of SLASH. In order to get around this problem, we extend the notion 'unification' so that the two categories unifiy with each other for the 'set of category'-valued features if the union of the daughter's feature specifications is equal to its mother's specification. Its relevance is shown in (ii) of (18c) below where the inherited element is NP[+DAT] and the instantiated element is NP[+ACC].

18.a. Ku pyenci-lul Mary-eykey Na-ka John-i __ __ ponayssta-ko
the letter-Acc M.-Dat I-Nom J.-Nom sent-Comp
mitnunta.
believe
'I believe that John sent the letter to Mary'

b. Mary-eykey pyenci-lul Nay-ka John-i __ __ ponayssta-ko
Dat letter-Acc I- Nom Nom sent-Comp
mitnunta.
believe
'I believe that John sent the letter to Mary'



There is a conceptual problem involved in our previous statement. Since more than one element can be extracted simultaneously from one S as in local tree (ii) above, it is hard to think of inherited feature specification.[162] Instead, inherited 'elements' of SLASH would be more appropriate. The point is that the inherited element should not appear on the mother according to the FFP. This would then mean that the requirement on the SLASH operation would be stated as follows:

> The unification of the instantiated specification (or elements) of SLASH of the daughters must be equal to the instantiated SLASH specification (elements) of the mother.

One problem with this statement is that it is very difficult to give a formal definition of instantiated elements (or alternatively, a definition of inherited elements) in the framework of GKPS. Inherited X" in S/X", for instance, can be extended by any phrasal category in ϕ(S/X"|SLASH) which could be a set

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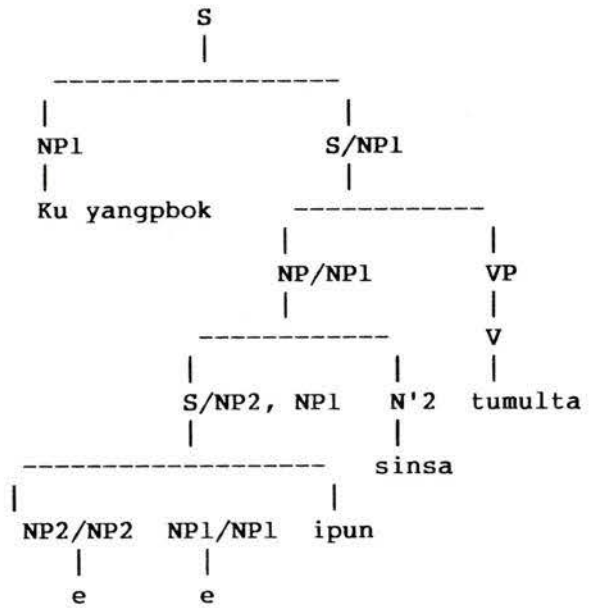
[162] This situation happens since we are assuming a binary branching.

{NP[+DAT], NP[+ACC]} for instance, as in (ii) of (18c).

However, the Korean language facts do not seem to require a precise track-down of the inherited category (or instantiated categories) in the set-value of SLASH. For instance, in {[NP[+DAT], NP[+ACC]} of (ii) above, either of the two elements could have been considered inherited since there is no requirement on the order in which the two NPs are adjoined. Compare (18a) and (18b). Furthermore, in the case of (7) (as illustrated in (8)) where relative clauses are involved, the head of the relative clause and the topicalized NP could have 'moved' to the other positions, respectively, yielding the following sentence and the structure:

19.a. Ku yangpok-un __ __ ip-nun sinsa-ka tumulta.
the suit-Top wear-Mod gentleman-Nom is-scanty
'*As for that kind of suit, gentlemen (who) __ wear __ is scanty'
(As for that kind of suit, few gentlemen wears it)

b.



These structures suggest that the inherited elements of SLASH can be any of elements of the SLASH specification, insofar as SLASH is mentioned in the ID rule under consideration. Thus we define $\zeta(\phi(C|SLASH))$, the inherited element of the SLASH specification of category C in the tree, as follows:

20. For Category $\phi(C_i)$ which is a node label in the tree which is admitted by an ID rule C_0 ---> C_1, ..., C_n, the inherited element of SLASH specification of $\phi(C_i)$ is some $\zeta(\phi(C_i)(SLASH)) =_{def} \alpha \in (\phi(C_i)(SLASH) \cap Y)$ where Y is extension of $C_i(SLASH)$, $C_i(SLASH) \neq \{\}$.

Although this definition does not explicitly designate the inherited elements of SLASH, it suffices our purpose in that it can pick up one element which is an extension of X" specified in YP/X". The inherited element of SLASH chosen this way plays an important role in formulation of the CAP and the FFP.[163]

Given this definition, Korean scrambling phenomena can be explained through the FFP which states that the unification of instantiated specifications of SLASH of the daughters must be identical to the instantiated specification of SLASH of the mother. (18a) and (18b) are typical cases of Korean scrambling which involves no particle change.

We next discuss how topicalized or focused phrases and their configurations are generated. As mentioned before, the features [+TOP] and [+FOC] which are responsible for the appearance of the pragmatic particles are freely instantiated on any phrase so that any phrase can bear the topic or focus marker, and the topic or focus marked phrases may -- but need not -- involve extraction. Thus, (18a) will look like the following if the particle feature [+TOP] is instantiated on the two object NPs:

---

163 See the appendix for further details involving the restatement of CAP and **unification** in our Korean grammar.

21. Ku pyenci-NUN Mary-(eykey)-NUN Na-ka John-i __ __
the letter-Top M.-(Dat)-Top I-Nom J.-Nom

ponayssta-ko mitnunta.
sent-Comp believe
'I believe that John sent the letter to Mary'

This sentence would be difficult to generate by a base-generation approach suggested by Kang (1985), since any number of NPs can be preposed. Furthermore, the [+TOP]-marked phrase can remain in situ, in which case Kang's approach is far from being complete, as shown below:

22. Nay-ka John-i ku pyenci-NUN Mary-(eykey)-NUN ponayssta-ko

mitnunta.

That is, a topic construction such as (22) is exactly the same as the basic sentence pattern except for the presence of the topic markers: the topic marking is independent of extraction.

In the case of the focus construction, we can make the same statement and we simply provide relevant examples:

23.a. Na-nun mwunmyeng kwukka-uy namca-uy pyengkywun
I-Top civilized country's men's average
swumyeng-i ccalpta-ko mitnunta.
life-span-Nom is-short-Comp believe
'I believe that men's average life span of the
civilized countires is short'

b. Na-nun mwunmyeng kwukka-KA namca-uy pyengkywun
I-Top civilized country-FOC men's average

swumyeng-i ccalpta-ko mitnunta.
life-span-Nom is-short-Comp believe

'I believe that it is in civilized countries that
men's average life span is short'

c. Mwunmyeng kwukka-KA namca-KA na-nun __ __ pyengkywun
civilized country-FOC Men-FOC I-Top average

swumyeng-i ccalpta-ko mitnunta.
life-span-Nom is-short-Comp believe

'*I believe that it is in civilized countries and it is men that (their) average life span is short'

These examples will be accounted for if we simply say that nothing special is involved with the topic and the focus construction except for the free instantiation of the pragmatic particles. That is, the focused or topicalized phrase can stay in the basic or preposed position just as unfocused or untopicalized phrases can. We are then claiming that focus and topicalization are independent of any extraction phenomenon. Topic and focus marking is one thing and scrambling (i.e., extraction without particle change) is another. Given these facts, we do not need two mechanisms as Kang (1985). We only need one extraction rule which freely dislocates phrasal categories.

Now the problem is how we can explain the differences in Subjacency and in the use of resumptive pronouns, if the topic/focus construction and scrambling are captured through one rule. We suggest that those differences are taken care of by parochial statements such as FCRs. For instance, the Subjacency difference is catered to by FCR 23: NP[SLASH XP] ⊃ NP[SLASH XP([+TOP] OR [+FOC])] which says that if XP is extracted from within NP, it should be marked either by the topic marker or the focus marker. This explains the difference between (2b) and (9), and also between (3b) and(10c), as repeated in (24) and (25):

24.a.*Mary-eyeky wuli-ka [John-i __ ponay-n pyenci-ka
M.-Dat We-Nom J.-Nom sent-Mod letter-Nom

pwunsiltoyessta-nun sasil-ul] palhyessta. (=2b)
is-lost-Mod fact-Acc find-out

'We confirmed the fact that the letter which John sent to Mary has gone astray'

b. Mary-NUN wuli-ka [John-i __ ponay-n pyenci-ka
Mary-Top we-Nom J.-Nom sent-Mod letter-Nom

pwunsiltoyessta-nun sasil-ul] palhyessta. (=9)
is-lost-Mod fact-Acc find-out

'We confirmed the fact that the letter which John sent to Mary has gone astray'

25.a.*John-uy Nay-ka [__ apeci-lul] anta. (=3b)
Gen I-Nom father-Acc know
'I know John's father'

b. John-NUN nay-ka apeci-lul anta. (=10c)
J.-Top I-Nom father-Acc know
'I know John's father'

The difference in the use of resumptive pronouns is also handled by the FCRs. We assume that a resumptive pronoun can be inserted under the category label of the general form α[+RESMP]/α. What we suggest in order to account for this difference is to set up an FCR such as FCR 24: [+RESMP] $\supset$ ([+TOP] OR [+FOC] OR [+REL]).[164] This ensures that the resumptive pronoun is used only when the extracted element contains the pragmatic particle features. Thus, this FCR can handle the difference among the sentences in (11) repeated in (26):

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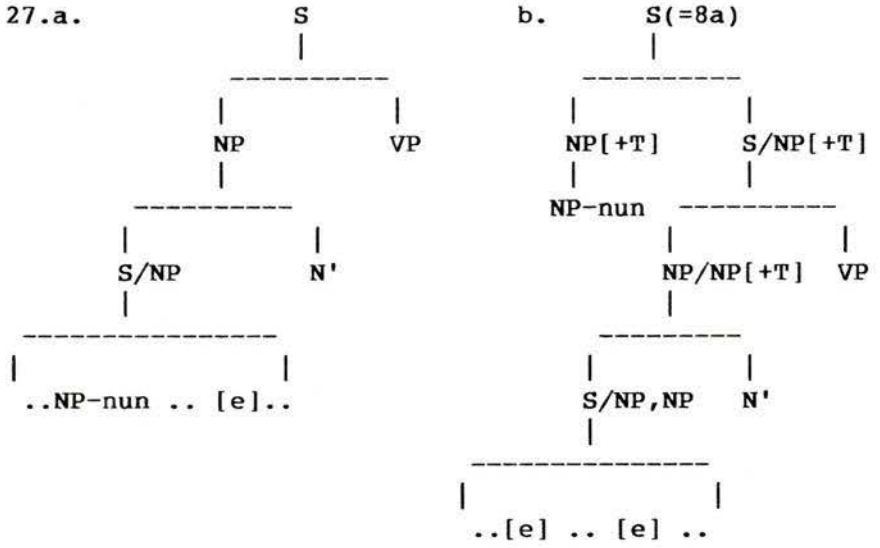
[164] For the case of [+REL], see the next section on relative clause.

26.a. Mary-nun John-i **kunye**-eykey chayk-ul cwuessta. (=11a)
M.-Top John-Nom she-Dat book-Acc gave
'As for Mary, John gave her a book'

b.*Mary-eykey John-i **kunye**-eykey chayk-ul cwuessta. (=11c)
M.-Dat John-Nom she-Dat book-Acc gave
'John gave her a book'

Since we are proposing that SLASH is freely instantiated on the category, an NP marked with the topic or focus marker does not necessarily involve movement, and this prediction is borne out by the following two configurations. For instance (7), which is usually cited as a model of topicalization, can be analyzed having another structure such as (27a), as well as (27b):



The scope difference also yields the difference in connotation: if (27a) is assigned to the sentence (7), the topicalized phrase has **ip-un** 'wear' as its scope and so the structure (27a) implies that the 'topic' of the discourse involves some activities which can be contrasted with 'wearing' of the suit. Thus, the topic could be about

whether the suits which the gentleman 'wears', 'carries' or 'puts in the wardrobe' or 'puts in the suitcase' is dirty.[165] On the other hand, in (27b) the topicalized phrase has the rest of the string as its scope and the topic is more open and it could involve other characteristics of the gentleman in question, as contrasted with the gentleman's dirty suit. Thus, (7) in this case would imply that the topic is about whether other belongings of the gentleman such as shoes may be clean or not, or it could be about whether other gentlemen's suits in the wardrobe may be clean or not.

We provide a more concrete example which has the structure (27a):

28. Emeni-nun mayil chingchanhanun atul-i nam-tullopwute-nun
Mother-Top every-day praise-Mod son-Nom others-from-Top

halu kele pinan-ul patnunta.
day skipped criticism receive

'The son whom his mother praises every day
receives criticism from others every other day'

We believe that the first phrase is not extracted from the relative clause and it is marked with the topic marker. Such use of the topic marker as in (28) signals that the topic of the discourse involves 'praising/ criticizing/ panning/etc. the son'. This situation is also true with (17) even when the focus marker is involved. Exactly the same argument can be made, by using the examples just cited if we simply replace the topic marker with the focus marker.[166]

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165 The pragmatic content of the topic marker is not precisely defined in Korean. (See Lee (1984) for the discourse function of the so-called topic marker.) The statement given in the text is my intuitive perception of what the topic marker denotes for the dicourse. The purpose of this paragraph is not to give a clear idea of the topic marker, but to claim that there is a scope difference between (27a) and (27b) and that it is perceptible by the native speaker.

166 See (7) (as illustrated in (8)) for the structure (27b).

5.4 Relative Clauses

We next examine some properties of the Korean relative clause. As shown in (27b), one of the peculiarities of the Korean relative clause is that extra elements other than the nominal head can be extracted from the relative clause, giving rise to multiple gaps within the relative clause.

We will first show that the relativized NP shares some fundamental properties with the topicalized or focused NP: it can be extracted from what would be an island for ordinary scrambling; it also allows resumptive pronouns.

The following example is an ordinary relative clause which one could also find in English:

29. [$_{NP}$[$_{S}$Ku yeca-ka __ salangha-nun] atul-i] cwuk-ess-ta.
the woman-Nom loves-Mod son-Nom die-PST-DCL
'The son whom the woman loves died'

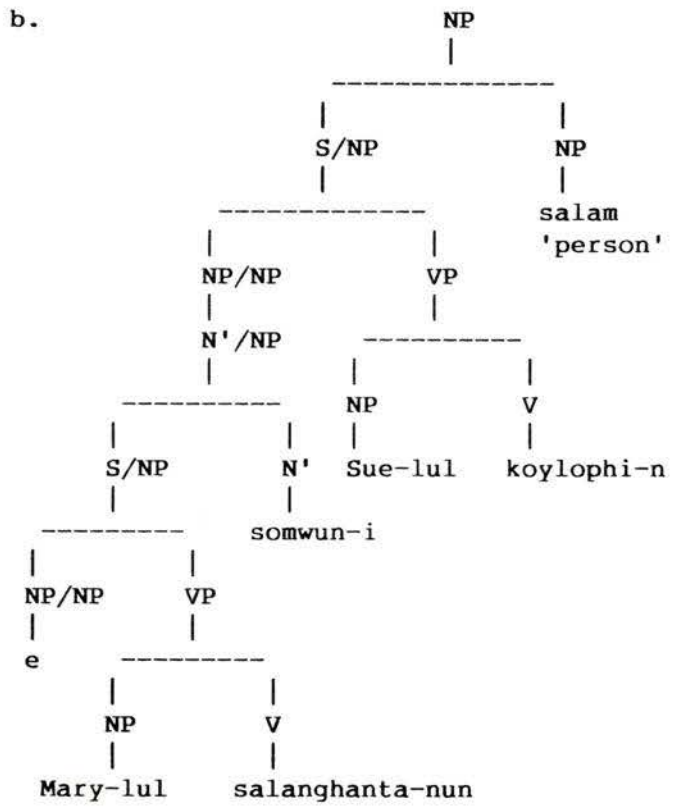
The modifying suffix **-nun** flags the termination of the relative clause or the initiation of the nominal head; there is no relative pronoun. The nominal head **atul** 'son' can be thought of as being 'extracted' from the relative clause as an ordinary scrambled phrase can. What is shared between the relativized NP and the topicalized or focused NP is shown in (30b) where the higher nominal head is extracted from within NP which would be island for ordinary scrambling:

30.a. [__ Mary-lul salanghanta-nun somwun-i] Sue-lul
M.-Acc love- Mod rumor-Acc Sue-Acc

koylophi-n salam
ail-PST-Mod person

'*The person who the rumor that __ loved Mary ailed Sue'

b.



Secondly, the relativized NP allows a resumptive pronoun as shown beow:

31.a. [(caki-ka) Mary-lul salanghanta-nun somwun-i] Sue-lul
self-Nom M.-Acc love- Mod rumor-Acc S.-Acc

koylophi-n salam (cf. 30a)
ail-PST-Mod person

'*The person who the rumor that (he) loved Mary ailed Sue'

b. Nay-ka (ku-uy) ilum-ul icepeli-n haksayng (Kang: 202)
I-Nom (his) name-Acc fogot-Mod student
'A student whose name I forgot'

These similarities among the topicalized, focused, and relativized NPs point to the possibility that these three constructions are to be generated in the same manner: since we have the mechanism which generates the topicalized and focused phras-

es, we can extend it to the case of the relativized NP. Thus, we suggest that the feature [+REL] is the counterpart to [+TOP] or [+FOC] and that [+REL] is freely instantiated on the category. The top part of the relative construction is generated in a manner similar to the English counterpart. We thus introduce a rule which resembles the English counterpart: 'NP ---> S/NP[+REL], H^{1}' The stipulation of [+REL] is to account for the exceptional properties with regard to Subjacency, and the use of resumptive pronouns which are taken care of by FCR 23: NP[SLASH XP] ⊃ [SLASH XP([+TOP] OR [+FOC] OR [+REL])] and FCR 24: XP[RESMP] ⊃ [+TOP] OR [+FOC] OR [+REL].[167]

We have provided a unified account of the topic, focus, and scrambled constructions as sub-cases of extraction, including relative clause constructions. We next turn to some minor details involving these constructions.

5.5 Some Asymmetries in the Unbounded Dependency Construction

It has been stated in the literature that there is an asymmetry between the topic construction and the relative clause construction. Thus, Kuno (1973) and Kang (1986) claim that the following examples are not acceptable since the relative clause 'does not characterize the head':

32.a. Sakana-wa, tai-ga ii. (Japanese) (Kuno: 257)
fish-Top red-snapper-Nom is-best
'As for fish, a red snapper is the best'

b.* [__ tai-ga ii] sakana
'fish such that a red snapper is best'

---

[167] The FFP will transmit [+REL] down to the gap site.

33.a. Kkoch-un cangmi-ka choyko-i-ta. (Korean) (Kang: 208)
flower-Top rose-Nom best-be-Dec
'As for flower, a rose is best'

b.*[cangmi-ka choyko-i-n] kkoch
rose-Nom best-be-REL flower
'flowers such that a rose is best'

However, we consider this claim to be inadequate. We can find following examples which are isomorphic to those in (32) and (33), and yet are perfectly acceptable:

34.a. Ilcey cha-nun sohyeng-i coh-ta.
Japanese car-Top small-model-Nom is-good-DCL
'As for Japanese cars, small models are good'

b. [[__ sohyeng-i coh-un] ilcey cha]$_{NP}$
small-model-Nom is-good-Mod Japanese car
'Japanese cars among which small models are good'

The awkwardness in (32) and (33) comes not from syntactic ill-formedness but from the rare context in which such sentences can be used. This means that in a very specific situation, (33b), for instance, can be used. In the following sequence of sentences, (33b) can indeed be used without much hesitation:

35. Na-nun kkoch-ul kacang salanghanta.
I-Top flower-Acc most love
'I love flowers most'

Kuliko, ku cwung cangmi-lul kacang salanghanta.
and them among rose-Acc most loves
'And, among them, (I) love roses most'

Cangmi-ka choyko-i-n kkoch-un na-uy socwung chinkwu-ita.
rose-Nom is-best-Mod flower-Top my dearest friend-is
'Flowers among which roses are the best are my dearest friends'

It is also known that the topic marker is not attached to a wh-question word. This case can be accounted for by FCR 25: ~([+TOP] & [+WH]) in a simple manner under the assumption that Wh-word contains [+WH] inherently.

5.6 Coordination

5.6.1 Introduction

Coordination is one of the most common constructions in natural languages, but it is one of the topics which was least often discussed in the linguistic literature until non-transformational linguists recently began to discuss problems involving the construction. As Sag et al. (1986) point out, Chomsky's (1957) Coordination Reduction has been assumed in most generative studies, and more is assumed than is explicitly formalized on this matter. Williams (1977, 1978) provides one among a few of the attempts to apply Chomsky's (1957) and Ross' (1967) idea on coordination.

On the side of non-transformational grammar, Gazdar's (1981) pioneering work and subsequent refinement of the theory in GKPS, Sag et al. (1986), and Warner (1988) indicate that most of the substantial coordinate constructions can be base-generated by using a small set of very highly abstract rule schemata, without deleting any elements. This approach was also taken up by Steedman (1985, 1987) who deals with English and Dutch coordinate constructions within a framework of Categorial Grammar.

The purpose of this section is to examine whether the base-generation approach to coordination is also viable in Korean, and to inspect Cho and Morgan's (1987) suspicion that phrasal affixation is inevitable as opposed to morphological

affixation which is assumed in this dissertation. Furthermore, their argument that coordinate structures are not islands for scrambling in Korean will be questioned and corrected.

5.6.2 Simple Coordinate Structures

We begin by giving basic coordination patterns in Korean and by setting up coordination schemata which are further exploited later in this chapter. Korean employs two overtly different coordination strategies, and one of them is shown in (36) and (37) where bound morphemes **-kwa/wa** and **ko** are used as connectives:

36. **Nominal Coordination**

a. John-kwa Mary-ka haksayng i-ta.
J.-Conj M.-Nom student is-DCL
'John and Mary are students'

b. John-kwa Sue-wa Mary-ka haksayng i-ta.
J.-Conj S.-Conj M.-Acc student is-DCL
'John, Sue, and Mary are students'

37. **Verbal Coordination**

a. Wuli-nun iyakiha-ko, wus-ko, nolay-lu pwull-ess-ta.
we-Top chat-conj laugh-conj song-Acc sing-past-DCl
'We chatted, laughed, and sang songs'

b. John-un tampay-lul piwu-ko swul-ul masinta.
J.-Top cigar-Acc smoke liquer-Acc drink
'John smokes and drinks'

The examples in (37) are cases where nouns (or noun phrases) are conjoined: all the conjoined NPs are marked with the conjunction marker except the final conjunct; in an NP coordination, any number of **NP-kwa** can occur followed by one case-marked NP which does not contain a conjunction marker. The same can be said of the verbal coordination, as shown in (37), except for the conjunction mark-

er **-ko** and the verbal particle. Thus, we propose a single rule schema:[168]

38. Coordination Schema
X ---> H[CONJ α]$^{+}$, H[CONJ NIL],
where α is a variable over **-kwa, na, -ko, -kena, -ciman.**

This is slightly different from the English counterpart of GKPS in that the iteration symbol '+' is attached to H[CONJ α] instead of H[CONJ NIL] The appropriate matching of **kwa/wa** and **ko** to the nominal and verbal conjuncts will be performed by FCRs: FCR 9 and FCR 10: 'FCR 9: [CONJ kwa] ⊃ [+N] & [-V]' and 'FCR 10: ([CONJ ko] OR [CONJ ciman]) ⊃ [+V]' will distribute the two conjunction markers to the appropriate conjuncts.

There is another coordination pattern in Korean, which uses a separate 'word' **kuliko.** This coordination strategy is more or less similar to the one found in English and different from the one employed in (36):

39.a.??John kuliko Mary-ka haksayng ita.
J. and M.-Nom student is
'John and Mary are syudents'
b. John Sue kuliko Mary-ka haksayng ita.
J. S. and M.-Nom student is
'John, Sue, and Mary are students'

Examples in (39b) can also be expressed with a tint of sloppiness as in (40):

40.??John kuliko Sue kuliko Mary-ka haksayng ita.
J. and S. and M.-Nom student is
'John and Sue and Mary are syudents'

---

168 X^{+} is {X, XX, XXX, XXXX, ...}.

For the examples in (36), (37), (39), and (40), Cho and Morgan (1987) suggest the following three rule schemata as shown in (41):[169]

41.a. **Kuliko** Coordination (Cho and Morgan, p31)

1.Single Conjunction Word Schema

$X \dashrightarrow X^{+}$ X[CONJ α]

2. Multiple Conjunction Word Schema

X ---> X X[CONJ α]

where α is in {kuliko, ttonun}

b. **-ko** Coordination Schema

X ---> X[CONJ α]$^{+}$ X

where α is in {-ko, -kwa/-wa, -ina, -kena, ...}

It should be noted that linear precedence relations are encoded in the rule schemata above and this seems to be necessary within their approach. Notice that some instamces of H[CONJ α] precede H[CONJ NIL] and some others do not. The first rule in (41a) is to generate examples in (39), the second one is for the data in (40), and (39b) is for the sentences in (36).

In the following, we will reject the proliferation of coordination schemata such as (41) and will show all these rules can be collapsed into two schemata. In the meanwhile, we will also show that phrasal affixation is not inevitable.[170]

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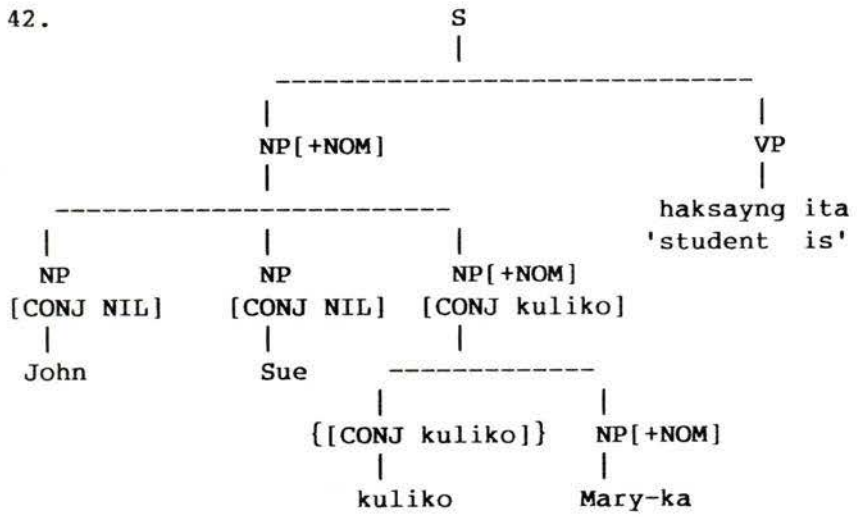
169 Four schemata were actually proposed in Moregan and Cho but we ignore the last one since it generates very marginally acceptable strings.

170 Since Cho and Morgan do not demonstrate but merely assert that phrasal affixation is inevitable, we will simply provide our analysis without using phrasal affixation. We infer that their assertation comes from the misconception involving the Head Feature Convention, since they write:

> 'Abandon the position that all conjuncts are heads. ... **or** maintain(ing) the multiheaded analysis ... would entail modifying the Head Feature Convention to allow the mother to be more fully specified than some conjunct daughters' (**or** and (ing) is mine) (p 32)

We first point out some of predicted asymmetries in the grammar if (41) is adopted. It would mean that the grammar does not state linear precedence relations among the conjuncts, especially between H[CONJ α] and H[CONJ NIL]. Presumably because of this, the authors have incorporated the precedence relation into the coordination schemata. Furthermore, this approach does not reflect the generalization that Korean is a postpositional language, since examples in (39) and (40) would then have the structure containing a prepositional conjunction marker. For instance, (39b) would have the following structure:

42.

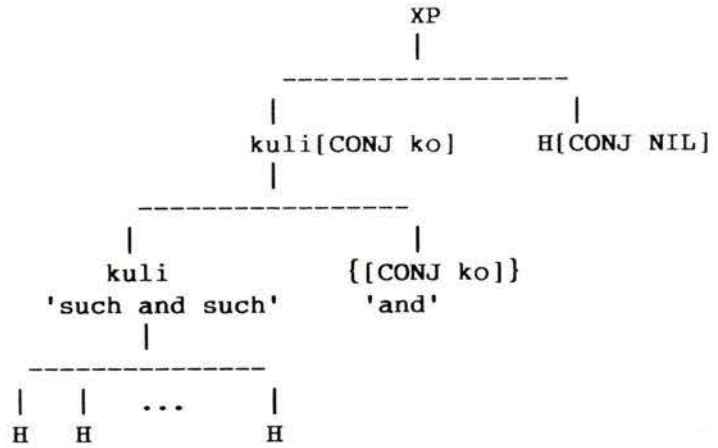


Grammatical particles or function words are always placed after the head in Korean, but an analysis such as (42) would introduce an exception to the statement that Korean is a postpositional language.

The Head Feature Convention as is formulated in GKPS, however, at once maintains that all conjuncts are heads and allows the mother to be more fully specified than some conjunct daughters.

A second argument comes from the marginal status of **kuliko** as a conjunction marker in Korean.[171] As marked in (39a), when there are only two conjuncts, **kuliko** is rather marginal. As mentioned in the footnote below, **kuliko** is etymologically a pro-form and so it seems to be more suitable for cases where more than two conjuncts are involved. The following is our intuitive representation of **kuliko**-coordination construction and it will be reflected in the rule schema to be proposed:

43.



The basic idea expressed in this 'mental representation' will be encoded in the rule schemata which will be formulated later.

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171 **kuliko** is etymologically seen as combination of **kuli** + **ko** 'do/is so + and' and it is commonly thought of as an adverb in pedagogical grammar and is actually used as an adverb in some cases. It seems to be in the process of obtaining the status of a coordination marker due to the influence of English translation at school. Compare the English translation provided in (39b) with the Korean example. In a word-to-word translation of such English sentences into Korean, Korean English teachers in the classroom are forced to use the rather marginal connective **kuliko** and, as is predicted, such use seems to be more frequent in younger generations.

Thirdly, it would also be very difficult to freely instantiate case features and the CONJ feature without an ad hoc statement under the rule schemata given in (41). For instance, in some cases [CONJ α] is not specified for some NP if the NP contains case feature specifications as in (36), whereas both [CONJ α] and case feature specifications are to be specified in some other NP as in (36). Under Cho and Morgan's analysis, it would be very difficult to formulate appropriate FCRs regarding the distribution of [CONJ NIL] and case features.

In the following, we formulate two coordination schemata and one LP statement which we consider to explain Korean coordination facts better. As the rule schema proposed in (38) and the representation in (43) indicate, the coordination rule may be collapsed into two coordination schemata and one LP statement, as shown below:

44. Coordination Rules
    a. Iterating Coordination Schema
       X ---> H[CONJ α]$^{+}$ H[CONJ NIL]
        where α is in { -kwa/-wa, -ko, -na, ...}

    b. Binary Coordination Schema
       X ---> H[CONJ β], H[CONJ NIL]
        where β is in {kuliko, ttonun}

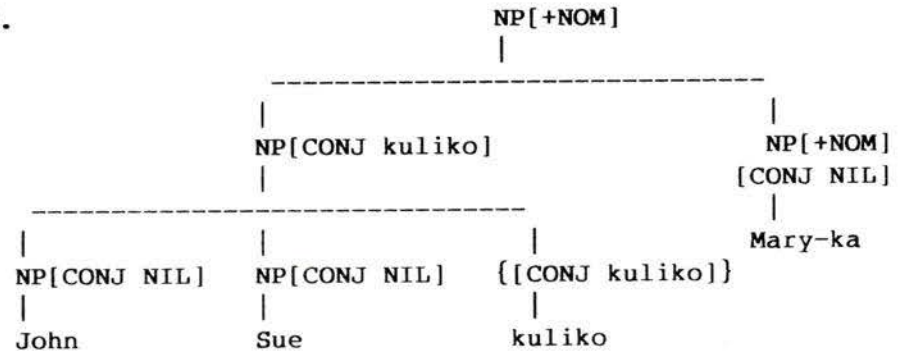
    c. LP statement
       [CONJ x] < [CONJ NIL]

As in English, we need an ancillary expansion rule for H[CONJ β] for (44b), since it consits of more than one word and it should dominate more than two heads as suggested in (43). We propose the following expansion rule for H[CONJ β]:

45. H[CONJ β] ---> H[CONJ NIL]$^{+}$, H[CONJ NIL], {[CONJ β]}
    where β is in { kuliko, ttonun}

Thus, (36b), for instance, will contain the following structure.

46.



This configuration reflects the representation in (43) and enables us to capture the fact that **kuliko** is used when the number of conjuncts is more than two. It also allows the grammar to make general statements that only the final conjunct has the case marker, and that grammatical particles (including the conjunction marker) are always placed after phrasal level categories, as one would expect in a postpositional language. We do not need any phrasal affixation nor do we have to revise the Head Feature Convention formulated in GKPS.[172]

Although we consider examples in (40) to be marginal at best, for those who accept them, we have a rule slightly different from (45), as shown below:

47. H[CONJ β] ---> (H^+), H, {[CONJ β]}

We provide some more details for the sake of clarification. Of all the connectives, **kuliko** 'and' and **ttonun** 'or' are considered separate words and they are accounted for by a separate rule in our system; other conjunctive elements such as **-kwa/-wa** and **-ko** are only bound morphemes and are considered parts of words: thus, they do not seem to require a separate rule but they are taken care of mor-

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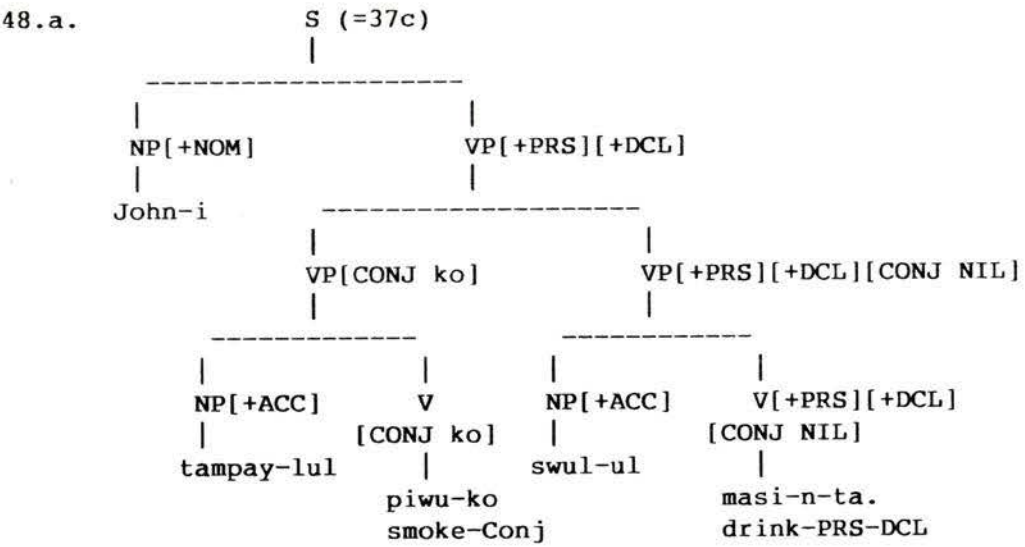
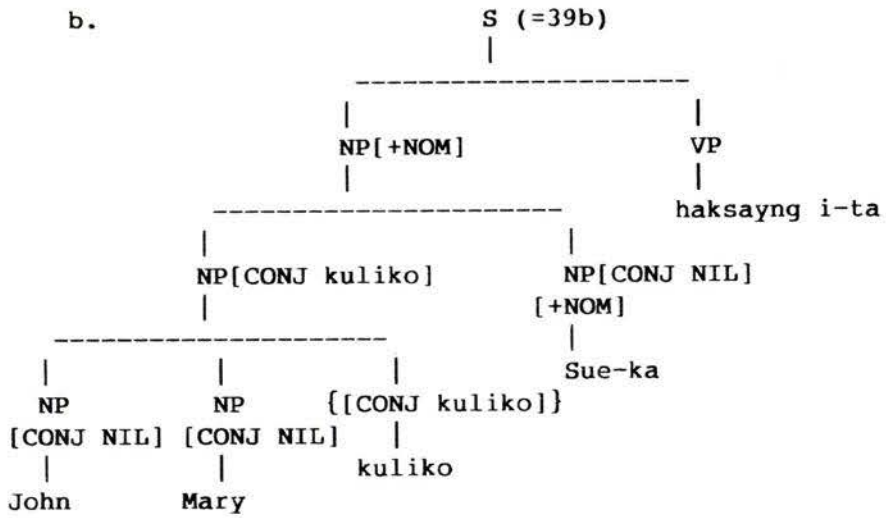
172 [CONJ] is considered to be one of the HEAD features which travels down to the lexical head.

phologically. This approach will presuppose that [CONJ] is a HEAD feature in Korean unlike English, and that [CONJ NIL] plays an important role in that only the final conjunct which is H[CONJ NIL] can contain CASE features among the conjuncts. We exemplify (37c) and (39b) as follows:

48.a.



b.



As shown in (48), we did not use any phrasal affixation nor did we have to abandon the HFC contra Cho and Morgan's argument. Without assuming such things our system still uses fewer rule schemata. We can also formulate a LP statement, as shown in (44c), in accordance with the general principles which govern the linear order among the categories of Korean grammar. Furthermore, our rule schemata also enable us to make an general statement involving the distribution of features between [CONJ] and verbal and nominal particles. For instance, FCR 19: ~([CONJ α] & ([NPRT] OR [VTERM] OR [VEMBD])) where NPRT is in {NOM, ACC, DAT, GEN, PFORM} and α is in { -kwa/wa, -ko, kuliko, ...} states that [CONJ α] is not specified for the category where nominal or verbal particle features not present.

5.6.3 Coordinate Structure as an Island

It is widely known that the coordinate structure is an island for some syntactic phenomena. In English, it is an island for extraction in some sense:

49. a. I read a book and ate fish.
    b.*What did you read a book and eat __ ?

Furthermore, as we have seen in Chapter 3, it is an island for the precipitation of the STV feature in Korean. In the following we examine Cho and Morgan's argument that coordinate structure is not an island for extraction. The following examples are given by Cho and Morgan as evidence for their argument:

50.a. Na-nun [[chayk-ul ilk-ko] [pap-ul mekessta]].
      I-Top book-Acc read-and rice-Acc ate
      'I read a book and ate supper'

   b. Na-nun pap-ul [[chayk-ul ilk-ko] [__ mekessta]].
      I-Top rice-Acc book-Acc read-and ate
      'I read a book and ate supper' (Cho and Morgan, p37)

We believe that their example in (50) is not a good one for coordination since (51b) is ungrammatical:

51.a. John-un [[Mary-lul cohaha-ko] [Sue-lul miwehanta]].
J.-Top M.-Acc like-and S.-Acc hate
'John likes Mary and hates Sue'

b.*John-un Sue-lul [[Mary-lul cohaha-ko] [__ miwehanta]].
J.-Top S.-Acc M.-Acc like-and hate
'John likes Mary and hates Sue'

If coordinate structures were not an island, it would be very difficult to explain the examples like (51b). Now the problem is why (50) and (51) show a difference. Our query may go in different directions: whether (50) and (51) have the same structure or not; whether the difference is due to lexical ideosyncrasies; whether **-ko** has some functions other than that of a conjunction marker; etc. For the reasons given below, we believe that (50) is not a pure coordinate structure.

Firstly, **-ko** in Korean seems to have some function other than that of a conjunction marker. Consider the following discourse situation:

52. A: Ne encey chayk-ul ilk-nya?
You when books-Acc read-Q
'When do you (usually) read books?'

B0: (na-nun) (chayk-ul) cenyek-ul mek-ko ilknunta.
I-Top book-Acc supper-Acc eat-? read
'I read books after eating supper'

B1: (na-nun) (chayk-ul) cenyek hwu-ey ilknunta.
I-Top book-Acc supper after read
'I read books after eating supper'

B2: (na-nun) (chayk-ul) cenyek-ul mek-ko na-n hwu-ey ilknunta.
I-Top book-Acc supper-Acc eat-? is-over after read
'I read books after I finish eating supper'

B3: (na-nun) (chayk-ul) cenyek-ul mek-ko (na)-se ilknunta.
I-Top book-Acc supper-Acc eat-? is-over read
'I read books after I finish eating supper'

(B0) can be a more suitable response than any in (51), if the idea given in English translation is intended. (B1) is not as natural; (B2) and (B3) seem to be a bit verbose. **-na** in (B2) and (B3) is considered a quasi-auxiliary verb placed after main verbs and has the same property as an ordinary AUX except that it cannot terminate a sentence. It has the meaning `after doing something'. **-ko** in (B2) and (B3) does not seem to be a conjunction element but a kind of embedding suffix which is required by the specific auxiliary verb **na.**[173] Attaching the quasi-AUX **-na-** does not introduce any semantic or grammatical difference in (50), but it does in (51): if it is attached to the latter example, the sentence comes to mean 'After John loves Mary, he hates Sue' which seems to be very marked semantically. More accurately we could say that (50a) has two different meanings: one is 'I do reading and eating at the same time'; the other is 'I do reading after eating supper'. We consider English 'and' to have similar meanings but such difference in meaning or function does not affect the syntactic portion of the grammar.[174] In Korean, however, such functional difference is closely related to grammatical difference

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[173] We have already seen that desiderative and progressive auxiliaries require the same particle, as shown below:

(a) Na-nun sakwa-ka mek-ko sipta.
I-Top apples-Nom eat-Prt want
'I want to eat apples'

(b) Na-nun sakwa-lul mek-ko issta.
is
'I am eating an apple'

[174] English also has a expression, although rather idiomatic, such as 'What did you go and buy?' which would be problematic if it involves a bi-head coordination.

in syntax and it seems to be necessary to assign two different syntactic categories to **-ko:** one is a subordinate connective and the other a coordinate conjunction marker.

Furthermore, if coordination does not create an island for extraction (53b), (53b') and (53d) should be grammatical:[175]

53.a. John-un [Mary wa Sue-nun] salanghanta.
J-Top M.-and S.-TOP love
'John loves Mary and Sue'

b.*John-un Sue-NUN [Mary wa __] salanghanta.
'John loves Mary and Sue'

b'.*Mary-nun John-un [__ Sue-lul] salanghanta.
'John loves Mary and Sue'

There are more examples which seem to weaken the hypothesis advocated by Cho and Morgan:

54.a. Na-nun kukek-ul [John Mary kuliko Sue-eykey] cwuessta.
I-Top it-Acc and Dat gave
'I gave it to John, Mary and Sue'

b.*Na-nun John kukes-ul [__ Mary kuliko Sue-eykey] cwuessta.
c.*Na-nun Sue-eykey kukes-ul [John Mary kuliko __] cwuessta.
...

Considering these generally existing counterexamples, we claim that coordination is an island for 'extraction' in some sense in that it should be somehow constrained. This will be discussed in the next section.

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[175] It should be reminded that phrases marked by a topic marker can be extracted from the Complex NP or from the adnominal position.

5.6.4 ATB Extraction

In the preceding section we have claimed that coordination is an island for extraction if the extraction is not somehow constrained. This implies that coordinate structure may not be an island for extraction in other some cases. We provide some examples which involve such extraction from coordinate structures:

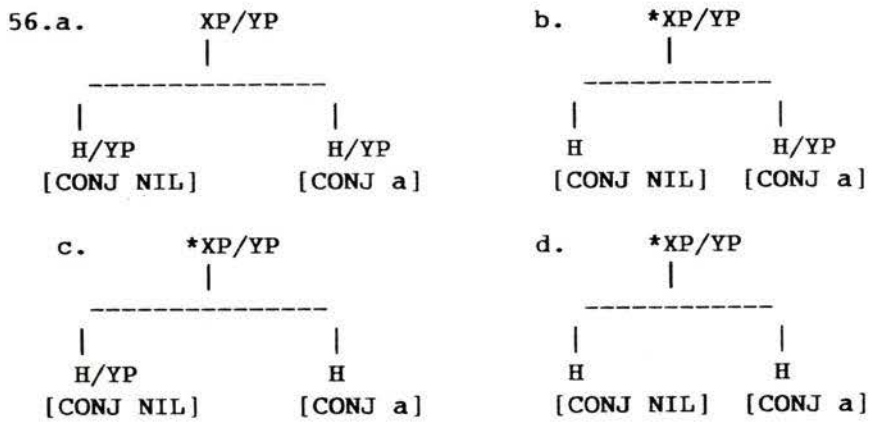
55.a. Ku salam-ul nay-ka [__ cohaha-ko __ conkyenhanta].
the person-Acc I-Nom like-and respect
'That person, I like and respect __'

b. Ku chayk-ul [na-nun John-i __ sass-ta-ko sayngkakhayss-ko
the book-Acc I-Top J.-Nom bought-Comp thought-and

Mary-nun Sue-ka __ sass-ta-ko sayngkakhayssta].
M.-Top S.-Nom bought-Comp thought

'The book, I thought John bought __ and Mary think Sue bought __'

The contrast between (51b) and (55a) would follow from the Head Feature Convention without any stipulation in the case of English coordination. Since SLASH is a Head feature in English, the HFC requires that the head feature specification of the mother should also appear in the head daughters, as shown below:[176]



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176 Again, H(ead) is used only for expository purposes.

In Korean, however, it is obvious that SLASH cannot be treated as a HEAD feature: the subject of S or an element embedded within the subject can extracted without accompanying gaps from the VP node; adnominal NP can be extracted independently, as shown below:

58.a. Ce sinsa-nun __ __ ip-un yangpok-i telepta. (=7)
that gentleman-Top wear-Mod suit-Nom is-dirty
'As for that gentleman, the suit that (he) is wearing is dirty'

b. John-NUN nay-ka __ apeci-lul anta. (=10)
J.-Top I-Nom father-Acc know
'I know John's father'

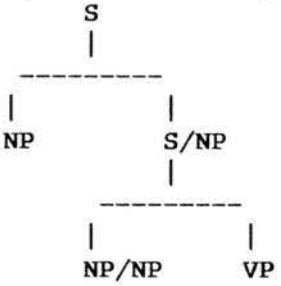
c. Mwunmyeng kwukka-KA na-nun __ namca-uy pyengkywun
civilized country-FOC I-Nom men's average

swumyeng-i ccalpta-ko mitnunta. (=21c)
life-span-Nom is-short-Comp believe

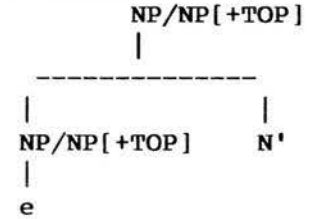
'I believe that it is in civilized countries that
men's average life span is short'

These examples can be schematically illustrated as involving one of the following structures:

59.a. Gaps from the Subject



b. Adnominal Gaps



These ATB phenomena then are not accounted for by our coordination schema since only HEAD features are relevant with the schema. We should either revise our coordination schema or provide some special stipulation regarding the exceptional behavior of the SLASH. In the following we discuss the two possibilities one after the other.

One approach would be to reformulate the coordination schema. We might revise the coordination schema so that each conjunct has the exact same specification, as shown in (60):

60. X ---> X[CONJ α], X[CONJ NIL]

In (60), X is a variable over sets of feature specifications in the grammar. This revision imposes a strong constraint among the daughter conjuncts and the mother: The three categories must contain the same feature specifications except for [CONJ]. This constraint, however, seems to be too strong for Korean coordination facts since one conjunct must differ from the other in some feature contents. For instance, a case particle feature must not cooccur with [CONJ α] but with [CONJ NIL]; the sentence-terminating particle feature [VTERM] must not coocur with [CONJ α] but with [CONJ NIL].[177]

The other possibility is to assume that when coordination is involved, all the features in coordination act similarly as HEAD features. We might call these features `Coordination HEAD features' which are governed by a separate feature instantiation principle. We might revise our schema as follows:[178]

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[177] We may overcome this problem by stating that although each conjunct is allowed to have the same particle specification, [CONJ α] subsumes such particle features morphologically.

[178] H_c is an Coordination HEAD which is an analogue of H for Coordination

61. Coordination Schema
X ---> H_C[CONJ α]$^+$, H_C[CONJ NIL]

The Coordination HEAD features would consist of {HEAD features} ∪ {SLASH} and they would comply with the Coordination HEAD Feature Convention which would be identical to the HFC except for the inclusion of SLASH. The introduction of the Coordinate HEAD Feature system may be costly, but this approach does not seem to be totally inadequate.

Still another possibility is to add some provision to the FFP in a way such that the principle is sensitive to the presence of the feature [CONJ] in the coordinate structure. This approach seems to be too stipulative, considering the general character of the FFP.

5.6.5 Non-ATB Extraction

In this section we discuss an extremely exceptional construction which involves extraction of non-identical elements in the coordinate structure, as shown below:

62.a. John-un __ myenglangha-ko, motun salam-i __ cohanta.
J.-Top is-cheerful-and all person-Nom like
'As for John, (he) is cheerful and everybody likes (him)'

b. Victoria-nun __ kihwu-to coh-ko
V.-Top climate-also is-good-and

na-uy anay-to __ cohaha-nun kes katta.
I-Gen wife-Also like that seem

'As for Victoria, (its) weather is good and
my wife seems to like (it)'

HEAD features.

As we can see, the asymmetric extraction is allowed when the preposed NP is marked with the 'case-neutral' topic marker. From the symmetrical behaviors of the topic marker and the focus marker, we can expect that the focus marker can also manifest the non-ATB extraction, and this is shown in the following example:

63.a. John-i pwumonim-to neknekha-ko kongpwu-to cal hanta.
J.-Foc parents-also is-wealthy-and study-also well do
'John, (his) parents are wealthy and
(he) does well in school'

b. Ku chakk-i kakyek-i ssa-ko
the book-Foc price-Nom is-cheap-and

nay-ka __ ilko siki-tohata.
I-Nom read want-also
'The book, (its) price is low and I want to read (it)'

These examples become unacceptable if pragmatic markers are replaced by overt case markers, as shown below:

64.a. John-*i/*-ul __ myenglangha-ko, motun salam-i __ coahanta.
J.-Nom/-Acc is-cheerful-and all person-Nom like
'As for John, (he) is cheerful and everybody likes (him)'

b. Victoria-*uy/*ul __ kihwu-to coh-ko
V.-Gen/Acc climate-also is-good-and
na-uy anay-to __ cohaha-nun kes katta.
I-Gen wife-Also like that seem
'Victoria, __ weather is good and my wife seems to like __'

65.a.*John-uy pwumonim-to neknekha-ko kongpwu-to cal hanta.
J.-Gen parents-also is-wealthy-and study-also well do
'John, (his) parents are wealthy and (he) does well in school'

b. Ku chakk-*uy/*ul kakyek-i ssa-ko
the book-Gen/Acc price-Nom is-cheap-and

nay-ka __ ilko siki-tohata.
I-Nom read want-also
'The book, (its) price is low and I want to read (it)'

This problem may well be approached from pragmatic perspectives. That is, we can simply assume that Korean is a so called **pro**-drop language and claim that the above examples in (62) and (63) do not exhibit the asymmetrical extraction but **pro** is hidden in the gap sites and has to be somehow related to its antecedent pragmatically.

In the following it will be claimed that one explanation of the above examples may well make use of syntactic features in order to distinguish between (64) and (65) on the one hand and (62) and (63) on the other.

In order to make such distinction, we depend crucially on the distinction between the HEAD features and the non-HEAD features. As we mentioned in Section 2.4., case features are HEAD features only when they take on '+'. Furthermore, since the FCRs in our grammar are formulated in a way in which case clashes arise among the HEAD features, '[+TOP][-NOM][-ACC]' is a possible combination whereas '[+TOP][+NOM][+ACC]' is not.[179] We consider that the asymmetrically extracted phrase 'John-un' in (62a), for instance, is dominated by NP[+TOP][-ACC][-NOM]. It should be reminded that we have treated a subject NP without a case marker as NP[-ACC], and a bare object NP as NP[-NOM]. Thus, (62a) will have the following configuration:

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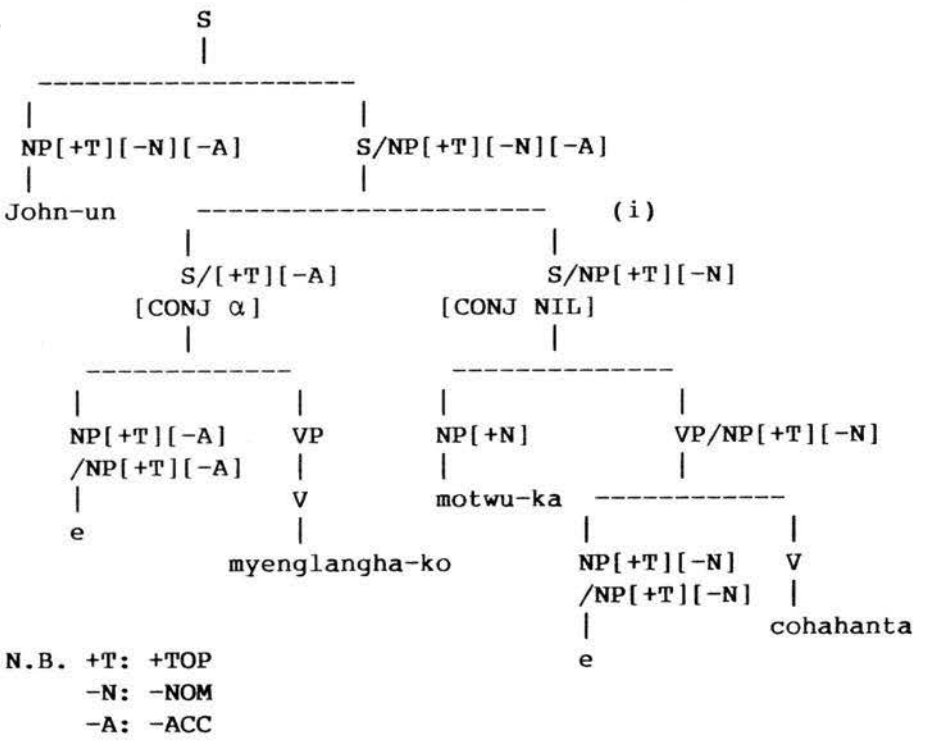
[179] This type of difference in possible feature combination is also frequently noticed in phonology.

66.



N.B. +T: +TOP
-N: -NOM
-A: -ACC

A possibly controversial tree would be local tree (i) of (66), since the SLASH feature specification of one conjunct is not identical to that of the other. However, the difference is in non-HEAD features and such difference can in principle be allowed in our grammar by the Cordinate HEAD Feature Convention.[180]

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180 The following is what I assume in this dissertation, although the current proposal is not fully justified and cannot be discussed in detail within the scope of this thesis:

The Coordination Head Feature Convention (CHFC)
For all $\phi' \in \Phi_r$ which is a set of possible projection of an ID rule r, C_0 ---> C_1 ... C_n, which meets FCRs and the FFP, $\phi \in \Phi_r$ meets the CHFC on r if and only if for all $C_i \in W_{Hc}$ and for all COHEAD $\in H_c$

(i) $(\phi'(C_0) \cap \phi(C_0))|$COHEAD unifies with $\phi(C_i)|$COHEAD

(ii) $(\phi'(C_i) \cap \phi(C_i))|$COHEAD unfies with $\phi(C_0)|$COHEAD.

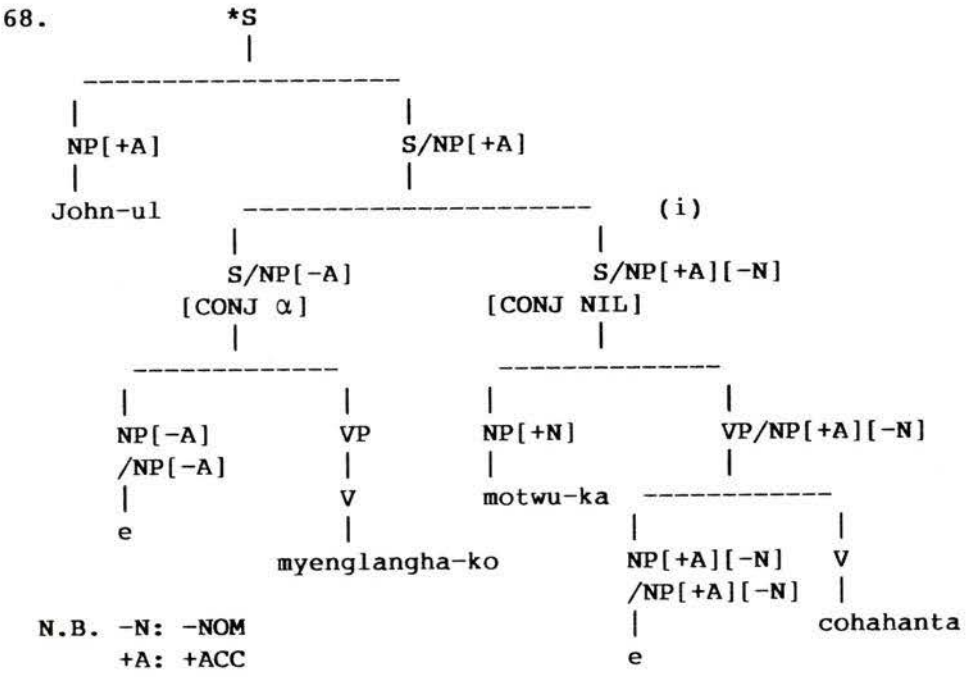
(iii) For all $C_i \in W_{Hc}$[BAR $\in$DOM($\phi(C_0)$) $\cap$ DOM($\phi(C_i)$)]
See the definition of unification in appendix B.

Our analysis further predicts that (62a) should be grammatical without the topic marker, and it is, as repeated below:

67. John, __ myenglangha-ko, motun salam-i __ cohanta.
J. is-cheerful-and all person-Nom like
'As for John, (he) is cheerful and everybody likes (him)'

On the other hand, two sentences in (64a) are ruled out because of the lack of unification required by the CHFC or by the SFC. The nominative marker, for instance, contains [+NOM] and it is not compatible with the object NP[-NOM]; the object marker containing [+ACC] cannot be conjoined with the subject NP[-ACC], as shown in (i) of (68). The latter case of (64a) is exemplified:

68.



The CHFC requires that in local tree (i) the value of SLASH on the mother must unify with the daughters' counterpart in a transitive domain of the category with

respect to the SLASH feature. However, this requirement is not satisfied in local tree (i) between the mother and the left conjunct.

5.7 Conclusions

In the first part of this chapter, we have argued that topicalization and focusing can receive a unified account as subcases of extraction and that peculiarities involving the Subjacency Condition and the use of resumptive pronouns are taken care of by less universal conditions called Feature Cooccurrence Restrictions. We have also argued that the attachment of the topic marker or the focus marker does not necessarily involve movement and we have provided the different interpretations for the two possible cases of extraction and non-extraction. Relative clauses are accounted for in a similar manner as the topic and the focus constructions with some parochial differences.

In the second part, we have examined coordinate structures in Korean, providing some base-generating rule schemata which can accomodate a substantial set of examples. We have also argued that coordination is an island for extraction, rejecting Cho and Morgan's (1987) argument. We have been able to make a general LP statement and FCRs for the distribution [CONJ] and grammatical particles. We have further shown that phrasal affixation is not necessary and is avoidable by treating the suffixes as containing HEAD features.

Although we admit that our solution is not fully satisfactory, we have postulated that there could be a Coordination HEAD feature system which obeys the CHFC, on the ground that SLASH is not a HEAD feature but acts like a HEAD feature in the coordinate construction involving the ATB and non-ATB extraction cases.

Chapter 6

CONCLUSIONS

This dissertation has been an attempt to find what type of contribution a restricted grammatical framework can make in the description of the Korean language. A constrained linguistic framework can sometimes prohibit us from saying what looks conceptually plausible, depriving us of many ways of analyzing linguistic facts in an attractive way. The bright side of the restricted theory, however, seems to be that it can serve as a heuristic model in the analysis of languages. So if we are dealing with the multiple nominative construction we may not be allowed to talk about 'multiple subjects' in simple sentences of Korean: we are forced to to say something else if we are going to give a GPSG treatment to the construction in question. This aspect of the restricted theory seems to have also made us search for a more viable solution to some other phenomenon such as the Korean honorific system.

In chapter 2 we have argued that the multiple appearances of case markers should be treated as involving the focus construction and the stative verbal construction. We have also claimed that the nominative focus marker encodes exclusiveness for the given information in a discourse, whereas the accusative focus marker introduces new information. At the same time, the [STV] feature is postulated and the Nominative Feature Introduction Metarule is introduced. As it turns out, this metarule should be able to apply to its own output and to non-lexical ID

rules, disobeying the restriction which GKPS imposes on the metarule. Another free nature of the Korean grammar is that we have not devised any SLASH introduction metarule, since gaps can be freely introduced unlike in English where gaps are associated with lexical ID rules.

In chapter 3, we identified a missing object construction and a quasi-missing object construction. The former is similar to the English counterpart whereas the latter is a stative verbal sentential subject construction. We have also distinguished between the **tough**-type missing object construction and the Too/Enough missing object construction. We have argued that the CAP should be revised so that certain features which are regulated by other components of the grammar should be unaffected by the CAP. We have also suggested that the restriction which prohibit extraction from the filler should be removed from the CAP, since the restriction may be language-parochial and could be stated somewhere else, e.g., in some form of restrictions on categories.

Chapter 4 has attempted to give a formal account of the Korean honorific system. We have provided an objective criterion of classifying the honorific system in order to make it clear that the Korean honorific system can be classified into two dimensions and that the honorific dimension can be accounted for by the CAP as formulated in GKPS. We have also claimed that honorific features can be seen as inherently [+HON] or [-HON] and have provided solutions to some problematic cases involving body parts and coordination. As it turns out, the CAP proves to be compatible with Korean and general enough, given the Korean honorific agreement system.

Chapter 5 has discussed scrambling and coordination. We have argued that topicalization (or topic marking), focusing and scrambling are accounted for by the single mechanism 'extraction' which is an optional phenomenon in the grammar. The peculiarity in Subjacency and in the use of resumptive pronouns in the topicalization, focusing, and relativization, as opposed to scrambling, was handled through less universal rules, i.e., the Feature Cooccurrence Restrictions. We have also argued that from a syntactic point of view topicalization and focusing are optional as scrambling is.

The basic coordination pattern in Korean has posed no serious problem for the coordination schemata along the line of GKPS. We have formulated two coordination schemata which can handle substantial parts of the coordinate structures in Korean. However, we have found exceptional behavior on the part of SLASH which has forced us to set up the Coordinate HEAD feature system or to revise the FFP. Furthermore, the Non-ATB extraction in Korean may certainly be problematic to GKPS's formalism. Considering the Korean cases and the following simple examples in English, we seem to need something more in our grammar in order to account for coordinate structures:

1.a. *Which professor and John did you meet ___ there?
  b. *John and which professor did you meet ___ there?
  b. You met John and which professor?

In conclusion, we can say that the GPSG framework as formulated in GKPS has proven to be capable of generating a fragment of the Korean language under the following conditions:

1. Metarules should be able to apply to their own output and to non-lexical ID rules.

2. The CAP should be relaxed so that some disagreement between the controller and the controllee should be allowed.
3. Extraction from the previously extracted elements should be allowed.
4. SLASH should be able to take as its value a set of categories.
5. The HFC should be revised slightly along the lines suggested by Warner (1988).
6. There should be some provision made for coordinate structures.

The suggested modifications of the theory may change the generative capacity of the theoretical framework. In particular, we believe that the third condition may well affect the generative capacity of our grammar, since this revision introduces an infinite number of categories. The difference in generative capacity between our grammar and the one in GKPS comes from the fact that ours contains an infinite number of categories, a fact which is incompatible with the definition of context-free grammar. The same can be said for the fourth condition. In principle, the number of categories increased by the factors associated with the SLASH value specification is infinite. Thus, theoretically our grammar generates a non-context free language.[181]

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181 Theoretically our grammar seems to point to an 'indexed grammar' as found in Aho(1968) and Gazdar(1985), in the sense that it uses an infinite number of categories. However, in a practical sense we could say that our grammar is 'practically' context-free since the number of the categories created by the of extraction from the filler is practically limited. Likewise, the SLASH feature in Korean may usually not contain more than three elements, for instance, which makes finite the number of the total categories which are created by extraction. If this type of compromise were allowed, we could say that our grammar is 'practically' context-free.

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APPENDIX A

THE FORMAL THEORY OF GRAMMAR

In this section we formalize what we have proposed in this dissertation. By employing kinds of meta-devices such as mathematical and logical terms, we can achieve consistency and precison in expressing ideas. As Hukari and Levine (in press) summarized, GKPS syntax can be seen as consisting of the following three base components:[182]

i. a set of features;
ii. a definition of the set of syntactic categories induced by the set of features;
iii. a set of principles which jointly license the distribution of features and categories in syntactic representations.
(ibid.:6)

Set of features employed in this dissertation are finite and are listed in appendix B; in defining syntactic categories and syntactic structures we will assume Gazdar et al. (1988) and GKPS for the most part and only what is different from theirs will be presented.

A.1 Syntactic Categories

We differ from Gazdar et al. (1988) in the following respects.
(1) A feature can take a set of categories as its value. Thus, the category set employed in here can be defined as follows:

a. $K_0 = \{\{\ \}\}$
b. $K_{n+1} = \{C \mid C \text{ is a finite partial function from F (feature name) into } (K_n \cup POW(K_n) \cup A)\}$.
c. $K = \cup\ K_i$
$(0 \leq i \leq n)$

---

[182] Geoffrey K. Pullum comments that clause (iii) does not make it clear that there are parochial rules and universal principles.

(2) The following restriction is too strong for Korean:

□~(f: ◇f) (Gazdar et al. 1988: 9)

That is, we assume recursion in category structures is possible (See the example in footnote 100 in Chapter 2).

We also redefine **unification** as follows in order to account for features taking a set of categories as their values.

Definition: **Unification**[183]

(i) For features with atomic values or category values,
  (a) Let S be a set of categories, and let C ∈ S. Then C is upper bound for S if and only if for all C' ∈ S, C is an extension of C'.
  (b) C is the **unification** of S if and only if C is an upper bound for S and for all C', C' is an upper bound for S, then C' is an extension of C, and

(ii) for features with set-of-category values (CATSET)
  C is an **unification** of S if and only if C|CATSET is the set union of all C'|CATSET, C' ∈ S.

A.2 Formal Theory of Feature Instantiation Principles

:The FOOT Feature Principle is identical to GKPS's formulation (p82).[184] The HEAD Feature Convention is identical to the one in GKPS (p97) except that the Control Agreement Principle is irrelevant to the definition of **free** feature specification set of a category. Thus, the CAP is excluded in defining the HFC.

The Control Agreement Principle is reformulated so that it is more permissive than the HFC. We define a function κ which maps a node label into a set of FREE specifications of the category for given projection sets. A FREE feature specification set is a set of features which are free of ID rules, FCRs, the FFP, or the HFC.

FREE feature specification set[185]

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[183] Clause (i) is identical to the definition in GKPS.

[184] However, we suggest that the following provision be added to the FFP in order to account for cases where category-set valued features are involved:
  For category-set valued features, f, $\phi(C_0(f)) = \phi(C_i(f)) - \{X\}$, where C_j is extended by X, $C_j \in C_i(f_i)$. in 0

[185] This formulation is suggested by Thomas Hukari (private communication). The FREE feature specification is defined in terms of categories in the tree (i.e., $\phi(C)$) unlike GKPS's definition since AGR appears as instantiated only. See clause (ii) of the CAP for its relevance.

Let Φ_r be a set of projections of an ID rule r which meet the FFP and the HFC, then the **FREE** feature specification set of C_i in $\phi(C_i)$, $\kappa(\phi(C_i), \Phi_r) =_{def}$ {<f, v>| for some $\phi'(C_i)$ [<f, v> $\in \phi'(C_i)$] and for not all $\phi'(C_i)$[<f, v> $\in \phi'(C_i)$]}, where $\phi' \in \Phi_r$.

We now reformulate the CAP as follows:

The Control Agreement Principle (revised)[186]

For $\kappa(\phi(C_i), \Phi_r)$ which is a set of **FREE** feature specifications of category C in $\phi \in \Phi_r$, a set of projections of an ID rule $r = C_0 \dashrightarrow C_1 \ldots C_n$, then $\phi \in \Phi_r$ meets the CAP if and only if

i) if $\phi(C_j)$ controls $\phi(C_i)$,
   a) $\chi(\phi(C_i)) \cap \kappa(\chi(\phi(C_j), \Phi_r))$ is extended by $\phi(C_i)(f_i)$, and
   b) $\phi(C_i)(f_i) \cap \kappa(\chi(\phi(C_j), \Phi_r))$ is extended by $\chi(\phi(C_j))$;

ii) if there is a $\phi(C_i)$ which is a predicative category with no controller,
   a) $\phi(C_0)(f_0) \cap \kappa(\phi(C_0)(f_0), \Phi_r) \cap \kappa(\phi(C_i)(f_i), \Phi_r)$ is extended by $\phi(C_i)(f_i)$, and
   b) $\phi(C_i)(f_i) \cap \kappa(\phi(C_i)(f_i), \Phi_r) \cap \kappa(\phi(C_0)(f_0), \Phi_r)$ is extended by $\phi(C_0)(f_0)$

where f_i and f_0 are the CONTROL features of $\phi(C_i)$ and $\phi(C_0)$, respectively.

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186 As we have pointed out in chapter 5, the CAP needs to be restated if we want to account for **control** in Korean using the SLASH feature which takes a set of categories as its value. This needs the introduction of a new notion which can be roughly termed as the '**control** feature specification', $\zeta(\phi)(C_k)(f)$, in **controllee** C_k with respect to control feature f, as shown below:

i) if $f \in DOM(C_k)$, then $\zeta(\phi)(C_k)(f) = \alpha$, $\alpha \in (\phi(C_k)(f) \cap Y)$ Y is an extension of $C_k(f)$
ii) otherwise, $\zeta(\phi)(C_k)(f) =_{def} \phi(C_k)(f)$. ($0 \leq k \leq n$)

Given this, we only have to substitute $\zeta(\phi(C_i)(f\&'i.))$ for $\phi(C_i)(f_i)$ and $\zeta(\phi'(C_i)(f_i))$ for $\phi'(C_i)(f_i)$ in order to account for Korean language facts.

APPENDIX B

LIST OF FEATURES AND RULES

Features and Feature Values

feature	value range
ACC	{+, -}
ADN	{+, -}
FOC	{+, -}
NACT	{+, -}
NOM	{+, -}
NULL	{+, -}
STV	{+, -}
REL	{+, -}
RESMP	{+, -}
TOP	{+, -}

Head features[187]

features	value range
ACC	{ + }
AGR	CAT(egory)
AUX	{+, -}
STV	{ + }
BAR	{0, 1, 2}
CONJ	{ko, kwa/wa, kena, kuliko, ttonun, ... NIL}
DAT	{+, -}
DPN	{+, -} (for 'dependent nouns')
GEN	{+, -}
HON	{+, -}

Foot Features

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[187] The restricted value range of '+' for [ACC] is to accommodate the idea that ACC is HEAD feature when it has a '+' specification.

NOM	{ + }
PFORM	{-ey, lo, pwute, ...}
PLU	{+, -}
PRD	{+, -}
PART	{ + }
SUBCAT	{1, ..., n} ∪ {kuliko}
SUBJ	{+, -}
TNS	{PRS, PST, FTR}
N	{+, -}
V	{+, -}
VEMBD	{-ko, -tolok, -key, -a, -ki, ...}
VTERM	{DCL, Q, IMP, HRT, EXCLM, ...}
COMP	{ -ko}
VMOD	{-un, -nun, -ul}
GAP	CAT

feature	feature range
SLASH	POW(CAT)
GAP	CAT
STV	{ + }
NOM	{ + }
ACC	{ + }

Feature Cooccurrence Restrictions

FCR 1: [NPRT] ⊃ [+N] OR [VEMBD ki/um][188]
FCR 2: [VPRT] ⊃ [-N][+V][189]
FCR 3: [SLASH NP[+GEN]] ⊃ [SLASH NP([+FOC] OR [+TOP])]
FCR 4: ~ ([+FOC] & [+TOP])
FCR 5: ~ ([+NOM][+ACC])
FCR 6: NP[+ADN] ⊃ [GEN]
FCR 7: [+NACT] ⊃ [+STV]
FCR 8: [AGR[XP]] ⊃ [AGR[XP[-ACC]]]
FCR 9: [CONJ kwa(wa)] ⊃ ([+N] & [-V])
FCR 10: ([CONJ ko] OR [CONJ ciman]) ⊃ [+V] & [-N])
FCR 11: [GAP] ⊃ [VEMBD -ki][PFORM -ey]
FCR 12: [+FOC] ⊃ ([+NOM] OR [+ACC])
FCR 13: ([+NOM] OR [+ACC]) & ([+DAT] OR [PFORM]) ⊃ [+FOC]
FCR 14: [+NULL] ⊃ ([BAR 2] & [SLASH])
FCR 15: (([CONJ] & [VEMBD] & [-NOMF]) OR NP) ⊃ ~[STV]
FCR 16: V"[+ADN] ⊃ [MOD un/nun/ul]
FCR 17: XP[+REL] ⊃ [+NULL]
FCR 18: V"[+ADV] ⊃ [VTERM ψ][190]

---

188 NPRT is a variable over nominal particle features, i.e., NOM, ACC, GEN, DAT, PFORM, TOP, and FOC.

189 VPRT consists of verbal particles: VEMBD, VTERM, and COMP.

FCR 19: ~([CONJ α] & ([NPRT] OR [VTERM] OR [VEMBD]))
FCR 20: V"[NPRT] ⊃ [VPRT -ki/-um]
FCR 21: ~([SLASH]&[DEG])
FCR 22: ~([+STATIVE]&[COMP])
FCR 23: [+N][-V][SLASH XP] ⊃ [SLASH XP([+TOP] OR [+FOC] OR [+REL])]
FCR 24: XP[+RESMP] ⊃ ([+TOP] OR [+FOC] OR [+REL])
FCR 25: ~([+TOP] & [+WH])
FCR 26: ~(COMP & VEMBD)
FCR 27: ~(VTERM & VEMBD)
FCR 28: ~([COMP] & [+STV])
FCR 29: ~([TNS][+SUBJ])
FCR 30: [+DESI] ⊃ [+NOMF]
FCR 31: ~(([+STV] & [VTERM]) & ~[NOMF])
FCR 32: α[+NULL] ⊃ α([SLASH α] OR [GAP α])

Feature Specification Defaults

FSD 1: ~(PFORM OR [+GEN]) ⊃[-NOM]
FSD 2: ~[GEN]
FSD 3: ~[+DAT]
FSD 4: ~[STATIVE]
FSD 5: ~[CONJ]
FSD 6: ~[+STATIVE]
FSD 7: ~[AVD]
FSD 8: ~[ADN]
FSD 9: ~[PFORM]
FSD 10: ~[DEG]
FSD 11: [VTERM][BAR 0] ⊃ [-STATIVE]
FSD 12: [+V] ⊃ ~[NPRT]
FSD 13: [+N] ⊃ ~[VPRT]
FSD 14: ~([NOM] & [ACC])
FSD 15: ~[NOMF]
FSD 16: ~[ADV]

Immediate Dominance Rules
(Lexical ID Rules)[191]

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[190] ψ ranges over {-nikka, -camaca, -myense, -lato, -koca, -nunte, -teni, ...}.

[191] DPN(=[+DEPENDENT]) is postulated for so called dependent nouns in Korean. Dependent nouns are always preceded by modifiers of any kind. For instance, **kes** 'thing' is one of the dependent nouns and must have pre-nominal modifiers:

```
*kes 'thing'     say kes  'new thing'    nay kes  'my thing (mine)'
 thing           new thing                my  thing

Nay-ka  a-nun      kes     'things that I know'
I-Nom   know-MOD   thing
```

```
VP ---> H[1]                                  (cwukta)      'die'
VP ---> H[2], NP                              (salanghata)  'love'
VP ---> H[3][+NACT], NP[-ACC]                 (cohta)       'be-fond-of'
VP ---> H[4], NP, NP[+DAT]                    (cwuta)       'give'
VP ---> H[5], NP, PP[PFORM ey]                (nohta)       'put'
VP ---> H[6], NP[+DAT], V"[VEMBD -tolok]      (seltukhata)  'persuade'
VP ---> H[7], NP[+DAT], V"[COMP -ko]          (yaksokhata)  'promise'
VP ---> H[8], VP[VEMBD -ko]                   (pota)        'try'
VP ---> H[9][+NACT], VP[VEMBD -ko]            (sipta)       'want'
VP ---> H[10], S[COMP -ko]                    (mitta)       'believe'
VP ---> H[11][AGR NP[+DPN]]                   (katta)       'seem'
VP ---> H[12], NP[+DPN][NFORM ci]             (kwungkumhayhata) 'wonder'
VP ---> H[13], NP[-ACC]                       (toyta)       'become'
VP ---> H[14], S[VTERM IMP]                   (yochenghata) 'request'
VP ---> H[15], NP[PFROM -tahay]               (hwanayta)    'get-angry'
VP ---> H[16], S[VTERM Q]                     (tulyepta)    'is-afraid-of'
  ...

N' ---> H[20]                                 (cwukum)      'death'
N' ---> H[21], NP[PFORM -tayhan]              (tholon)      'discussion'
N' ---> H[22], V"[+ADN]                       (mitum)       'belief'
N' ---> H[23], V"[+ADN][TNS FTR]              (kyehoyk)     'plan'
N' ---> H[24], V"[VTERM IMP][+ADN]            (yocheng)     'request'
  ...
```

(Non-Lexical ID Rules)

S ---> X", H[-SUBJ]
V" ---> X", H/X"
VP ---> H, X"[+ADV]
NP ---> H^1, (X"[+SPEC])
AP ---> H^1, (X"[+ADV])
N^1 ---> H^1, (X"[+ADN])
N^1 ---> H, S[+ADN]/X"
N^1[+DPN] ---> H, V"[+ADN]
X"[CONJ kuliko] ---> H^+[CONJ NIL], {[SUBCAT kuliko]}
...

Coordination Schematta
a. Iterating Coordination Schema
X ---> H[CONJ α]$^+$ H[CONJ NIL]
where α is in { -kwa/-wa, -ko, -na, ...}

Nay-ka hakkyo-ey o-n kes 'the fact that I came to school'
I-Nom school-to come-MOD thing

b. Binary Coordination Schema
X ---> H[CONJ β], H[CONJ NIL]
where β is in {kuliko, ttonun}

Linear Precedence Rules

a. $X^2 < X^1 <$ [SUBCAT]
b. X^2[+N] < V^2[~SLASH] < V^2[SLASH]
c. [CONJ α] < [CONJ NIL]

Nominative Feature Introduction Metarule (NFIM)

X ---> XP, W
===>
X[+NACT] ---> XP[+NOM], W

[HON] Calculation Convention

Let 'NP ---> C_1, ...H , ...C_n be an ID rule where H is a head.
a) if [+PART] ∈ φ(H), then φ(NP|HON) = |__|φ(C_i|HON), (1 ≤ i ≤ n)

b) otherwise, φ(NP|HON) = |__|φ(H|HON). (N.B. |__|: unification)

The SLASH FEATURE CONSTRAINT (SFC)

```
*   XP[SLASH { ..., Ci, ... }]
    |
 -----------
|        |
Cj      YP[SLASH { ..., Ci, ...}]
```

where C_j|X extends and is extended by C_i|X
(X ∈ {case feature, PFORM}).

APPENDIX C

HONORIFIC CLASSES OF NOUNS

[+HON]	[-HON]	gloss
apeci	apeci	'father'
ape+nim	-	'father + hon(orific) suffix'
-	atul	'son'
atu+nim	-	'son + hon suffix'
halapeci	halapeci	'grandfather'
halape+nim	-	'grandfather + hon suffix'
samchon	samchon	'uncle'
acwumenim	acwumeni	'aunt'
hyeng+nim	hyeng	'elder brother'
nwu+nim	nwuna	'elder sister'
tongsayng+pwun		'younger brother + hon noun'
	tongsayng	'younger brother'
noincang	noinne	'elderly person'
sangkam	-	'king'
sacangnim	sacang	'chief executive'
sensayng+nim	sensayng	'teacher'
kyocang+nim	kyocang	'school prncipal'
-	kay	'dog'
-	cip	'house'
-	moca	'cat/hat'
hana+nim	-	'heavenly god'
-	kwisin	'ghost'
malssum	mal	'speech' [+PART]
elkwul	elkwul	'face' [+PART]
nwun	nwun	'eye' [+PART]
yonsey	nai	'age' [+PART]
enhayng	enhayng	'behavior' [+PART]
thayto	thayto	'attitude' [+PART]
...	...	...

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