MORPHOSYNTACTIC PHENOMENA OF KOREAN IN ROLE AND REFERENCE GRAMMAR:

PSYCH-VERB CONSTRUCTIONS, INFLECTIONAL VERB MORPHEMES, COMPLEX SENTENCES, AND RELATIVE CLAUSES

by

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May 1, 1994

A dissertation submitted
to the Faculty of the Department of Linguistics
of State University of New York at Buffalo
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

ACKNOWLEDGMENTS

When I arrived in Austin, Texas to study for my Ph.D. in August, 1986, it was a hot and humid summer. When I finished this dissertation in Buffalo, New York, eight years later, it was a cool and pleasant summer. To finish this dissertation, I owe thanks for many people's help and encouragement. I would like to express my gratitude for their support in completing this dissertation.

First of all, my greatest thanks go to my adviser, Robert D. Van Valin, Jr. for his helpful suggestions and guidance, not only scholarly but alos personal. My research is based on his Role and Reference Grammar, and my interest in many of the topics in the dissertation is completely inspired by his work. Without his encouragement, I would never have started or finished this dissertation. I express here all my gratitude for the various kinds of help he gave me.

I also wish to thank Matthew S. Dryer and David A. Zubin, who acted as committee members for the dissertation. Professor Dryer's guidance and suggestions for earlier drafts have especially improved my arguments. He shared his insights and knowledge with me, and these were particularily helpful in the chapter on relative clauses. My thanks are alslo extended to William O'Grady, who has been an outside reader of this dissertation for his suggestions and comments.

Throughout my five-year-stay in Buffalo, I have benefited from the expertise of all the faculty members, among them, Karin Michelson, Wolfgang Wölck, Donald D. Churma and Donna B. Gerdts. I would like to express particular gratitude to Donna B. Gerdts, my M.A. advisor, for her insights and encouragement during her stay in Buffalo. My knowledge on Relational Grammar was benefited from her lectures. I also want to thank Betty Brown and Dell Cook for always being helpful in administrative matters.

I shared my student life with very nice people in SUNY at Buffalo, and I would like to thank my fellow students and colleagues: Mahamane L. Abdoulaye, Peter Brancato, Dan Davitt, Pat Fox, Isao Honda, Untae Kim, Tomiko Kodama, Jordan Lachler, Monica Madera, Styliani Nikouli, Sang-Ryong Oh, Ki-seong Park, Valerie Shafer, Mitsuaki Shimojo, Yongnam Um, Noriko Watanabe, Heather Weber, Lindsay Whaley, Sea-un Jhang, Cheong Youn, and Soon Ae Chun. I especially thank Dan Davitt for his scrupulous editing, which improved considerably the readability of this dissertation. Also I would like to thank the members of Korean United Methodist Church of Buffalo for their continuous prayer and friendships for my family. My faith in God has grown with their faith, desire and love.

I wish to thank my former professors at Chonbuk National University in Korea, who taught me my basic scholarly ability in English linguistics and literature: Eun-hwan Lee, Soo-Gon Kim, Chung-taik Suh, Po-young Lee, Ho-chun Jeon, Hak-chun Kim, Byoung-man Jeon, Gwang-Hyeon Choi, and Yong-jin Shin. I benefited from their lectures and encouragement throughout my undergraduate and Master's program. I am especially grateful to my M.A. advisor, Soo-Gon Kim, whose lectures and character provided a strong motivation for me to study linguistics and encouraged me to study for my Ph.D. in the U.S. Also I am indebted to Ik-whan Lee (Yeonsei University) and Jae-Hyun Han (Soongjun University) for their linguistic teaching, and to Jong-seok Kim (Chonju National Teachers College) and Joong-ryul Choi (Jeonju University) for their consideration on Rotary International Foundation scholarships. I would also like to thank other faculty member at Chonbuk National University, whose scholarly character has

influenced to me when I worked as a Department Assistant and part-time instructure: Youn-ho Kim, Jun-seok Choi, Young-Jae Kim, Chang-ryung Kim, Byoung-hwa Jeong, Chongmin Lee, and Soo-kil Kim.

I wish to thank the faculty members and colleagues of University of Texas at Austin where I lived and learned about linguistics from 1986-1989: Lee Baker, Robert Harms, Tony Woodbury, Robert Wall, Juliette Blevins (Levin when I stayed in Texas), Armin Mester, and Denis Bouchard. I learned very much from them during my study at Austin. My knowledge on GB was influenced by Denis Bouchard. Also, my thanks goes to my friends and colleagues at Austin: Boo-Mee Kim Chun, Tae-Goo Chung, Hak-Sung Han, Hyun-Sook Kang, Jong-Shil Kim, Hee-Chul Lee, Jong-Kun Lee, Gui-Sun Moon, Seung-Jae Moon, Byung-kyu Ahn, Byong-kon Yang, Hyun-kwon Yang, Jong-Yurl Yoon, Shoji Azuma, Jeon-kun Ahn, and Seok-kwon Jeong. I especially would like to express thanks to Mr. and Mrs. Seok-kwon Jeong for their help when I arrived in Austin. Also, I would like to thank the members of Korean Presbyterian Church of Austin, with whom I experienced my re-born Christian life.

I express my gratitude to the Department of Linguistics of the State University of New York at Buffalo, New York State and Rotary International Scholarship Foundation for their financial support during my stay in the United States. The support from these institutions made my studies possible.

I express my deep gratitude to my family. I thank my family in Korea for their patience and love: my father and mother, father-in-law, mother-in-law, brothers and sisters, for standing behind my educational goals. We missed each other very much over the last eight years. I will share my life with them from now on.

Finally, my deepest gratitude goes to my wife and two sons, Kyong-chul (David) and Hyuk-yong (James). Without my wife and son's prayer (especially Kyong-chul's every night bed-time, praying to the God for his dad's study) and patience, I could never have finished this dissertation. It is very hard to find any word for my wife's devotion. This dissertation is dedicated to my mother, who never went to school, and my wife for her support and prayer for her husband.

God loves me, a sinner, and my family. Without God's love, I could not have survived the stress and heavy burden during my stay in the U.S.. I love Jesus, my savior.

May 1, 1994
Byong-seon Yang
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TABLE OF CONTENTS

THE YALE SYSTEM OF KOREAN ROMANIZATION

Yale romanization has been adopted for transcribing Korean examples in this dissertation.

Vowels

Korean	Yale	Phonemic
k	a	/a/
i	ya	/ya/
j	e	/´/
u	ye	/y´/
h	o	/o/
y	yo	/yo/
n	wu	/u/
b	yu	/yu/
m	u	/I/
l	i	/i/
nl	wi	/wi/
p	ey	/e/
[	yey	/ye/
«	wey	/we/
/	oy	/ /
o	ay	/œ/
[	yay	/yœ/
‘	way	/wœ/
\	we	/w´/`
]	wa	/wa/
;	uy	/Iy/

Consonants

Korean	Yale	Phonemic
œ	p	/p/
	ph	/põ/
œ œ	pp	/p·/
´	t	/t/
	th	/tõ/
´ ´	tt	/t·/
†	s	/s/
† †	ss	/s·/
	c	/c*/
ç	ch	/c*õ/
	cc	/c*·/
®	k	/k/
	kh	/kõ/
® ®	kk	/k·/
å	m	/m/
ß	n	/n/
	o	/N/
ƒ	l	/l/
©	h	/h/

LIST OF ABBREVIATIONS

The following abbreviations have been used to label grammatical morphemes in the glosses in this dissertation.

A	actor
ABLE	able
ABIL	ability
ABS	absolutive
A(CC)	accusative
ADJ	adjective
ADV	adverb
AFD	actual focus domain
AOR	aorist
ART	article
ASP	aspect
AUG	augment
AUX	auxiliary
CAS	casual
CAU	causative
CFM	contrastive focus marker
CL	classifier
CMPL/COMP	complementizer
CONJ	conjunction
CONN	connective
CONT	continuous
CTM	contrative topic marker
D(AT)	dative
DEC	declarative
DEF	definite
DIFF	different
DIR	directional
EMP	emphatic
ERG	ergative
EVID	evidential
FOC	focus
FUT	future tense
G(EN)	genitive
GUESS	guess
HAB	habitual
HON	honorific
IF	illocutionary force
IMM	immediate
IMP	imperative
IMPF	imperfective
INF	infinitive
INFL	inflection
INSTR	instrumental
INTENS	intensive
LOC	locative
MOD	modal, modality
NEG	negative
NMZ	nominalizer
N(OM)	nominative
NPST	non-past tense
O(BJ)	object
OBLIG	obligative
OH	object honorific
PAS	passive
PCM	pragmatic case marker
PERF	perfect
PL/pl	plural
POL	polite
POSS	possessive
PP	prepositional phrase
PRED	predicate
PRES	present tense
PRESUM	presumptive
PRO	pronoun
PROG	progressive
PROP	propositive
PRT	particle
PST	past tense
PT	particle
Q	interrogative
REL	relative
RETRO	retrospective
SAME	same
SG/sg	singular

SH	subject honorific
SmP	semantic pivot
STA(T)	status
STYLE	speech style
SUB	subjunctive
S(BJ)	subject
TNS	tense operator
TOP	topic
U	undergoer
UNABLE	unable
VN	verbal noun
VOC	vocative

ABSTRACT

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The main purpose of this dissertation is to answer the following two related questions:

(i) Can Role and Reference Grammar's general theoretical assumptions, as a structural-functionalist theory of grammar, account for Korean morpho-syntactic phenomena ?

(ii) Does Korean follow and support RRG's general assumptions as a theory of universal grammar ?

To answer these two questions, this dissertation presents an analysis of four morpho-syntactic phenomena of Korean in RRG.

In Chapter 2, I study two types of psych-verb constructions: their verb classes, lexical representation, syntactic phenomena and case-marking rules in RRG's Syntax-Semantics interface. These case marking and syntactic agreement rules support RRG's assumption that semantic roles, not grammatical relations, are universal and crucially involve the interaction of syntactic structures, semantics, and pragmatics. In Chapter 3, I investigate Korean inflectional verb morphology with the RRG operator system. The fixed ordering of verb suffixes in Korean reflects the scope of the operator. It fully follows the RRG operator system. Chapter 4 is a study of complex constructions with RRG's juncture-nexus types. I show that there are nine juncture-nexus types in Korean, and Korean clause linkage follows RRG's Interclausal Relations Hierarchy, supporting the IRH as a universal paradigm. In Chapter 5, I investigate two types of Korean relative clauses using RRG's information structure and clause structure. I claim that the perceived difference in grammaticality between IHRCs and EHRCs is not due to a difference in syntactic structure but to a difference in information structure. These show that a syntactic structural account alone is insufficient for the two types of Korean relative clauses and that we need an account in functional or pragmatic terms.

In conclusion, the theory of RRG allows new insights into Korean, and Korean supports RRG's theoretical assumptions.

Chapter 1
Introduction

1.0. Purpose and Scope

The theory of Role and Reference Grammar (RRG) was introduced into American linguistic theory in the early 1980s, and many languages have been studied in this grammatical framework (Sama verbal semantics, Walton 1986; Tepehua verbal semantics, Watters 1986; Turkish clause linkage, Watters 1987, revised in Watters 1993; Head-marking languages, Van Valin 1987a; Georgian and Italian intransitivity, Van Valin 1987c, 1990a; Icelandic case marking and grammatical relations, Van Valin 1991b; Japanese *te*-construction and clause linkage, Hasegawa 1992, Ohori 1992; Hausa morphosyntax, Abdoulaye 1992, among others). Until now, however, there has been no intensive and insightful study on Korean in RRG[1]. Generative-Transformational treatments of Korean have been done from the time it was introduced in the early 60s. However, because transformational grammar was largely based on Indo-European languages, its applicability to Korean is somewhat limited. The main purpose of this dissertation is to answer the following two related questions:

(i) Can RRG's general theoretical assumptions, as a structural-functionalist theory of grammar, account for Korean morpho-syntactic phenomena with a new perspective in general ?

(ii) Does Korean follow and support RRG's general assumptions as a theory of universal grammar ?

As the name of the theory implies, RRG recognizes the importance of structure and makes use of a formal apparatus to represent clause structure, just as other syntactic theories such as Government and Binding theory do. However, in RRG, the grammatical phenomena are ultimately explained by the semantics and pragmatics of the utterances, in keeping with functionalist theories. As the cover page of Van Valin's (1993b) edited book shows, RRG posits four grammatical representations for each sentence. These are 'Linking from Semantics to Clause Structure', 'Constituent Projection', 'Operator Projection', and 'Focus Structure Projection'. To answer the above two questions, I will study those four projections in Korean. This dissertation presents an RRG analysis of four morpho-syntactic phenomena in Korean: psych-verb constructions for 'Linking from Semantics to Clause Structure', inflectional verb morphemes for 'Operator Projection', clause linkage of complex sentences for 'Constituent and Operator Projection', and relative clause constructions for 'Focus Structure Projection'. The main endeavor here is to apply RRG to Korean in order to gain new insights into the structure and processes of

[1]There are some studies of Korean in the RRG framework: J.J. Song (1988) on clause linkage in Korean periphrastic causatives and purposive constructions, K. Park (1993a) on Korean causatives, K. Park (1993b) on adverbial case, and B.S. Yang (1993a, b) on Korean relative clauses. But all have focused on particular constructions.

the language. Ultimately we will argue that RRG explains Korean morphosyntactic phenomena very well and that Korean fully follows RRG's general assumptions.

The thesis consists of four main parts. In this chapter, I will introduce historical development and theoretical background of RRG and the general characteristics of Korean. Chapter 2 deals with two kinds of psych-verb constructions in Korean, shown in (1.1). The focus will be on relating the semantic lexical representation to the syntactic representation in three grammatical processes: subject honorification, reflexivization and *myense*- constructions, and case-marking.

(1.1) a. Nay-ka kay-lul mwusewe-ha-n-ta
I-NOM dog-ACC be.afraid-do-PRES-DEC
"I fear the dog."

b. Na-eykey/ka kay-ka mwusep-ta
I-DAT/NOM dog-NOM be.afraid-DEC
"I am afraid of the dog."

The purpose of this chapter is threefold: (i) to propose criteria for Korean aspectual verb classification, (ii) to examine the aspectual verb class of the two kinds of Korean psych-verbs using the proposed criteria, and (iii) to account for the three grammatical phenomena and case-marking patterns of the two Korean psych verb constructions without reference to grammatical relations. Other theories such as Government and Binding theory (GB), Relational Grammar (RelG), and Categorial Grammar (CG; O'Grady 1991) have tried to account for the grammatical phenomena and case-marking patterns of these psych verb constructions with the notion of grammatical relations such as 'subject', 'object', etc. Since these notions do not play a role in RRG, neither the grammatical phenomena nor case marking of the psych-verb constructions can be handled in those terms (cf. Van Valin 1993a). Rather, the analysis of these phenomena will make with reference to semantic roles, lexical representation, and the syntax-semantics interface in RRG. I will argue that RRG can account for the constructions better than the other theories such as GB, RelG, or CG.

Chapter 3 deals with Korean verbal inflectional morphemes using the RRG notion of Operator Projection and proposes new grammatical categories in Korean. In RRG, grammatical categories like aspect, tense, and modality are represented in Operator Projection. The operators are further divided into categories according to their scope: Nuclear, Core, and Clause operators. In RRG, the units of the Layered Structure of the Clause [LSC] such as NUCLEUS, CORE, CLAUSE, etc. and the operators play a central role in clause linkage. The morphological form of Korean verbs consists of a lexical verb (i.e. verb stem) plus suffixes. There are two types of verb suffixes: grammatical suffixes and connective suffixes such as *-ko, -e, -ese, -nase*. Chapter 3 will focus on grammatical suffixes. Korean is a typical agglutinative language in the sense that verb suffixes are attached to a stem which can be verbal or adjectival. The ordering between the verb suffixes is fixed as shown in (1.2).

(1.2) a. tul- li- wu- si- lswuiss-cianh-ass-kess-up-nita
hear-CAU-PAS-SH-ABLE-NEG-PST-PRESUM-POL-DEC
"(I) guess that (he) might (HON) not be heard."

b. nol - li -si-ess-kess-up-te-ita
play-CAU-SH-PST-PRESUM-POL-RETRO-DEC
"(I) remember that (he) might let (HON) (them) play."

The verbal suffixes (also negation prefixes) express various operator meanings, as well as clausal relations such as nuclear, core, and clausal. Even though there have been many studies on Korean inflectional verbal morphemes, their functions are different from different perspectives (cf. Martin 1960, H.B. Lee 1989, H.-J. Yoon 1991, H.S. Lee 1991 among others). I will propose a new perspective on the Korean verbal inflectional system using RRG operators. This treatment will show that the fixed ordering inflectional morphemes on the verb follows Bybee's (1985) Relevance Principle, which dictates that a morpheme whose meaning is more relevant to the semantics of the verb is positioned closer to the verb stem and RRG's assumption that "the ordering of the morphemes expressing operators with respect to the verb indicates their relative scopes" (Van Valin 1993a:9).

Chapter 4 will be a study of Korean clause linkage following RRG's Clausal Constituent Projection, as well as Operator Projection and the Interclausal Relations Hierarchy (IRH). In this chapter, I will investigate complex constructions and phrasal causatives in which a verbal suffix such as *-e/-a, -ko, -key* appears as a linking device, as in (1.3).

(1.3) a. Aspectual constructions
nay-ka pap-lul mek-ko-iss-ta
I-NOM dinner-ACC eat-CONN-be(CONT)-DEC
" I am eating the dinner."

b. *e-* constructions
ppang-lul kwu-e pethe-lul pal- a- noh-ass-ta
bread-ACC toast-CONN butter-ACC put.on-CONN-put-PST-DEC
"[She] toasted the bread and put the butter on it."

c. Additive *-ko* constructions
Swunhi-nun hakkyo-ey ka-ss-ko Chelswu-nun tosekwan-ey ka-ss-ta
-TOP school-to go-PST-CONN -TOP library-to go-PST-DEC
"Swunhi went to school and Chulsoo went to library."

d. Phrasal Causative
Chelswu-ka Swunhi-ka/eykey/lul ttena-key hay-ss-ta
-NOM -NOM/DAT/ACC leave-CONN do-PST-DEC
"Chulsoo made Soonhi left."

Traditionally, studies of complex sentences mainly concentrated on the level of the clause like (1.3 b& c). Few studies have paid attention to verb serialization and complex

predicates consisting of main verbs and auxiliary verbs like (1.3a). RRG rejects the standard format for representing clause structure, such as grammatical relations and X-bar syntax because they are not universal. In RRG, each clause is considered to have the Layered Structure of the Clause [LSC], the RRG conception of clause structure. While most other conceptions of clause structure contrast NP and VP, LSC is based on two fundamental contrasts: between the predicate and its arguments, and between arguments and non-arguments. Unlike other syntactic theories, which employ the traditional "coordination-subordination" dichotomy, RRG postulates a trichotomy of "coordination-subordination-cosubordination" for complex sentences. This chapter will show that nine nexus-juncture types are possible and that the IRH proposed for Korean accounts for the grammaticalization of aspect, directionals, psych-verbs, and the degree of causation expressed by different causative constructions.

Chapter 5 presents a new approach to two kinds of Korean relative clauses using RRG notions of clause and information structure.

(1.4) a. Externally Headed Relative Clause (EHRC)
Chelswu-ka [**e**$_i$ kocangna-n]$_{REL}$ **kempwuthe**$_i$- lul kochi-ess-ta
-NOM be.broken -COMP computer -ACC fix-PST-DEC
"Chulsoo fixed the computer that was broken."

b. Internally Headed Relative Clause (IHRC)
Chelswu-ka [**kempwuthe**$_i$-ka kocangna-n]$_{REL}$ **kes**$_i$-ul kochi-ess-ta
-NOM computer -NOM be.broken-COMP one-ACC fix-PST-DEC

The purpose of this chapter is threefold: (i) to propose that EHRCs and IHRCs have the same clause (syntactic) structure, (ii) to demonstrate that their information (pragmatic) structures are different, and (iii) to suggest that pragmatic information is necessary to distinguish IHRCs from EHRCs in a language like Korean that has IHRCs and EHRCs. This chapter will show that a syntactic structural account alone is insufficient to account for the two types of relative clauses in Korean and that we need functional or pragmatic account like information structure. In other words, the explanation of relative clauses crucially involves the interaction of syntactic structure and pragmatic function. This indicates that structural-functionalist theory such as RRG is superior to structuralist such as GB, RG, etc.

Chapter 6 will be a summary and conclusion of the dissertation.

1. 1. Theoretical Background of Role and Reference Grammar

1.1.1. Development of Current Syntactic Theory[2]

The dominant philosophical force in the United States from the 1930s to the 1960s was empiricism whose origins go back to the work of the eighteenth century British philosophers John Locke and David Hume. The American pioneer in incorporating empiricist assumptions into linguistic practice was Leonard Bloomfield's (1933)

[2]This section is mainly summarized from Newmeyer (1980).

Language. This empiricism was maintained by structuralists such as Charles Hockett through the 1950s in the United States. The Prague School theory was brought to the United States in the 1940s and further elaborated by Prince N.S. Trubetskoi's colleague, Roman Jakobson. The Prague School adopted the fundamental structuralist view that a linguistic description consists of an inventory of elements meeting the condition of biuniqueness. However, their overall goal was to explain impute psychological reality in their linguistic descriptions. They tried to make important cross-language generalizations about language universals, primarily phonetic universals. The Prague School had an important influence on generative grammar.[3] However, when Noam Chomsky published *Syntactic Structures* in 1957, strcutralism fell into disfavor and transformational generative grammar had its roots in philosophy. Between 1957 and 1965, the publication date of Chomsky's *Aspects of the Theory of Syntax*, the field of theoretical linguistics in the United States was characterized by total agreement among transformational-generative grammarians on almost all major issues, expressed in three complementary works: Katz and Fodor (1963), Katz and Postal (1964), and Chomsky (1965).

By late 1965, however, the first public signs of division had appeared. Paul Postal argued at a colloquium at MIT that adjectives were members of the category "verb", an uncongenial conclusion for Chomsky's view of English syntax (Newmeyer 1980:93). In March 1967, John Robert Ross and George Lakoff suggested an idea that would get rid of an independent level of deep structure, a hallmark of Chomskyan transformational grammar. These people formed the core of an alternative view called "Generative Semanticist".

Generative semantics was expanded by David Perlmutter and Paul Postal in the early 1970s, when they began to investigate the possibility of a theory in which grammatical relations, such as 'subject', 'direct object', 'indirect object', are taken to be primitives. This developed into a theory called "Relational Grammar," which soon gained the reputation of being an important alternative to all varieties of "standard" transformational grammar (Newmeyer 1980:242).

Opposing the generative semantics in the late 1960s, Chomsky and his students, including Jackendoff (1972), Bresnan, Pullum, and Sag, set to work to develop a model of grammar consistent with the evidence supporting the lexicalist hypothesis and refuting the Katz-Postal hypothesis. These groups are called interpretive semantics and/or lexicalist and their new theory was labeled as the "Extended Standard Theory" (Newmeyer 1980:134). Chomsky published "Remarks on Nominalization," a counteroffensive to abstract syntax in 1970. In the 1980s and 1990s, this group separated into three main theories: Government and Binding Theory led by main Chomskyan grammarian, Lexical-Functional Grammar by Bresnan, and Generalized Phrase Structure Grammar by Gazdar, Pullum, Sag, and Postal.

In the late 1960s, in Berkeley, Charles Fillmore developed an alternative model of grammar whose distinguishing feature was that at the deepest syntactic level, a sentence consists of a verb and an unordered series of semantic cases (Newmeyer 1980:128). In 1968, he published a paper 'The Case for Case' in which he proposed the basic structure

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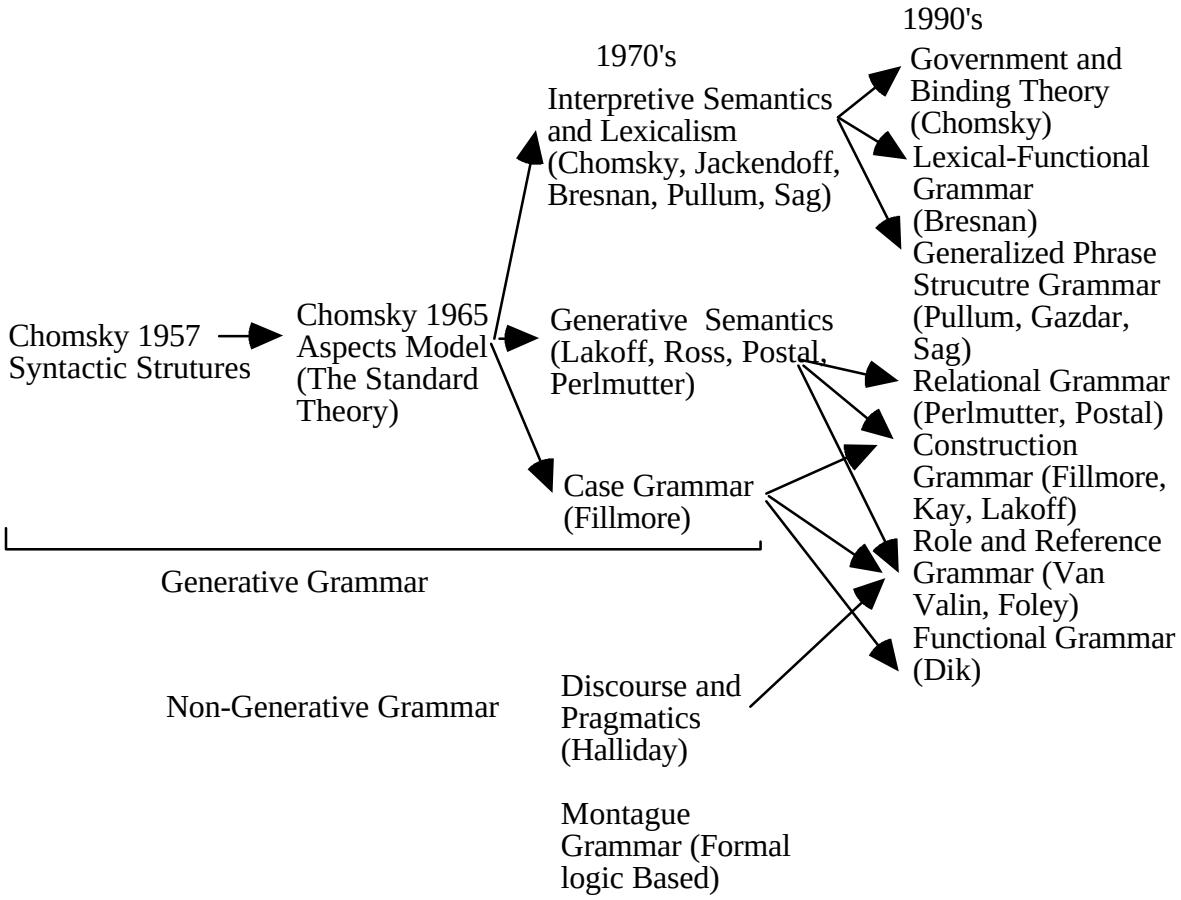
[3]Prague School and Hallidayan ideas regarding the role of discourse-pragmatics in grammar are explored from a number of different perspectives in RRG (Van Valin 1993c:66)

of a sentence to consist of the "proposition", a tenseless set of relationships involving verbs and nouns, and the "modality," such as negation, tense, mood, and aspect (Fillmore 1968:23).

During the 1980s and 1990s, this Fillmorean idea was developed and elaborated into Role and Reference Grammar by Robert Van Valin and William Foley, students of Fillmore's. The current theory of syntax can be summarized as in (1.5).

(1.5) The Development of Current Theories of Syntax[4]



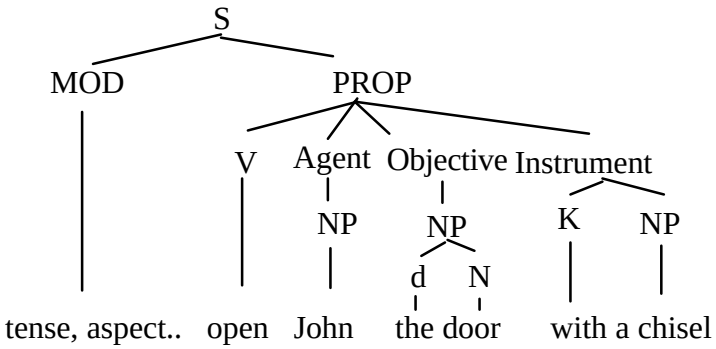
1.1.2. The development and historical background of Role and Reference Grammar

To see the development of RRG, we should go back to the late 60's or early 70's, a great turning point for current syntactic theories. In 1968, Fillmore's Case Grammar, from which RRG is most directly descended, was introduced. Case Grammar is purely semantically-oriented, as opposed to the purely syntactically-oriented grammar proposed by Chomskyan generative grammar. Fillmore argued that 'subject of a sentence' is not a major constituent of the sentence, but is rather taken from the modifier of one of the major constituents (Fillmore 1968: 23). He proposes that the basic structure of sentence (1.6c)

[4]This diagram is borrowed from a course handout for LIN 625, offered by Van Valin, in the Fall of 1993 in Department of Linguistics, SUNY at Buffalo.

consists of the 'proposition', which he defines as "a tenseless set of relationships involving verbs and nouns," (ibid.: 23) and the 'modality,' including "such modalities on the sentence-as-a whole as negation, tense, mood, and aspect" (ibid.: 23). Fillmore used semantic elements such as 'Agent,' 'Patient,' 'Instrument,' 'Locative,' and 'Benefective' instead of 'S,' 'NP,' 'VP,' and 'PP'. The example used by Fillmore is shown below:

(1.6) a S--> Modality + Proposition
Prop--> V+(Agentive)+(Instrument)+ (Objective)+...
b. open: [___ O(bjective) (I)nstrumental (A)gentive]
c. John opened the door with a chisel.



In the Aspects Model, the sentence is defined in completely structural terms (e.g. S --> NP AUX VP). In Case Grammar Model, the sentence is represented as in (1.6a). In this framework, the components of the structure are unordered[5], and "there is a semantic representation employing semantic case roles which is mapped into the syntactic surface structure, without any intervening level of syntactic representation." (Van Valin 1993c: 66)

Syntactic studies on Universal Grammar were developed on the basis of the study of Indo-European languages, especially English. However, 1972 brought the publication of Dixon's grammar of Dyirbal (a syntactically ergative language) and Schachter and Otanes' Tagalog grammar (a language with both nominal case marking and verbal cross-referencing). These two languages are radically different from English, and they raised funtamental questions from which RRG grew:

> i) What would linguistic theory look like if it were based on the analysis of Lakhota, Tagalog and Dyirbal, rather than on the analysis of English ?
>
> ii) How can the interaction of syntax, semantics and pragmatics in different grammatical systems best be captured and explained ?
>
> Van Valin (1993c:65-66)

To explain these non-Indo-European languages, Foley and Van Valin started developing a non-derivational, functionally-based theory of grammar. They did not "regard the structure

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[5] This idea was rejected by Chomskyan syntacticians when it was first proposed. However, Chomskyan grammarians adopt Fillmore's main idea in their theory of θ-roles.

of one language type as prototypical and other types as deviations from this prototype" (Foley and Van Valin 1984: viii), the position adopted by the main syntactic theoriests. Furthermore, Prague School and Hallidayan ideas regarding the role of discourse-pragmatics in grammar were being explored from a number of different perspectives (Van Valin 1993c:66). A preliminary study of the research appeared in Van Valin and Foley (1980), and aspects of RRG are discussed in a number of other works (Foley and Van Valin 1977,1985; Foley 1976; Foley and Olson 1985; Olson 1978, 1981; Walton 1983, revised in 1986; Van Valin 1977a, b, 1980a,b,c, 1983, 1985) (cf. Foley and Van Valin 1984:2). The first fully developed treatment of RRG is Foley and Van Valin (1984). Contrary to other theories depended too heavily on English and familiar European languages, this work used a wide range of typologically distinct languages, such as Austronesian, Papuan, Australian, and American Indian languages (Foley and Van Valin 1984: viii).

In the 1980s, several studies on information structure which is a formal expression of the pragmatic structure of a proposition in a discourse (cf. section 5.1) were done by Lambrecht (1986,1987,1988a, 1988b, in press). At the same period, Van Valin expanded the applications of RRG to a wider range of phenomena, many of which were not discussed in Foley and Van Valin (1984): an account of the constraint on extraction constructions known as subjacency, structure of complex sentences, linking syntactic and semantic representations, information structures. The elaborated and revised version of RRG (Van Valin 1993a) and papers on specific subjects analyzed with RRG were published in *Advances in Role and Reference Grammar* (Van Valin 1993b). Van Valin (1993a) "presents a revised version of the theory of clause structure and introduces a formal notation to represent it; this is integrated with a theory of information structure" (Van Valin 1993b: ix). In this revised version of RRG, the theories of grammatical relations and complex sentence formation are reprised and expanded, and the algorithm linking semantic and syntactic representations is presented explicitly and applied to simple and complex sentences (ibid.: ix).

1.1.3. Theoretical Background and Preliminaries of RRG[6]

"Since the early 1970's there has been growing interest in approaches in linguistics theory and analysis which attribute primary importance to the communicative functions of language (Van Valin 1991c:1)." The interest has developed into two different theories: one takes a structuralist view and is represented by theories like GB (e.g. Chomsky 1975, 1980) that denythe relevance of communicative functions to the study of language. The other side takes an extreme functionalist view[7], represented by scholars like Hopper (1987), among others. This approach rejects any other notion of grammatical structure other than that of discourse (cf. Van Valin 1991c:1).

RRG falls between these two extremes and therefore, could be labelled "structural-functionalist theory of grammar" (Van Valin 1993a) or "moderate functionalism" (Van Valin 1991c). Van Valin (1993a) proposes:

> In contrast to the Chomskyan view, RRG takes language to be a system of communicative social action, and accordingly, analyzing the communicative functions of grammatical structures plays a vital role in grammatical description and theory from this perspective. It is in this sense that RRG is functionalist, but it is not radical functionalist like the emergent grammar view. Language is a system, and grammar is a system in the traditional structuralist sense: what distinguishes the RRG conception from the standard formalist one is the conviction that grammatical structure can only be understood and explained with reference to its semantic and communicative functions. Syntax is not autonomous. In terms of the abstract

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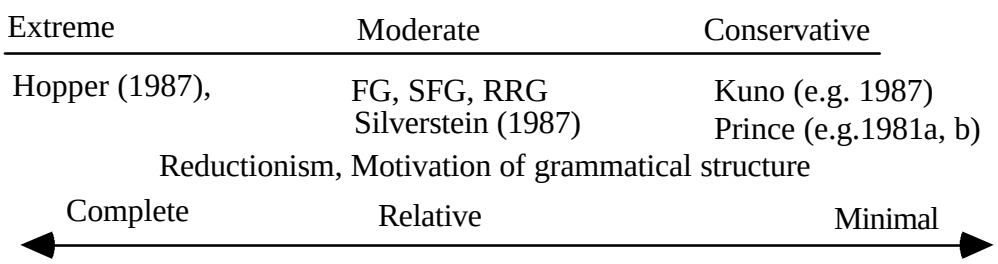
[6]This section gives the broad theoretical principles of RRG. Detailed theoretical notions and assumptions of RRG will be handled in each relevant subsequent chapter. To see more thorough principles of RRG, refer to Foley and Van Valin (1984) and Van Valin (1993a). To see RRG's principles in short, refer to Van Valin (1990a, c, 1993c), Van Valin and Foley (1980), chapter 1 of Abdoulaye (1992), chapter 2 of Hasegawa (1992), among others.

[7]Van Valin (1991c: 1) points out that functionalism includes various theories and methodologies. Following Nichols (1984), he classifies functionalism into three groups in terms of their reduction of grammatical structure to discourse: extreme, moderate and conservative functionalism.

(i) Functionalism (cf. Van Valin 1991c: Figure 1)



> paradigmatic and syntagmatic relations that define a structural system, RRG is concerned not only with relations of cooccurence and combination in strictly formal terms but also with semantic and pragmatic cooccurence and combinatory relations. Hence RRG may be accurately characterized as a structuralist-functionalist theory, rather than purely formalist or purely functionalist.
>
> Van Valin (1993a: 2)

RRG's assumptions regarding grammatical relations are different from other theories on three points: (i) RRG does not consider the grammatical relations to be basic, as RelG and LFG do, nor does it derive them from structural configurations, as GB does; (ii) RRG recognizes only one syntactic function (i.e. subject; pivot in RRG terminology), rather than the standard three; there is nothing in RRG corresponding to notions like direct object (2) and indirect object (3); (iii) RRG assumes semantic roles to be universal, rather than grammatical relations[8] (Van Valin 1993a: 50). Also RRG differs from other theories of syntax in that it posits only one level of syntactic representation and no syntactic rules akin to the traditional transformations, Move α of GB, or the relation-changing rules of RelG. The posited syntactic level corresponds to the actual structural form of the utterance, and it is linked directly to a semantic representation. Unlike LFG, which does not posit any kind of abstract syntactic underlying form and Generalized Phrase Structure Grammar [GPSG] which is also a unilevel theory, RRG has its own linking algorithm for syntactic and semantic representation and does not assume X-bar syntax and constituent-structure rules (cf. Van Valin 1993a: 2-3). The comparison of contemporary syntactic theories with RRG can be summarized as follows.

[8]RRG (Van Valin 1993a: 50) does not assume that grammatical relations are universal, in two senses: (i) it does not claim that all languages must have grammatical relations in addition to semantic roles; (ii) in those languages in which a non-semantic grammatical relations can be motivated, the syntactic function posited need not have the same properties in each language.

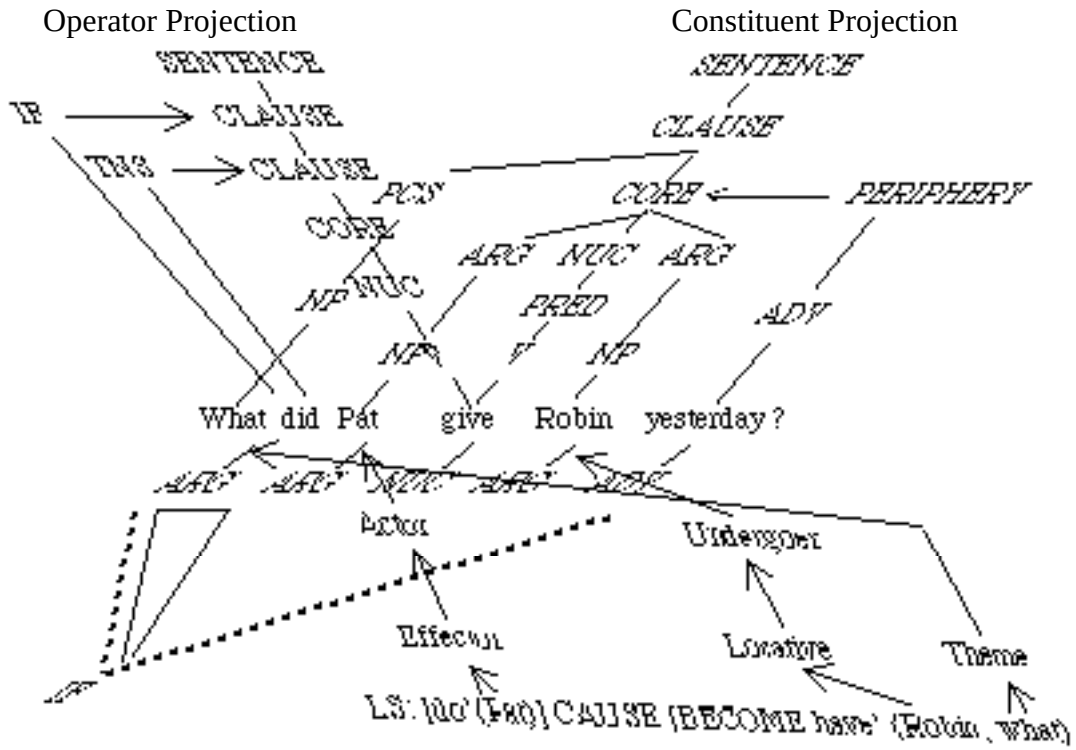
(1.7) Comparison of Contemporary Syntactic Theories[9]

	1. GB	2. GPSG	3. LFG	4. RelG	5. RRG
Levels of syntactic representation	D-structure S-structure Logical Form	1	F-structure C-structure	Multiple	1
Constituent (x-bar) struc.	yes	yes	yes (c-structure only)	no	no
θ-roles	yes	no	yes	no	yes
Grammatical relations	derived from constituent structure	no	primitive	primitive	derived
Lexical rules	yes	no	yes	no	yes
Syntactic rules	X-bar rules move α	ID rules	X-bar rules for c-structure	transformations	linking rules
Discourse functions	no	no Metarules	yes	no	yes
Universals	yes	no	no	yes	yes
Psychological issues	yes	??	yes	no	yes

Since RRG is concerned with the interplay of syntax, semantics and pragmatics in grammatical systems, the representation of clauses must include all of these levels. Thus, RRG adopts four planes in a three dimensional representation of the linking relations between syntax, semantics and pragmatics.

[9]This chart is borrowed from a course handout for LIN 625, offered by Van Valin, in the Fall of 1993 in Department of Linguistics, SUNY at Buffalo.

(1.8) RRG's Four Planes in a Three Dimensional Representation
(borrowed from Van Valin 1993a: Figure 22)



Focus Structure Projection Linking from Semantics to Clause Structure

Under the RRG notion of (non-relational) clause (i.e. syntactic) structure, the layered structure of the clause (LSC) is represented in the Constituent Projection (cf. chapter 4). Morphologically realized grammatical categories like aspect, tense, and modality are treated as operators modifying different layers of the clause, and are represented in the Operator Projection (cf. chapter 3). The pragmatically motivated focus structure of RRG is represented in the Focus Structure Projection (cf. chapter 5). Even though each of these three projections is distinct, they are all related to each other. "With respect to the constituent projection, predicates, arguments and peripheral PPs form the basic information units in focus structure. ... With respect to the operator projection, the IF operator specifies the type of speech act that the sentence is in, and the P[otential] F[ocus] D[omain] must fall within the scope of this operator. (Van Valin 1993a: 30)." The various components of the description of grammatical structure (i.e. clause structure, lexical representation and semantic roles, syntactic functions, and pragmatic functions) are linked through a linking algorithm, a central feature of RRG, which posits only one level of syntactic representation. This linking is represented in Linking from Semantics to Clause Structure (cf. chapter 2).

1.2. Korean; General

Korean is a typical SOV language and consistently follows all the generalizations of Greenberg's (1966) word order typology: the Demonstrative+ Numeral (plus Classifier)

+ Adjective+Noun (e.g. 1.9a)[10], Genitive Noun+ Head Noun (e.g. 1.9b), Relative Clause+Noun (e.g. 1.9c), Verb Stem+Aux (e.g. 1.9c), Noun+ Postposition (i.e. Noun + case-marker; e.g. (1.9d)), with no commonly used alternative orders, except OSV (e.g. 1.9d).

(1.9) a. ce sey-kay-uy cakun inhyeng
DEM three-CL-GEN little doll
"Those three little dolls"

b. Swunhi-uy inhyeng
-GEN doll
"Soonhi's doll"

c. [Chelswu-ka]$_S$ [[Swunhi-ka cohaha-nun] $_{REL}$ cakun inhyeng-lul]$_O$ sa-ss-ta
-NOM -NOM like-COMP little doll-ACC buy-PST-DEC
"Chulsoo bought the little doll that Soonhi liked."

d. [[Swunhi-ka cohaha-nun] $_{REL}$ cakun inhyeng-lul]$_O$ [Chelswu-ka]$_S$ sa-ss-ta
-NOM like-COMP little doll-ACC -NOM buy-PST-DEC

Also, the coding of grammatical relations such as case or adpositional marking is indicated on the dependent arguments, not on the verb (i.e. dependent-marking language in Nichols' (1986) typological sense). In this sense, it is like English, Japanese, and Dyirbal, but it is contrasts with languages (i.e. head-marking language in Nichols' (1986)) like Tzotzil, Abkhaz, and Tzutujil, which indicate these relationships by marking on the head, i.e. the verb . In addition, like other typical SOV languages, the sentence types such as questions,

[10]However, Dryer (1988a, 1992) rejects the Greenbergian word order correlation between the order of noun and adjective and that of verb and object. His argument is based on the following table.

(i) Oder of Noun and Adjective (borrowed from Dryer 1992: table 17)

	Africa	Eurasia	SEAsia & Oc	Aus-NewGui	NAmer	SAmer	Total
OV & AdjN	7	**24**	2	4	10	8	55
OV & NAdj	**18**	4	**5**	**15**	**18**	**14**	74
VO & AdjN	3	**6**	4	**5**	**19**	3	40
VO & NAdj	**25**	3	**12**	2	8	**5**	55

As the above table shows, in five of the six area the more common order among OV language is Noun+Ajective, whereas Korean follows the Greenbergian word order.

imperatives, propositives, and declaratives, are determined with different sentence final particles, unlike English, as shown in (1.10).

(1.10) a. Swunhi-ka sakwa-lul mek-ess-ta : Declarative
-NOM apple-ACC eat-PST-DEC
"Soonhi ate a/the apple."

b. Swunhi-ka sakwa-lul mek-ess-ni ? : Question
-NOM apple-ACC eat-PST-Q
"Did Soonhi eat a/the apple ?"

c. sakwa-lul mek-ca : Propositive
apple-ACC eat-PROP
"Let's eat a/the apple."

d. sakwa-lul mek-ela : Imperative
apple-ACC eat-IMP
"Eat a/the apple."

Korean is both subject- and topic-oriented, and can have double (or multiple) nominative constructions (MNC)[11], double accusative constructions, and double topic constructions as illustrated as in (1.11).

(1.11) a. Psych MNC
Swunhi-ka emeni-ka kuli-wess-ta
-NOM mother-NOM miss-PST-DEC
"Soonhi missed mother." (C. Youn 1989: 2)

b. Double Accusative Construction
Swunhi-ka Chelswu-lul son-lul cap-ass-ta
-NOM -ACC hand-ACC hold-PST-DEC
"Soonhi held Chulsoo's hand."

c. Double Topic Construction
Swunhi-nun emeni-nun kuli-wess-ta
-TOP mother-TOP miss-PST-DEC
"As for Soonhi, she missed mother (but not father)."

Korean is a highly agglutinating language. Complex words are formed by affixation and compounding. The grammatical functions of a sentence are not determined by word order as English does, but by the particle, i.e. case-marking. The morphological form of

[11]C. Youn (1989: 2-3) enumerates ten types of double nominative constructions. His ten types of double nominative constructions are: possessor ascension MNC, focus MNC, advancement to 1 MNC, quantifier MNC, predicate nominal MNC, base-generated focus MNC, passive MNC, though construction MNC, psych MNC, and causative MNC.

Korean verbs consists of a lexical verb (i.e. verb stem) and suffixes (e.g. (1.2)). Grammatical operators are expressed with verb suffixes in Korean, and the ordering among the verb suffixes is fixed. The verbal affixes express grammatical categories such as tense, aspect, and modality. It expresses operator meaning as well as clausal relations such as nuclear, core, and clausal (cf. chapter 3) .

In addition to the grammatical suffixes (i.e. inflectional verb morphemes), there are connective suffixes like *-ko, -e, -ese,* and-*nase*. The suffixes have different names according to different studies: 'complements,' 'nominalized suffix,' 'particles' (H.B. Lee 1989), 'clause-terminal suffixes' (H.S. Lee 1991), 'complex sentence suffixes' (J.I. Kown 1985). In a classic study on Korean, H.B. Choi (1929, reprinted in 1989) proposes 14 *iumpep* 'connected forms' which can be connected by sixty-seven connectives. H.B. Lee (1989) classifies non-final clause endings (i.e. non-final clause suffix) into three types according to syntactic functions: nominal clause endings, including *-um* and *-ki;* adjectival clause endings including relative clause marker *-(u)n/ (u)l*; and adverbial clause endings such as *-ko* 'and', *-kose* 'after', *-myense* 'while', and *-lyeko* 'in order to'. Two or more verbs can be serialized with the connective *-e/-a* or *-ko*. The connectives do not stand alone and are attached to a verb or adjective stem, making it and its grammatical dependents part of a complex construction, as in (1.12).

(1.12) a. Swunhi-nun hankwukmal-ul [paywu]$_V$-ko-[iss]$_V$-ta
-TOP Korean -ACC learn -CONN-be-DEC
"Soonhi is learning Korean."

b. wusen [mek]$_V$-ko [po]$_V$-ca
first eat-CONN see-PROP
"Let's eat first."

c. ku-nun [cha-lul tha]$_{VP}$-ko [ka]$_{VP}$-ss-ta
he-TOP car-ACC ride-CONN go-PST-DEC
"He rode the car and went." (C.S. Suh 1984:32)

d. [pi o]$_{Cl}$ -ko [palam pwu]$_{Cl}$-n-ta
rain come-CONN wind blow-PRES-DEC
'It is raining and the wind is blowing.' (Ramstedt 1968:88)

e.Toli-nun [ku yeca-ka alumtap]$_{Cl}$-tako sayngkakha-n-ta
-TOP the woman-NOM pretty-CONN think -PRES-DEC
"Toli thinks that the woman is pretty." (H.K. Yang 1990)

In each of these complex constructions, there is a connective between junctures. In this thesis, I will be treating the constructions which consist of two (or more) verbs connected with one of the connective suffixes (cf. chapter 4).

Korean has both Externally Headed Relative Clauses (EHRCs) and Internally Headed Relative Clauses (IHRCs)[12], following Keenan's (1985) typological classification.

(1.13) a. Externally Headed Relative Clause (EHRC)

[**e**$_i$ ssingssingha-te-n]$_{REL}$ **koki**$_i$ -ka ssek-ess-ta

fresh -PST-COMP fish-NOM rotten-PST-DEC

"The fish that was fresh was rotten."

b. Internally Headed Relative Clause (IHRC):

[**koki**$_i$ -ka ssingssingha-te-n]$_{REL}$ **kes**$_i$ -i ssek-ess-ta

fish -NOM fresh- PST-COMP one -NOM rotten-PST-DEC

Korean relative clauses, both EHRCs and IHRCs, have the following formal characteristics: (i) there are no words corresponding to the English relative pronouns*who, which , where* ; (ii) a relative clause is characterized by a clause-final affix *-(u)n* or *-(u)l*, which resembles the adjectival affix; and (iii) there is no syntactic device indicating whether a relative clause is restrictive or non-restrictive.

However, each relative clause type has its own characteristics. With EHRCs, the relative clause immediately precedes the external head noun and contains a systematic gap which is related to the head noun[13]. In IHRCs the relative clause contains a lexical head NP and precedes a pro-form *kes* . EHRCs use the gap strategy in the formation of relative clauses (Comrie 1989: 144). The gap can be filled with a resumptive pronoun. The resumptive pronoun occurs generally with genitive case or oblique case in the embedded clause (non-primary strategy of pronoun retention according to Keenan and Comrie 1977). In both types, the head NP and *kes* (in IHRCs) or the resumptive pronoun (in EHRCs) can get its own case-maker. The pragmatic difference between the two types of relative clause is that an EHRC is presupposed in the discourse, and the relative clause is a statement about the head (cf. Kuno 1973), while an IHRC can be an event-reporting (or new information), and the head NP can be a new referent in the discourse. Compared to EHRCs, which follow Keenan and Comrie's (1977) NP Accessibility Hierarchy[14], IHRCs show a very limited syntactic distribution (cf. Jhang 1991, 1992, 1994). The distributional restrictions on IHRCs are determined with relationships between the grammatical function

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[12]Some scholars refer to this type of relative clause as 'Headless Relative Clause' (cf. Kuroda 1976), 'Headed Relative Clause' (cf. Ishii 1989), or 'Head Internal Relative Clause' (cf. Horie 1993). I will use the term 'Internally Headed Relative Clause' and 'Externally Headed Relative Clause' in this dissertation.

[13]This is the primary strategy according to Keenan and Comrie (1977).

[14]Keenan and Comrie's (1977:66) Accessibility Hierarchy to relativization of NP postion in simplex main clauses is as follows:

(i) Accessibility Hierarchy (AH)

Subject > Direct Object > Indirect Object > OBL(ique) > GEN(itive) > Object of Comparison.

of lexical head NP in the subordinate relative clause and that of the pro-form *kes* in the main clause, as in (1.14).

(1.14) Distributional restrictions on IHRCs (cf. Jhang 1994: table 1)[15]

	Grammatical function of pro-form *-kes* in main clause	Grammatical function of lexical head in subordinate relative clause
a.	Subject	Subject of an unaccusative clause/ or Subject of a passive clause
b.	Direct Object	Subject, or Direct Object of any type of verbs
c.	Adjunct (Instrument and *by* -agent)	The same as that of subject IHRCs

The head NP of IHRCs is in general not distinctively marked. If there are two NPs in the relative clause, it is ambiguous as to which one is the head.

(1.15) a. [pay$_i$-ka koki$_j$-lul cap-un]$_{REL}$ -kes$_{i/j}$-i khu-ta
boat-NOM fish-ACC catch-COMP -NOM big-DEC
"The boat which caught a fish is big./The fish which a boat caught is big."

b. [pay$_i$-ka koki$_j$-lul cap-un]$_{REL}$ -kes *$_{i/j}$-i cwuk-ess-ta
boat-NOM fish-ACC catch-COMP one-NOM die-PST-DEC
"The fish which a boat caught was dead."

c. [pay$_i$-ka koki$_j$-lul cap-un]$_{REL}$ -kes $_{i/}$*$_j$-i pwuseci-ess-ta
boat-NOM fish-ACC catch-COMP one-NOM broken-PST-DEC
"The boat which caught the fish was broken."

As English interpretation suggests, (1.15a) is ambiguous with regard to the head NP. Either *pay* 'boat' or *koki* 'fish' could be interpreted as the head of the relative clause. Kuroda (1976:276) says that in Japanese IHRCs, however, this ambiguity inherent to the IHRCs often disappears in the actual occurrences of this construction through syntactic, semantic, and/or pragmatic means. In (1.15b), the head NP can be only *koki* 'fish' because of the semantic and pragmatic property of the verb *cwuk-ta* 'die', while only *pay* 'boat' can be the head of relative clause because of *pwuseci-ta* 'broken' in (1.15c). Therefore, we

[15]Elsewhere (B.S. Yang 1993b), I generalize the distributional restriction on IHRCs in pragmatic notions such as marked and unmarked focus NP position as follows:

(i) Marked and Marked focus NP Co-indexation Avoidance in IHRCs: Marked lexical head NP and marked pro-form *kes* cannot be co-indexed in IHRCs.

need not only syntactic and semantic information[16], but also pragmatic information to determine the head.

[16]Jhang (1994) tries to account for multiple readings in Korean IHRCs with syntactic condition: only “initial objects” are eligible to be the head. His syntactic condition cannot account for (1.14).

Chapter 2

Aspectual Verb Classification, Lexical Representation, and the Syntax-Semantics Interface in Psych-Verb Constructions.

2.0. Introduction

In Korean, there are two parallel psych-verb constructions, shown in (2.1):

(2.1) a. Nay-ka kay-lul mwusewe-ha-n-ta[17]
I-NOM dog-ACC be.afraid -do-PRES-DEC
"I fear the dog."

b. Na-eykey/ka kay-ka mwusep-ta
I-DAT/NOM dog-NOM be.afraid-DEC
"I am afraid of the dog."

Constructions like (2.1) have variously been called 'psych (verb) constructions' (C.Youn 1989, Gerdts and C.Youn 1988, 1989a), 'inversion and non-inversion constructions' (C.Youn 1986, O'Grady 1991), 'double subject construction' (B.S.Park 1973, 1982), 'dative-subject construction or verbs of self-judgment' (I.S.Yang 1972b), 'experiential and agentive constructions' (S.A.Chun and Zubin 1990), 'unaccusative construction' (Y.J. Kim 1990, C.Youn 1989), and '*e-ha* form and bare-form psych-verb constructions' (Y.J. Kim 1990)[18]. There is little literature on psych constructions such as (2.1a) since the case-marking follows that of a regular transitive verb. On the other hand, there have been many studies of psych-verb constructions like (2.1b) because their case-marking pattern does not follow the regular pattern and allows DAT/NOM alternation.

The purpose of this chapter is three fold: (i) to propose criteria for Korean aspectual verb classification, (ii) to examine the aspectual verb class of the two kinds of Korean psych-verbs using the proposed criteria, and (iii) to study three syntactic phenomena — subject honorification, reflexivization and subject control in *myense* constructions, and case-marking patterns of psych verb constructions in RRG. Other theories have tried to account for the syntactic phenomena and case-marking patterns of these psych verb constructions with the notion of grammatical relations. Even though grammatical relations have been regarded as universal (cf. Dixon 1979; Chomsky 1981;

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[17]In this chapter, for the time being, I will analyze *e-ha* form psych-verb constructions such as (2.1a) as simple sentences. In section 4.3.3, however, I will show that these are complex sentences.

[18]From morpho-syntactic facts, Y.J. Kim (1990) calls (2.1a) 'an *e-ha* form psych-verb construction' and (2.1b) 'a bare-form psych-verb construction'. I will follow this terminology, using the terms '*e-ha* form' for (2.1a) and 'bare-form' psych-verb construction for (2.1b) for the time being. I will change the terms with 'Stative psych-verbs' and 'Activity psych-verbs' according to its verb class in section 2.2.

Bresnan 1982; Perlmutter and Postal 1983, among others), there have been several recent attempts to explain all grammatical constructions without reference to grammatical relations (cf. Durie 1987; LaPolla 1990; Bhat 1991, among others). RRG is a framework conducive to such exploration. Since notions like 'subject' and 'direct object' do not play a role in RRG, neither agreement nor case marking in psych-verb constructions can be handled in terms of grammatical relations (cf. Van Valin 1993a). Thus, in this chapter, I will handle the syntactic grammatical relations and case-marking of (2.1) within the RRG framework by referring to lexical representation, macroroles, direct core arguments, and the syntax-semantics interface[19].

Section 2.1 will present RRG's verb classification and lexical representation and propose an aspectual classification of Korean verbs. Section 2.2 will show that bare-form psych-verbs are states, whereas *e-ha* form psych-verbs are activities according to the criteria proposed in section 2.1. Section 2.3 will review previous studies on Korean psych verb constructions and propose an account of the case-marking rules and three syntactic rules of Subject Honorific Agreement, Reflexivization, and Control of *-myense* Construction[20] within RRG framework. Section 2.4 will be a summary of the chapter.

2.1. Aspectual Verb Classification and Lexical Representation in Korean

In this section, I will investigate the aspectual classification of Korean verb and the system of lexical representation to be adopted in next section. Section 2.1.1 will be a summary of the system of verb classification and lexical representation in RRG, section 2.1.2 will apply RRG's general ideas to Korean and propose the aspectual classification, and section 2.1.3 will propose lexical representations for the Korean verbs.

2.1.1. Verb Classification and Lexical Representation in RRG

2.1.1.1. The Development of the Verb Classification in RRG.

It is well-known that the lexicon has become a major component of most contemporary syntactic theories as well as semantic theories. To see the development of verb classification, however, we should go back to Aristotle. It was Aristotle who first paid attention to the differences between verbs. In the *Metaphysics* 1048b 18-36, the famous distinction is made between *kinêseis* "performances" and *energeiai* "activities or states"[21] (Mourelatos 1981: 193). It was Gilbert Ryle in his book *The Concept of Mind*

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[19]Van Valin (1990a, 1991b, 1993a) handles case marking rules and agreement rules of Icelandic and Georgian with reference to macroroles and direct core arguments only. In this chapter, I will mainly be following his idea.

[20]C.Youn (1989), among others, shows that these three syntactic phenomena are controlled by the subjecthood of the argument. To see these syntactic phenomena in detail, refer to C.Youn (1986, 1989), Shibatani (1977), and O'Grady (1991), among others.

[21]Dowty (1979:53) translated *kinêseis* 'movements' and *energeiai* as 'actualities', which corresponds to his terms 'accomplishments' and 'activities/states'.

who first coined the term 'achievements'[22] for resultative verbs, which he distinguished from irresulative activities (Ryle 1949:149-153).

"It was Zeno Vendler who first presented fourfold distinct categories of verbs by their restrictions on time adverbials, tenses, and logical entailments" (Dowdy 1979:54). In his article, "Verbs and Times"[23], Vendler (1957) distinguished *states*, *activities*, *accomplishments* (Ryle's "achievements with an associated task"), and *achievements* (which are Ryle's "purely lucky achievements" or "achievements without an associated task"). Subsequent aspectual classification systems in the linguistic literature are based on Vendler's work[24]. Various authors have adapted or redefined Vendler's scheme to their own views[25].

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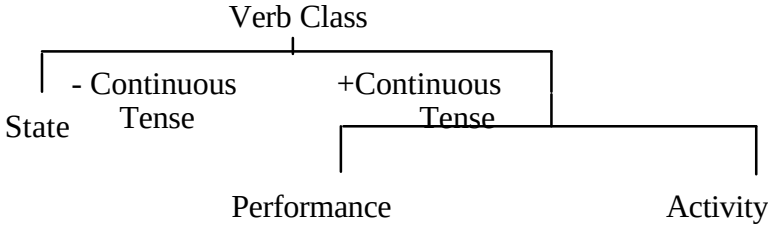
[22]He labeled 'achievements words', 'success words' or 'got it words', together with their antitheses the 'failure words' or 'missed words'.(Ryle 1949:149)

[23]*The Philosophical Review, LXVI :*143-160, later reproduced and incorporated with only minor changes as Chapter 4 in *Linguistics in Philosophy* (pp.97-121) in 1967.

[24]A similar distinction was later developed independently by Anthony Kenny with three rather than four types, published in chapter 8 "States, Performances, Activities" of his 1963 book *Action, Emotion and Will*. Kenny's three categories are activities, *performances*, and *states* as suggested by the title and shown in (i).

(i) Verb Classification of Kenny (1963)



The main difference from Vendler is that achievements and accomplishments are not recognized as separate types.

[25]In spite of the fact that the study of verb aspect has been widely made use of, the distinction has not been applied in a uniform way. Comrie (1976), Declerck (1979), and Mourelatos (1981) develop the distinction not with verbal aspect, but with situations.

Following Vendler (1967), Tenny (1987) developed her own English classification system for the lexical semantics of verb classes with the aspectual definition of affectedness. She defines the affectedness as the property of a verb, such that it describes a situation or happening that can be delimited by the direct argument of the verb. Affectedness verbs describe events which are 'measured out' and delimited by their direct arguments (Tenny 1987: 75). She applies this aspectual definition of affectedness to five different verb classes: verbs of consumption and creation, verbs expressing physical change of state, verbs expressing abstract change of state, achievement verbs, and verbs of motion are encompassed in the aspectual definition of affectedness.

In 1979, David Dowty introduced an English verb classification for the four types of aspect proposed by Vendler (1967) and Aristotle: states, activities, accomplishments, and achievements. He attempted not only to present a taxonomy of verbs, but also try to explain just why each of the categories or combinations of categories has the properties it does. Thus, he proposed criteria that distinguish subsets of the four categories as summarized in the following chart.

(2.2) Dowty's Verb Classification Criteria (Dowty 1979:60)

Criterion	States	Activities	Accomplishments	Achievements
1. meets non-stative tests	no	yes	yes	?
2. has habitual interpretation in simple present tense:	no	yes	yes	yes
3. *ƒ for an hour, spend an hour ƒing:*	OK	OK	OK	bad
4. *ƒ in an hour , take an hour to ƒ*	bad	bad	OK	OK
5. *ƒ for an hour* entails *at all times in the hour:*	yes	yes	no	d.n.a.
6. *x is ƒing* entails *x has ƒed*:	d.n.a.	yes	no	d.n.a.
7. complement of *stop*	OK	OK	OK	bad
8. complement of *finish*	bad	bad	OK	bad
9. ambiguity with *almost*	no	no	yes	no
10. *x ƒed in an hour* entails *x was ƒing during that hour*:	d.n.a.	d.n.a.	yes	no
11. occurs with *studiously, attentively, carefully*, etc.	bad	OK	OK	bad

OK = the sentence is grammatical, semantically normal
bad = the sentence is ungrammatical, semantically anomalous
d.n.a. = the test does not apply to verbs of this class

He also proposed that the four verb classes "can be explained by the hypothesis that one verb class differs from another in which of the abstract operators CAUSE, BECOME or other such operators appear in the Logical Structure of all verbs of each class" (Dowty 1979:51-52).

Compared with other contemporary syntactic theories, RRG employs a richer system of lexical representations, . Thus, RRG shows that the assignment of thematic relations to a verb is independently motivated in terms of its logical structure, which is derived from the verb classification system. RRG starts from the Vendler (1967) classification of verbs into *states*, *achievements*, *accomplishments* and *activities*, and utilizes a modified version of the representational scheme proposed in Dowty (1979) to capture these distinctions. Even though Vendler's taxonomy and Dowty's distinctions are based solely on the analysis of English verbs, investigations of many unrelated languages[26]

[26]Van Valin (1993a:34) mentions the following languages that have investigated and followed these distinction: Lakhota, Tagalog, Sama (Philippines), Yatye (Kwa, Nigeria),

have shown that these contrasts are central to the organization of their verb systems and support RRG's assumption that these distinctions are the universal basis of the organization of verbal systems in human language . Examples of English verbs from each of the verb classes are given in (2.3) (Van Valin 1993a:34).

(2.3) English Verb Classes (Van Valin 1993:34)

States	Achievements	Accomplishments	Activities
be shattered	shatter (intr)	shatter (tr)	swim
have	receive	give	walk
know	learn	teach	talk
believe	realize	convince	think (about)
be dead	die	kill	watch
be cool	cool (intr)	cool (tr)	sparkle

A serious flaw in Dowty's (1979) tests is his assumption that achievements are all punctual, which fails to account for sentences like "The clothes are drying" and "My coffee is cooling." Thus, in RRG, achievement verbs are divided into punctual (P) and durative (D) subclasses (Van Valin 1993a: footnote 19). A list of possible tests for verb classes adopted in RRG are given in (2.4)

(2.4) Syntactic and Semantic Tests for English Verb Classification in RRG
(Van Valin 1993a:35, Table 2)

Criterion	States	Achievements	Accom.	Activities
1. Occurs with progressive	No	D: Yes P: No	Yes	Yes
2. Occurs with adverbs like *vigorously*, *actively*, etc.	No	No	Yes	Yes
3. Occurs with *Ø for an hour*, s*pend an hour Øing*	Yes	D: Yes P: No	Yes	Yes
4. Occurs with *Ø in an hour*, *take an hour to Ø*	No	D: Yes P: No	Yes	No
5. *Ø for an hour* entails *Ø at all times in the hour*	Yes	D: No P: d.n.a.	No	Yes
6. *x is Øing* entails x has *Øed*	d.n.a	D: No P: d.n.a.	No	Yes
7. Has inherent causative semantics	No	No	Yes	No

Van Valin (draft) formulates four classes of verb in terms of three features; [±dynamic], [±telic] and [±causative].

(2.5) Four Classes of Verbs in Terms of Features

State Achievement Accomplishment Activity

Tepehua (Totonacan, Mexico), Italian, Georgian, Icelandic, Mparntwe Arrernte, and Bribri (Chibchan, Costa Rica).

dynamic	-	+	+	+
telic	-	+	+	-
causative	-	-	+	-

Test 1 can be interpreted as an indicator of [+dynamic] since it can occur naturally with activity, durative achievement, and accomplishment verbs, but not with states. Test 2 also indicates dynamicity because it involves the ability to occur with adverbs that code dynamic action. Test 3 and 4 distinguish telic from non-telic verbs. Test 5 and 6 distinguishes accomplishments and durative achievements from activities. All three involve a process, but only accomplishments and durative achievements lead to a termination and result. These tests distinguish the four classes, and they can be used to assign any given occurence of a English verb to one or the other of the classes. This insures that there is no arbitrariness in the class assignment.

2.1.1.2. Verb Classes, Logical Structure, and Semantic Roles in RRG

2.1.1.2.1. Logical Structure and Lexical Representations

Following Vendler's (1967) four verb categories, Dowty (1979:123-125) proposed the following logical structures.

(2.6) The logical structure of four verb classes (borrowed from Dowty 1979:123-25)

a. States:
   1. simple states: $_{n}(\alpha_1, \ldots, \alpha_n)$. (e.g. John knows the answer.)
   2. stative causatives: [$_{m}(\alpha_1, \ldots, \alpha_m)$ CAUSE $\rho_n (ß_1, \ldots, ß_n)$].
   (e.g. John's living nearby causes Mary to prefer this neighborhood.)

b. Activities
   1. simple activities: DO(α_1,[$_{n}(\alpha_1, \ldots, \alpha_n)$]). (e.g. John is walking.)

c. Achievements
   1. simple achievements: BECOME [$_{n}(\alpha_1, \ldots, \alpha_n)$].
      (e.g. John discovered the solution.)
   2. Inchoation of activity: BECOME [DO (α_1[$_{n}(\alpha_1, \ldots, \alpha_n)$])].
   3. Inchoation of accomplishments: BECOME Ø , where Ø has one of the forms in D1-D3 below.

d. Accomplishments
   1. Non-agentive accomplishments:
      [[BECOME Ø] CAUSE [BECOME ψ]], where Ø and ψ are stative sentences (e.g. The door's opening causes the lamp to fall down.)
   2. (Non-Intentional) agentive accomplishments:
      [[DO(α_1,[$_{n}(\alpha_1, \ldots, \alpha_n)$])] CAUSE [BECOME $\rho_m (ß_1, \ldots, ß_m)$]]]
      (e.g. John broke the window.)

3. agentive accomplishments with secondary agent:
[[DO(α_1,[n (α_1, . . ., α_n)])] CAUSE [DO ($ß_1$, (ρ_m ($ß_1$, . . ., $ß_m$)]].
(e.g. John forced Bill to speak.)

Following Dowty's (1979) lexical decomposition system in which states are basic and the other classes are derived from them[27], RRG adopts the following decomposition representations which are termed Logical Structures [LS] and which treat both activities and states as primitives.

(2.7) Verb Classes and Their Logical Structures (Van Valin 1993d)

Verb Class	Logical Structure
STATE	**predicate´** (x) or (x,y)
ACHIEVEMENT	BECOME **predicate´** (x) or (x,y)
ACTIVITY (±Agentive)	(DO(x)) **do´** (x, [**predicate´** (x) or (x,y)])[28]
ACCOMPLISHMENT	Ø CAUSE ψ, where Ø is normally an activity predicate and ψ an achievement predicate.

In (2.7), states are primitive, achievements are represented as states plus a BECOME operator, accomplishments have a complex structure of an activity predicate linked to an achievement predicate by an operator CAUSE. Some English verbs with their LS are presented in (2.8), which is borrowed from Van Valin (1993d).

(2.8) a. States

Bob is a lawyer.	**be´** (Bob, [**lawyer´**])
The watch is broken.	**broken´** (the watch)
The magazine is on the desk.	**be-on´** (the desk, the magazine)
Max is at the office.	**be-at´** (office, Max)

[27]Dowty's (1979) lexical decomposition system is unable to derive activities from states. Thus, RRG considers states and activities as basic while achievements and accomplishments are derived. The derivational relationship between the three non-activity classes, i.e. state -> achievement -> accomplishment, is supported by many languages (cf. Van Valin 1993a:37-38); Lakhota and Tagalog (Foley and Van Valin 1984), Sama (Philippines;Walton 1986), Mparntwe Arrernte (Australia;Wilkins 1990), and Tepehua (Totonacan, Mexico; Watters 1986). I will show the derivational relationship for Korean in section 2.4.

[28]With activity verbs, agency is indicated by an abstract operator DO only when it is a necessary part of the meaning of the verb, following Holisky (1987) in Van Valin (1993a) (cf. Van Valin 1993a: 37). Thus, activities are represented as (DO (x)) [**predicate´** (x) or (x,y) in Van Valin (1993a). In Van Valin (1993d), which is a revised version of Van Valin (1993a), the LS of activities is represented as (DO (x)) **do´** (x, [**predicate´** (x) or (x,y)]). In this representation, the DO can stand for [+Agentive] of activities and the **do** represents the activities.

Sam saw the painting. **see**´ (Sam, the painting)

b. Achievements

Bob became a lawyer. BECOME **be**´(Bob, [**lawyer**´])
The watch broke. BECOME **broken**´(the watch)
The magazine fell on the floor. BECOME **be-on**´ (the floor, the magazine)
Max arrived at the office. BECOME **be-at**´ (Office, Max)
Sam noticed the painting. BECOME **see**´ (Sam, the painting)

c. Activities

The children cried. **do**´ (the children, [**cry**´ (the children)])
The ball rolled. **do**´ (the ball, [**roll**´ (the ball)])
The door squeaks. **do**´ (the door, [**squeak**´(the door)])
Mary did something. **do**´ (Mary,)
Larry ate fish. **do**´ (Larry, [**eat**´ (Larry, fish)])

d. Accomplishments

Joan tossed the journal on the desk.
[**do**´ (Joan, [**toss**´ (Joan, the journal)])] CAUSE [BECOME **be-on**´ (the desk, the journal)]
The baby broke the watch [accidentally].
[**do**´(the baby,)] CAUSE [BECOME **broken**´ (the watch)]
Max ran to the office.
[**do**´ (Max, [**run**´ (Max)])] CAUSE [BECOME **be-at**´ (the office, Max)]
Louise showed the painting to Sam.
[**do**´ (Louise,)] CAUSE [BECOME **see**´ (Sam, the painting)]

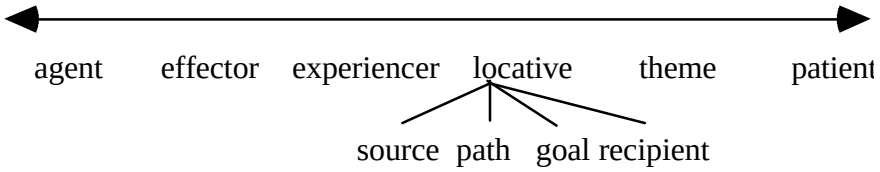
2.1.1.2.2. Semantic Roles

RRG uses the semantic roles, roughly equivalent to 'thematic relations', 'θ-roles', or 'semantic roles' . However, RRG's approach is different from other theories in that it posits two tiers of semantic roles: one is *thematic relations* , which are also used in LFG and other theories, and the other is *macroroles,* which is a concept specific to RRG.

2.1.1.2.2.1. Thematic Relations

Rather than a fixed universal inventory, RRG sets up a semantic continuum of thematic relations, whose anchor points are 'agent' at one end and 'patient' at the other (cf. Foley and Van Valin 1984, Van Valin 1993a:41).

(2.9) Semantic Continuum of Thematic Relations in RRG (Van Valin 1993a:41)



In RRG, thematic relations are derived from the verb's LS. The assignment of thematic relations to verbs are defined in terms of the argument positions in the decomposed LS as in (2.10), following the ideas of Gruber (1965) and Jackendoff (1976). Thus, it is not arbitrary. Role labels like “agent”, and “patient” are mnemonics for the argument positions in LS (cf. Van Valin 1993a:39).

(2.10) Thematic Relations Assignment with Argument Positions
(Van Valin 1993d: Table 3)

I. STATE VERBS		
A. Locational	**be-at**´ (x,y)	x=locative, y=theme
B. Non-Locational		
1. State or condition	**broken**´ (x)	x=patient
2. Perception	**see**´ (x,y)	x=experiencer, y=theme
3. Cognition	**believe**´ (x,y)	x=experiencer y=theme
4. Possession	**have**´(x,y)	x=locative, y=theme
5. Equational	**be**´ (x,y)	x=locative, y=theme
II. ACTIVITY VERBS		
A. Uncontrolled	**do**´ (x, [**cry**´ (x)])	x=effector
B. Controlled	DO (x, [**do**´ x, [...])	x=agent

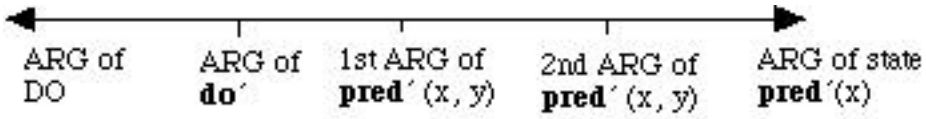
The thematic relations assignment of Achievements are the same as the corresponding states, as the addition of the operator BECOME does not affect the argument structrure of the LSs. Accomplishments have a LS composed of an activity LS plus an achievement (or less commonly, an activity) LS linked by the connective CAUSE. Accordingly, the role assignments of the Accomplishments are those of the constituent activity and achievements LSs; no new roles are added in (2.10) (Van Valin 1993a: 40). Also, Van Valin (1993d) proposes the following additional thematic role assignments according to its position of LS.

(2.11) Additional Thematic Roles Assignments

a. Recipient: first argument in LS configuration '...BECOME **have**´ (x,y)'
b. Goal: first argument in LS configuration '...BECOME **be-at**/**in**/**on**´ (x,y)'
c. Source: first argument in LS configuration
'...BECOME NOT **have**´/**be-at**´ (x,y)'
d. Instrument: Inanimate 'y' argument in LS configuration[29]
(Wilkins & Van Valin 1993)
e. Force: Inanimate 'x' argument in LS configuration
[[**do**´ (x, [...])] CAUSE [**do**´(y, [...])]] CAUSE [BECOME **pred**´ (...)]

As shown in (2.10) and (2.11), semantic roles such as 'agent', 'patient', 'locatives', etc. are determined by verb classes and argument position. That is, 'agents' are the argument of DO, 'patients' are the argument of state **predicate**´ (x), 'locatives' and 'experiencers' are the first argument of **predicate**´(x,y), and 'themes' are the second argument of **predicate**´ (x,y). RRG does not need to mark the thematic relations of the verbs in lexical representation since they are determined by these general principles. With these strategy for thematic relations assignment, the Thematic Relations Continuum (2.9) can be revised as follows:

(2.12) Semantic Continuum of Thematic Relations in RRG (Van Valin 1993d: figure 2)



[29]Van Valin & Wilkins (1994) and Wilkins & Van Valin (1993) argue that 'force' and 'instrument' as well as 'agent' are derived from 'effector'. 'Forces' are inanimate effectors which are capable of independent motion and action, while 'instruments' are inanimate effectors which lack both of independent motion and action. Some examples of 'forces' and 'instruments' with their logical structures are given below:

(i) a. The typhoon destroyed the village. (Wilkins & Van Valin 1993; (19a))
b. [[**do**´(typhoon, Ø)] CAUSE [**do**´ (Ø, Ø)]] CAUSE
[BECOME **destroyed**´ (village)]

(ii) a. The boy broke the window with the rock.(Wilkins & Van Valin 1993; (19b))
b. [[**do**´ (boy, Ø)] CAUSE [**do**´ (rock, [BECOME **be-at**´(window, rock)]]]
CAUSE [BECOME **broken**´(window)]

The inanimate effector *typhoon* is a force argument in (i) and the inanimate effector rock is a instrument in (ii) according to the thematic role assignment rule (2.11).

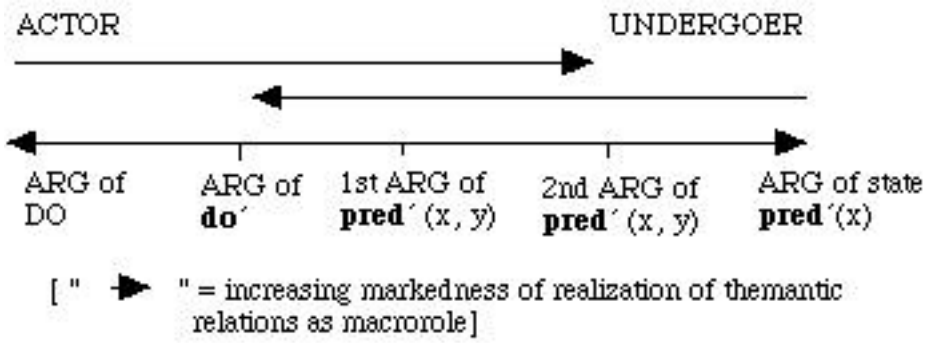
2.1.1.2.2.2. Macroroles

Macroroles, the second type of semantic role, play a crucial role in RRG. Macroroles act as the primary interface between the LS and syntactic representations. There are two macroroles, ACTOR and UNDERGOER, corresponding to the two primary arguments in prototypical transitive constructions. RRG claims that grammatical relations such as 'subject', 'object', etc. are not universal, and it uses macroroles instead. The prototypical actor, which is a subject in an active clause and a peripheral PP in a passive clause, is an agent. The prototypical undergoer, which is a direct object in an active clause and a subject in a passive clause, is a patient. Macroroles are not equivalent to grammatical relations. That is, actor is not equivalent to syntactic subject and undergoer is not equivalent to syntactic direct object. The difference between macroroles and grammatical relations can be illustrated in (2.13), borrowed from Van Valin (1993a:49).

(2.13) a. The bagel [SUBJ, UNDERGOER] was eaten by Fred [ACTOR].
b. Fred [SUBJ, ACTOR] ate lox [D.O].
c. The teacher [SUBJ, UNDERGOER] got sick.

In (2.13a), a passive sentence, the undergoer *bagel* is subject and the actor *Fred* is an oblique. In (2.13b), an active sentence with an acitivity verb*eat*, direct object *lox* is not undergoer, but argument. In (2.13c), an unaccusative sentence, the subject *teacher* is undergoer. In the default case, the most agent-like argument is the actor and the most patient-like is the undergoer (Van Valin 1993a:43-46). The relationship between thematic relations and macroroles can be captured in the following Actor-Undergoer Hierarchy.

(2.14) Actor-Undergoer Hierarchy



The number of macroroles that a verb takes is most predictable from its LS together with the Default Macrorole Assignment Principles in (2.15); there are only three possibilities: 0, 1, 2. With intransitive verbs like *lie*, which has two arguments, there is one macrorole, an undergoer. Similarly, with motion accomplishment verbs like *run*, there is also only one macrorole, an actor. Verbs like *seem* have no macrorole. In these verbs the number of macroroles is not predictable. I has to be specified in the lexical entry of the verb with a feature like [±MR], which overrides the default macrorole assignment principles (2.15). With this feature, the lexical representation for the exceptional verbs can be expressed: **lie´** (x,y)[+MR]; **do´**(x, [**run´** (x)]); **seem´**(x,y)[-MR]. Thus, in RRG,

transitive verbs have two macroroles, intransitive verbs have one macrorole with the feature [+MR], and atransitive verbs have no macrorole with [-MR] in the lexical representation.

(2.15) Default Macrorole Assignment Principles (Van Valin 1993a:47)

a. Number: the number of macroroles a verb takes is less than or equal to the number of arguments in its LS
   1. If a verb has two or more arguments in its LS, it will take two macroroles.
   2. If a verb has one argument in its LS, it will take one macrorole.

b. Nature: for verbs which take one macrorole,
   1. If the verb has an activity predicate in its LS, the macrorole is actor.
   2. If the verb has no activity predicate in its LS, the macrorole is undergoer.

2.1.2. Aspectual Classification of Verbs in Korean.

RRG assumes that each language has its own variations on the tests for aspectual classification of verbs. In this section I will study Korean verb classification, which will be applied in the next section, following generally RRG's verb classification system. There are nine tests.

2.1.2.1. Progressive Formation and [±dynamic]

Progressive formation is universally accepted as a test for determining stativity. The progressive applies to something that is not state, but rather an action or process. Van Valin (1993a) used the cooccurence with progressive as a test for [±dynamic] feature in English because it can occur naturally with non-stative verbs, but not with states. Previous studies assume that Korean indicates the progressive aspect by *-ko-iss*, while the perfective aspect is marked by *-e-iss* (cf. Y-J Kim 1990) However, Y-K. Ko (1982) and C.S. Suh (1976) show that the Korean progressive marker *-ko-iss* can occur not only with non-stative verbs but also with stative verbs, except for adjectives, existential verbs, and the copular[30]. Y-K. Ko (1982) mentions that the progressive form *-(u)ncwung* can occur only with non-states. The following sentences support his idea.

(2.16) a. Chelswu-nun acikto ku sasil-ul al-ko-iss-ta
-TOP still the fact-ACC know-CONN-be(CONT)-DEC
"Chulsoo still knows the fact ."

[30]Van Valin (p.c.) suggests that *-ko-iss* might be a kind of 'continuative' rather than 'progressive'. Thus, I will gloss CONT(inuative) for *-ko-iss* and PROG(ressive) for *-(u)ncwung* in this paper. In section 4.3., I will show that verb stem + *ko-iss* / *e-iss* form is a nuclear juncture and that Korean aspects are expressed with nuclear juncture.

b. * Chelswu-nun acikto ku sasil-ul a-nuncwungi-ta
-TOP still the fact-ACC know-PROG-DEC
"* Chulsoo is still knowing the fact ."

(2.17) a. Chelswu-nun acikto ku chayk-ul kaci-ko-iss-ta
-TOP still the book-ACC have-CONN-be(CONT)-DEC
"Chulsoo still has the book."

b. *Chelswu-nun acikto ku chayk-ul kaci-nuncwungi-ta
-TOP still the book-ACC have-PROG-DEC
"* Chulsoo is still having the book."

(2.18) a. Chelswu-nun cikum wuntongcang-eyse twi-ko-iss-ta [31]
-TOP now playground- LOC run-CONN-be(CONT)-DEC
"Chulsoo is still running in the playground."

b. Chelswu-nun cikum wuntongcang-eyse twi-nuncwungi-ta
-TOP now playground -LOC run -PROG-DEC

In (2.16) and (2.17), the stative verb, *al-ta* 'know' and *kaci-ta* 'have' can occur with the continuous morpheme *-ko-iss* but not with the progressive morpheme *-(n)uncwung*. The activity verb *twi* 'run' can take both of them, as shown in (2.18). The progressive morpheme that distinguishes states from non-states is *-(u)ncwungi-* , rather than *-ko-iss*.

C.S. Suh (1976:98) proposes the following examples for stative and non-stative verbs in Korean.

---

[31]As Van Valin (1993a) mentions for English *run*, Korean *ttwi-ta* 'run' can be an activity or an accomplishment verb according to the PP as in (i).

(i) a. Chelswu-nun wuntongcang-eyse twi-ess-ta :Activity
-TOP playground-LOC run-PST-DEC
"Chulsoo run in the playground."

b. Chelswu-nun cip-eysepwuthe wuntongcang- kkaci twi-ess-ta :Accomplishment
-TOP house-from playground -to run-PST-DEC
"Chulsoo run from the house to the playground."

Not only the activity construction (ia) (cf. 2.18), but also the accomplishment (ib) can take both the progressive form *-ko-iss* and *(u)ncwungi* as in (ii):

(ii) a. Chelswu-nun cip-eysepwuthe wuntongcang- kkaci twi-ko-iss-ta
-TOP house-from playground-to run-CONN-be(CONT)-DEC
"Chulsoo is running from the house to the playground."

b. Chelswu-nun cip-eysepwuthe wuntongcang- kkaci twi-nuncwungi-ta
-TOP house-from playground-to run-PROG-DEC

(2.19) a. [-stative] : (i) [+action] : ip-ta 'put on' , ilk-ta 'read' , mek-ta 'eat' , ka-ta 'go', mantul-ta 'make, build'.
(ii) [+process]: pyen-hata 'change', cala-ta 'grow up', toy-ta 'become'

b. [+stative]: (i) verb: al-ta' know', ihay-hata 'realize', nolla-ta 'be surprised', nukki-ta 'feel', cichi-ta 'be tired', sal-ta 'live'
(ii) existential verb: iss-ta 'exist', eps-ta 'not exist', kyesi-ta 'be (HON)'
(iii) adjectives: yeyppwu-ta 'pretty', nop-ta 'high', pwulk-ta 'red', coh-ta 'good', cengcik-hata 'honest'
(iv) copular verb: (cip) i-ta

The non-stative verbs mentioned in (2.19a) can occur with the progressive morpheme *-(u)ncwungi*, but the stative verbs (2.19b) cannot. We should notice that C.S. Suh (1976) includes some non-temporal durative verbs such as *ihay-hata* 'realize' and *nolla-ta* 'be surprised' in his [+stative] category. However, these punctual achievements can not be stative since these verbs have no temporal duration. Thus, even though they cannot occur with progressive morpheme *-(u)ncwungi*, they should not be classified as stative, but as a separate class of punctual achievement verbs (cf. Van Valin 1993a). (2.20) and (2.21) are further examples that occur and do not occur with the progressive morpheme *-(u)ncwungi-*.

(2.20) Examples of verbs that can take progressive form *-(u)ncwungi-*

a. Intransitive
talli-ta 'run' ttwi-ta 'jump' malu-ta 'dry'
sik-ta 'cool (intransitive)'
ket-ta 'walk' mal-hata 'speak' wul-ta 'cry' ca-ta 'sleep'
wus-ta 'smile pwul-ta 'blow' tol-ta 'spin' hulu-ta 'flow'

b. Transitives:
ssu-ta 'write' ip-hi-ta 'make wear' swuki-ta 'bend'
sin-ta 'put on' sin-ki-ta 'make put on' mwul-ta 'bite'
kaluchi-ta 'teach'

(2.21) Examples of verbs that cannot take progressive form *-(u)ncwungi-ta*

a. states:

all predicative adjectives[32]such as ku-ta ‘be big’, ppalkah-ta ‘be red pappwu-ta ‘be busy’, telep-ta ‘be dirty’, cha-ta 'be cold', etc.

al-ta 'know'	kaci-ta 'have'	i-ta 'be'	mit-ta 'believe'
iss-ta ‘exist, stay’	eps-ta ‘not exist’		sokha-ta ‘belong’

b. punctual achievement

cwuk-ta 'die'	kkusna-ta 'finish'	khye-ta 'turn on'
kku-ta 'turn off'	ttena-ta 'leave'	tochak-ha-ta 'arrive'
kkaytat-ta 'realize'	kyelhon-hata 'marry'	sicak-hata 'begin'

From the above fact, we can propose a test for Korean verb classes, based on whether it can take *-(u)ncwungi-* .

(2.22) TEST 1: the selection of progressive form *-(u)ncwungi-*

States	Achievement	Accomplishment	Activity
NO	D: YES/P: NO	YES	YES

Even though progressive formation distinguishes states and temporal achievements from the other verb classes, it can not tell us [±dynamic] since it does not distinguish states from punctual achievements. H.B. Lee (1989) and C.S. Suh (1976) argue that processive verbs and descriptive verbs can be distinguished according to their possibility of occurrence with the process morpheme *-nun/-n-ta* in statements and *-(u)n* - in questions. Process verbs are those which have the process ending *-nun/-n-ta*, which is classified as present tense morpheme in general. Descriptive verbs (i.e. predicative adjectives) can be defined as those which have the descriptive ending *-Ø-ta* .

Among the process verbs, the present tense *(nu)n-ta* entails the action in progress or a change of state (i.e. dynamic) in some verbs, whereas it does not (i.e. non-dynamic) in the other verbs. Illustrations are provided below.

(2.23) a. ku salam -un yocuum ku pimil-lul a-n-ta : states
the man -TOP nowadays the secret-ACC know-PRES-DEC
“He knows the secret nowadays.”

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[32]Unlike English adjectives, Korean predicative adjectives do not appear under a higher copular verb, but are directly inflected for tense, aspect, and modality . In this respect, Korean adjectives are similar to Navaho (Anderson 1971), Mohawk (Postal 1979), and Japanese (Kuno 1973) (cf. Y-J. Kim 1990:67).

Kuno (1973: 136) mentioned that all Japanese predicative adjectives are inherently states. Like Japanese predicative adjectives, Korean predicative adjectives are inherently states. Adjectives cannot get progressive form *-(u)ncwungi-*.

b. ku-un cikum seul-ey sa-n-ta : states
he-TOP now Seoul-LOC live-PRES-DEC
"He lives in Seoul now."

c. Chelswu-nun hananim-ul mit-nun-ta :states
-TOP GOD-ACC believe-PRES-DEC
"Chulsoo believes in God."

(2.24) a. ku haksayng-i cikum kong-ul cha-n-ta : activity
the student-NOM now ball-ACC kick-PRES-DEC
"He is kicking the ball now."

b. Chelswu-ka talk-lul cwuk-i-n-ta :accomplishment
-NOM hen-ACC die-CAU-PRES-DEC
"Chulsoo is killing a hen."

c. sikye-ka pwuse-ci-n-ta : achievement
watch-NOM broken-become-PRES-DEC
"The watch is being broken."

The present forms of stative verbs (2.23) have the meaning of duration of knowing (2.23a), living (2.23b), or believing (2.23c), while those of the other verbs entail the action in progress/ change of state as in (2.24). The entailment of action in progress/ change of state of the present tense is a diagnostic for stativity. If the present tense does not entail change of state, it is states. If it does, it is non-states

(2.25) TEST 2: The present tense *-(nu)n-* entails action in progress/ change of state
(process verbs only)

States	Achievement	Accomplishment	Activity
NO	YES	YES	YES

2.1.2.2. Occurs with adverbs like *paklyekisskey* /*himchakey*/ *hwaltongcekulo*/ *hwalpalhi* 'vigorously', *swutasulepkey* 'actively', etc.

The third test is whether the verb can occur with adverbs like *vigorously, actively*, etc. RRG uses this test to distinguish states and achievements from accomplishments and activities.

(2.26) a. * Chelswu-nun himchakey/paklyekisskey ku tap-lul an-ta
-TOP vigorously/actively the answer-ACC know-DEC
"*Chulsoo knows the answer vigorously." (States)

b. *Chelswu-nun himchakey//hwalpalhi cwuk-ess-ta
-TOP vigorously/actively die-PST-DEC
"* Chulsoo died very vigorously." (Achievements)

(2.27) a. Chelswu-nun himchakey /hwalpalhi tali-n-ta
-TOP vigorously /actively run-PRES-DEC
"Chulsoo runs very vigorously." (Activities)

b. Chelswu-nun congi-lul hwalpalhi thaywu-ess-ta:
-TOP paper-ACC vigorously burn-PST-DEC
"Chulsoo burnt the paper very vigorously." (Accomplishment)

(2.27) shows that Korean activities and accomplishments can occur with *himchakey/ hwalpalhi* 'vigorously', and (2.26) shows that states and achievements cannot. This test can apply to Korean as follows:

(2.28) TEST 3: Occurs with adverbs like *paklyekisskey* / *himchakey*/ *hwaltongcekulo/ hwalpalhi* 'vigorously,' *swutasulepkey* 'actively', etc.

States	Achievement	Accomplishment	Activity
NO	NO	YES	YES

2.1.2.3. Occurs with *han sikan tongan* 'for an hour'

Among the four verb classes in English, only punctual achievements are barred from occurring with *for an hour*. This test can also apply in Korean. All verbs except punctual achievements can occur with *hansikan-tongan* 'for one hour' as in (2.29).

(2.29) a. Swunhi-nun hansikan-tongan ku cip-ul ci-ess-ta :accomplishment
-TOP one.hour-for the house-ACC build-PST-DEC
"Soonhi built the house for an hour."

b. ku nal-i hansikan-tongan chwu-ess-ta :state
that day-NOM one.hour-for cold-PST-DEC
"That day was cold for an hour."

c. Swunhi-nun hansikan-tongan tali-ess-ta :activity
-TOP one.hour-for run-PST-DEC
"Soonhi ran for an hour."

d. ku os-i hansikan-tongan mal-ass-ta :durative achievement
the clothes-NOM one.hour-for dry-PST-DEC
"The clothes dried for one hour."

Punctual achievements cannot occur with this phrase, as shown in (2.30)[33].

[33] If these sentences mean an iterative reading (i.e. durative achievement) or resultant state, they are grammatical (Dryer p.c.). If they mean only one event for the hour (i.e. punctual achievement), however, they are ungrammatical.

(2.30) a. * Chelswu-nun hansikan-tongan ku cenkipwul-lul kke-ss-ta
-TOP one.hour-for the light -ACC turn.off-PST-DEC
" *Chulsoo turned off the light for one hour."

b. *ku kyehoyk-i hansikan-tongan pakwi-ess-ta
the plan-NOM one.hour-for change-PST-DEC
"*The plan changed for one hour."

c. *ku hoyuy-ka hansikan-tongan sicakhay-ss-ta
the meeting-NOM one.hour-for begin- PST-DEC
"*The meeting began for one hour."

d. *ku.tul-i hansikan-tongan kyelhon-hay-ss-ta
they-NOM one.hour-for marriage-do-PST-DEC
"*They married for one hour."

From the above facts, we can say that occurrence with *hansikan-tongan* 'for an hour' can be used as a test to distinguish punctual achievements from the other verb classes as follows:

(2.31) TEST 4: Occurs with *hansikan-tongan* 'for an hour'[34]

States	Achievement	Accomplishment	Activity
YES	D: YES/ P: NO	YES	YES

2.1.2.4. Telicity [±telic]

Telicity is a very important factor for distinguishing accomplishments and achievements (telic), from activities and states (atelic), according to Vendler (1967). In Korean, telicity can be judged in two tests, the second of which is used specifically for intransitives.

[34]As I mentioned above, predicative adjectives are sometimes inherent states. Since there is no time limitation for inherent states, this test can not apply to Korean predicative adjectives as in (i). This is also true for English (Van Valin, p.c.).

(i) a. * ku os-i hansikan-tongan ppalkah-ta
the clothes-NOM one.hour-for red-DEC
"The clothes are red for one hour."

b. * Chelswu-uy paci-ka hansikan-tongan khu-ss-ta
GEN pants-NOM one.hour-for big-PST-DEC
"Chulsoo's pants are big for one hour."

2.1.2.4.1. Occurs with *han-sikan maney/nayey* 'in an hour'

In Korean, activities, stative verbs (not adjectives), and punctual achievements can occur with *han-sikan maney/nayey* 'in an hour' as in (2.32).

(2.32) a. Chelswu-nun ku sasil-lul hansikan-maney al-ass-ta[35] State
-TOP the fact-ACC one.hour-in know-PST-DEC
" Chulsoo started to know the fact after an hour."

b. Chelswu-nun hansikan-maney wul-ess-ta Activity
-TOP one.hour -in cry-PST-DEC
"Chulsoo started to cry after an hour."

c. ku.tul-i hansikan-maney kyelhon-hay-ss-ta Punctual Achievement
they-NOM one.hour-in marriage-do-PST-DEC
"They [met and] decided to marry after an hour."

(2.32a) means that Chulsoo started to know the fact in an hour after the event (or fact) happened. (2.32b) would be appropriate if somebody annoyed Chelswu, and then he burst into tears after an hour. (2.32c) means that a man and woman agree to marry in an hour after they met. None of them means that the event finished in an hour. All of them mean that the event began in an hour.

Durative achievements and accomplishments also occur with *han-sikan maney/nayey* 'in an hour'. However, there is a very important difference from states, punctual achievements, or activities in that the event is finished in that time period and that period is not the starting point for the event, as can be seen in the following:

(2.33) a. Accomplishment
Chelswu-nun wuntongcang-kkaci hansikan-maney ttwi-ess-ta
-TOP playground-to one.hour- in run-PST-DEC
"Chulsoo ran to the playground within an hour."

b. Accomplishment
Chelswu-nun cip han-chay-lul ilnyen-maney ci-ess-ta.
-TOP house one-CL-ACC one.year-in build-PST-DEC
"Chulsoo built a house in one year."

c. Achievement
ku os-i hansikan-maney malla-ss-ta
the clothes-NOM one.hour-in dry-PST-DEC
"The clothes dried in an hour."

---

[35]Korean *al-ta* 'know' is not the same as English *know* because sometimes it means 'notice', 'realize', 'learn' etc. In this sentence, *al-ta* is only equivalent to the English sense 'know'.

(2.33a) means that Chulsoo took an hour to get to the playground, not that Chulsoo started to run to the playground after an hour. (2.33b) means that Chulsoo took one year to build a house, not that he took one year to start to build a house.[36] (2.33c) means that it took one hour for the clothes to dry completely. The sentences of (2.33) describe the completion of a event, whereas those of (2.32) describe that starting point of a event. Thus, to distinguish durative achievements and accomplishment from the other verbal aspects in Korean, the occurrence with *han-sikan maney/nayey* 'in an hour' does not help in itself. We should check whether the cooccurrence with *han-sikan maney/nayey* 'in an hour' implies that the event is completely finished in an hour.

(2.34) TEST 5: Occurs with *hansikan-maney* 'in an hour ' and implies that an event finished in the hour.

States	Achievement	Accomplishment	Activity
NO	D: YES/P: NO	YES	NO

2.1.2.4.2. Occurrence with *-e-iss-ta* (intransitives only)

Intransitive verbs have their own diagnostic for telicity in Korean. One of the Korean perfective aspectual forms, *-e-iss-ta*,[37] can occur only with intransitives. The perfective *-e-iss-* entails not only that an action has been completed, but also there is a state resulting from the completed action. For this reason, *-e-iss-* is sometimes called the "resultative" form (K. Lee 1978, I.S. Yang 1977, Y.J. Kim 1990). The perfective form *-e-iss-* is not always possible with intransitive verbs. Let us consider (2.35) and (2.36) .

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[36]However, if the house is without numeral and classifier, (2.32b) is ambiguous since it can be either an activity or an accomplishment as in (i):

(i) Chelswu-nun cip -lul ilnyen-maney ci-ess-ta.
-TOP house -ACC one.year-in build-PST-DEC
a: "Chulsoo started to build house(s) in one year.
b: "Chulsoo built house(s) in one year."

However, (2.33b) has no ambiguity since it is accomplishment.

[37]In section 4.3.3, I will argue that the verb stem and perfective aspectual form *-e-iss-* is a nuclear juncture.

(2.35) Verbs which can occur with *-e-iss-*

cwuk-ta	'die'	nok-ta	'melt'
nwup-ta	'lie'	anc-ta	'sit'
el-ta	'freeze'	se-ta	'stand'
phi-ta	'bloom'	situl-ta	'wither'
pwus-ta	'swell'	say-ta	'leak'
kkay-ta	'wake up'	ssek-ta	'rot'
memcwu-ta	'stop'	ttu-ta	'rise'

(2.36). Verbs which can not occur with *-e-iss-*

a. Intransitive verbs:

tali-ta	'run'	ttwi-ta	'jump'
ket-ta	'walk'	malha-ta	'speak'
wul-ta	'cry'	ca-ta	'sleep'
wus-ta	'smile'	pwul-ta	'blow'
tol-ta	'spin'	hulu-ta	'flow'
iss-ta	'exist or stay"	eps-ta	'not exist'

b. All Adjectives:

yeyppu-ta	'pretty'	khu-ta	'big'
cak-ta	'small'	manh-ta	‘many/much’
kem-ta	'black'	nolah-ta	'yellow'

The intransitives in (2.35) are examples of verbs that can co-occur with *-e-iss-*, and those in (2.36) are cases that cannot. Interestingly enough, adjectives cannot take *e-iss-* . This leads us to take the occurrence of intransitive verbs with the perfective form as a test for telicity. K. Lee (1978) observed that *-e-iss-* is compatible with verbs which describe events that are bounded in time (i.e. delimited, telic), but incompatible with verbs that describe events that are not bound in time (i.e. undelimited, atelic). If an intransitive verb can take *-e-iss* to form the perfective, it is an accomplishment or achievement. If not, it is an activity or state. From this, we can take the selection of the perfective form as a test for verb classes as follows:

(2.37) TEST 6: selection of perfective form *-e-iss-* (intransitives only)

States	Achievement	Accomplishment	Activity
NO	YES	YES	NO

2.1.2.5. *Hansikan-tongan* 'for an hour' entails that 'at all times in the hour'.

In section 2.1.2.3, I mentioned that all verb classes except Punctual Achievements can occur with *hansikan-tongan* 'for an hour'. When states and activities cooccur with 'for

an hour,' it entails that the event happens at all times during the hour. This same test can be used in Korean, as shown in (2.38)- (2.39).

(2.38) a. Chelswu-nun ku sasil-ul hansikan-tongan mit-ess-ta :State
-TOP the fact-ACC one.hour-for believe-PST-DEC
"Chulsoo has believed the fact for an hour."

b. ku nal-i hansikan-tongan chwu-ess-ta :State
that day-NOM one.hour-for cold-PST-DEC
"That day has been cold for an hour."

c. Swunhi-nun hansikan-tongan tali-ess-ta :Activity
-TOP one.hour-for run-PST-DEC
"Soonhi has run for an hour."

(2.39) a. Accomplishment
Swunhi-nun hansikan-tongan ku cip-ul ci-ess-ta
-TOP one.hour-for the house-ACC build-PST-DEC
"Swunhi has built the house for an hour ."

b. Accomplishment
Chelswu-ka hansikan-tongan phyenci 10-cang -ul sse-ss-ta
-NOM one.hour-for letter 10-CL-ACC write- PST-DEC
" Chulsoo has written 10 letters for one hour."

c. Durative Achievement
ku os-i hansikan-tongan mal-ass-ta.
the clothes-NOM one.hour -for dry-PST-DEC
"The clothes dried for an hour."

The sentences in (2.38) mean that the event or state eas in effect at all times in the hour. The sentences in (2.39) do not necessarily mean that the action was in effect for the hour.. Thus, this test for classification can be used in Korean, too.

(2.40) Test 7: 'for an hour' entails 'at all times in the hour'

States	Achievement	Accomplishment	Activity
YES	D: NO/P: d.n.a	NO	YES

2.1.2.6 Progressive form *-nuncwungi-* entails *has Øed*

Both Dowty (1979) and Van Valin (1993a) mention *x is Øing* entails *x has Øed* as a test for determining the class of a verb. For example, one can say *John is running* only when *John has run* is also true. Achievements and accomplishments do not pass this test. *John is writing a letter* does not entail *John has written a letter*. This test can be applied to Korean, too.

(2.41) a. Achievement
paci-ka malu-nuncwungi-ta
pants-NOM dry.up-PROG-DEC
"Pants are drying up", but not "Pants have dried up."

b. Accomplishment
Chelswu-ka cip-lul cis- uncwungi-ta
-NOM house-ACC build-PROG-DEC
"Chulsoo is building (his) house", not "Chulsoo has build (his) house."

c. Activity
Chelswu-ka kongwen-eyse tali-uncwungi-ta.
-NOM park-in run- PROG-DEC
" Chulsoo is running in the park." and " Chulsoo has run already."

In section 2.1.2.1, I mentioned that only non-stative verbs can occur with the progressive form *-(u)ncwung-ta*. As shown in (2.41), progressive forms don not entails *x has Øed* for achievements and accomplishments. (2.41a) and (2.41b) describe the progressive state of 'is drying up' and 'is building the house'. They do not entail that the event has done already. That is, (2.41a) entails that the pants are still wet. (2.41b) does not mean that Chulsoo has completed building his house, but rather that he is in the process of building his house. However, in (2.21c) the progressive fomr entials that Chulsoo has run. This can be used as a test to distinguish achievements and accomplishments from activities.

(2.42) TEST 8: Progressive form entails*x has Øed*

States	Achievement	Accomplishment	Activity
d.n.a.	D: NO/P: d.n.a.	NO	YES

2.1.2.7. Has Inherent Causative Semantics

In the criteria proposed by Van Valin (1993a), the feature [causative] distinguishes Accomplishments from the other verb classes. Accomplishments are [+ causative] , while the rest are [-causative]. One can determine whether a verb has causative semantics or not through a paraphrase test, in which the meaning of a verb, such as *kill* or *give*, can paraphrased as 'cause to die' or 'cause to receive' respectively.

In Korean, causatives can be expressed in three morphological ways. In two of these the causative is signaled with overt morphological marker. In the third the causative meaning is implicit, and the form bears no additional morpheme. These three kinds of causatives have been well studied in Patterson (1974), which proposes that there are three types of Korean causatives: phrasal causatives, which are morphologically expressed with a connective *-key* and the verb *-ha* 'do, cause, make'; suffixal causatives, which are derived from suffixation of *-i, -hi, -li,* or*-ki* [38]on an active verb stem; and lexical

[38]These allomorphes are phonologically conditioned (cf. H.B. Lee 1989:85-87):

(i) a. -i: after verb stems ending in a vowel other than /i/, /ɛ/ , or in a consonant /g/.
b. *-ki*: after verb stems ending in /m,n,d,t,d/

causatives, which can be semantically analyzed as causatives but do not carry any overt morphological form , similar to English ‘kill’, ‘give’. Examples are given in (2.43).

(2.43) a. Phrasal Causative
Chelswu-ka Swunhi-ka/eykey/lul ttena-key hay-ss-ta
-NOM -NOM/DAT/ACC leave-CONN do-PST-DEC
“Chulsoo made Soonhi left.”

b. Suffixal Causative
emeni-ka ai-eykey/lul os-ul ip-hi-ess-ta
mother-NOM baby-DAT/ACC clothes-ACC wear-CAU-PST-DEC
“Mother made the baby wear the clothes.”

c. Lexical Causative
emeni-ka ai-lul hakkyo-ey ponay-ss-ta
mother-NOM child-ACC school-to send-PST-DEC
“Mother sent the child to school.”

Among the three causatives, the phrasal causatives can be handled using nexus-juncture types, which will be main topic of chapter 4. The suffixal and lexical causatives are handled in LS, the level of lexical representation in RRG. That is, the phrasal causatives are treated as syntactic phenomena, while the other causatives are lexical phenomena[39, 40].

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c. *-hi*: after verb stems ending in /b, lg/ and some /g/-final stem
d. *-li*: after /l/-final verb stem, some /d/-final stems and some /l/-doubling stems

[39]Many studies classify Korean causatives into two types, using the different terminologies, shown in (i).

(i) Two types of Korean causatives (borrowed from K.S. Park 1993a:(5))

	Syntactic Causatives	Lexical Causatives
S.C. Song (1988),Shibatani (1973b), and K.S. Park (1993a)	periphrastic	lexical
O’Grady (1991)	syntactic	lexical
K. Park (1986)	periphrastic	morphological
D.W. Yang (1975)	long-form	short-form
B-S. Park (1972)	*-ha* form	*-i* form
H.S. Lee (1985)	analytic	morphological

[40]K. Park (1993a:24) proposes the following LS for Korean accomplishment verbs:

(i) [**do**´(w)] [@CAUSE] [BECOME **predicate**´ (y,z)]]

His proposal for modal operator ‘@’ of accomplishment verbs comes from the hypothesis that “even though lexical causative verbs of Korean are accomplishments in the verb

Korean accomplishments have inherent causative semantics, which is can be expressed either with overt morphology or without, as K. Park (1993a) proposes. Following the criterion proposed by Dowty (1979) and Van Valin (1993a), (2.44) can apply in Korean to distinguish Accomplishment from the rest.

(2.44) TEST 9: has inherent causative semantics

States	Achievement	Accomplishment	Activity
NO	D: NO/ P: NO	YES	NO

(2.44) can easily be applied to phrasal and suffixal causatives because of their overtly expressed morphemes (i.e. *key-ha* for phrasal causatives and *-i, -hi, -li, ki* for suffixal causatives), but there must be more morphological evidence to support the claim with lexical causatives and regular accomplishments, which only have inherent causative semantics (Dryer (p.c.)). In Korean, case alternations with some adverbial nominals provide this explicit morphological criterion for accomplishments. K. Park (1993b) shows that locative adverbial nominals with goal interpretation and duration/frequency adverbial nominals bear an ACC case marker that is pragmatically determined[41] when used with accomplishmentscan. Examples are shown in (2.45).

(2.45) a. sicheng-kkaci keli-*eyse/lul ttwi-ess-ta[42]
City Hall-to street-LOC/ACC run-PST-ta
"(Someone) ran to the City Hall in the street." (K. Park 1993b)

b. emeni-ka ai-lul hakkyo-ey/lul ponay-ss-ta
mother-NOM child-ACC school-LOC/LOC send-PST-DEC
"Mother sent the child to school."

c. Chelswu-nun senmwul-lul twupen-lul pat-ess-ta
-TOP gift-ACC two.times-ACC receive-PST-DEC
"Chulsoo received a gift two times." (K. Park 1993b)

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classification framework, the verbs do not necessarily imply the expected result state" (ibid.: 24).

[41]K. Park (1993b) divides Korean case markings into two: semantic case and pragmatic case. Semantic case is directly derived from semantic roles according to the Actor-Undergoer Hierarchy. Pragmatic case is based on the Aktionsart of the verbs and focus structure. He argues that the accusative case marker assigned to adverbial nominals such as locative adverbials and duration/frequency adverbials is not semantic, but pragmatic case.

[42]Refer to Van Valin (1993a) for accomplishments of these verbs.

d. Swunhi-nun chayk sey-kwon-lul hansikan-ul ilk-ess-ta
-TOP book three-CL-ACC one.hour-ACC read-PST-DEC
"Soonhi read books for one hour."

The examples in (2.45) are accomplishments. From this morpho-syntactic evidence, (2.44) should be revised for Korean accomplishments as follows:

(2.46) TEST 9: has inherent causative semantics

a. occur with causative morpheme *-i* or *-key-hata*
b. locative adverbial nominals with goal interpretation and duration/frequency adverbial nominals can get accusative case

States	Achievement	Accomplishment	Activity
NO	D: NO/ P: NO	YES	NO

We can summarize Korean verb classification as follows:

(2.47) Korean Verb Classification

Criterion	States	Achievements	Accomplish.	Activities
1. Occurs with progressive form *-(u)ncwungi-ta*	NO	D: YES/P: NO	YES	YES
2.The present tense *-(nu)n-* entails action in progress/ change of state (process verbs only)	NO	YES	YES	YES
3. Occurs with adverbs like *paklyekisskey* / *himchakey* /*hwaltongcekulo/ hwalpalhi* 'vigorously', *swutasulepkey* 'actively', etc.	NO	NO	YES	YES
4. Occurs with *hansikan-tongan* 'for an hour'	YES	D: YES/ P: NO	YES	YES
5. Occurs with *hansikan-maney* 'in an hour ' and implies that an event finished in the hour	NO	D: YES/ P: NO	YES	NO
6. Selection of perfective form *-e-iss-* (intransitives only)	NO	YES	YES	NO
7. 'for an hour' entails 'at all times in the hour'	YES	D: NO/P: d.n.a	NO	YES
8. Progressive form entails*x has Øed*	d.n.a.	D: NO/P: d.n.a.	NO	YES
9. has inherent causative semantics: a. occur with causative morpheme *-i* or *-key-hata* b. locative adverbial nominals with goal interpretation and duration/frequency adverbial nominals can get accusative case.	NO	NO	YES	NO

2.1.3. Korean Verbals and Lexical Representation

In section 2.1.2, I proposed nine criteria to distinguish Korean verbs into four classes. Representative examples of Korean verbs from each of the Aktionsart classes are given in (2.48)-(2.51).

(2.48) States

a. All Adjective predicates: yeyppwu-ta 'be pretty' nop-ta ‘high’, pwulk-ta ‘red’ coh-ta ‘good’ cengcik-hata ‘honest’ cha-ta ‘cold’
b. existential verbs: iss-ta ‘exist, be’ eps-ta ‘not exist’ kyesi-ta ‘be (HON)’
c. verbs: al-ta ‘know’ ihay-hata ‘understand’ sal-ta ‘live’ cichi-ta ‘be tired’ kaci-ta 'have' mit-ta 'believe'
d. copular verb: (cip) i-ta ‘be’

(2.49) Activities

talli-ta 'run' ttwi-ta 'jump' ket-ta 'walk' mal-hata 'speak'
wul-ta 'cry' ca-ta 'sleep' wus-ta 'smile' pwul-ta 'blow'
tol-ta 'spin' hulu-ta 'flow'

(2.50) Achievements

a. all adjectives and some existential verbs +*ci* ‘become’
cha-ci-ta 'become cold' yeyppe-ci-ta 'become pretty'
nopa-ci-ta ‘ become high’, pwulke-ci-ta ‘become red’
coha-ci-ta ‘become good’ cha-ci-ta ‘become cold’
epse-ci-ta ‘become not exist’

b. verbs:
Intransitives: toy-ta ‘become’ anc-ta 'sit' se-ta 'stand'
nok-ta 'melt’ kkay-ta 'wake up' ttu-ta 'rise'
malu-ta 'dry'
Transitives: ip-ta 'put on clothes' ssu-ta 'put on the hat'
sin-ta 'put on the shoes' kki-ta 'wear the glasses'
cha-ta 'put on the watch' noh-ta 'put the book on'

c. punctual achievement
cwuk-ta 'die' kkusna-ta 'finish' khye-ta 'turn on'
kku-ta 'turn off' ttena-ta 'leave' tochak-ha-ta 'arrive'
kkaytat-ta 'realize' kyelhon-hata 'marry' sicak-hata 'begin'
sik-ta ‘cool (intransitive)'

(2.51) Accomplishments

a. Most Activities and Achievements verbs+ causative morpheme *-i* (or *key ha-ta*)
cwuk-i-ta 'kill' ip-hi-ta 'make put on the clothes'
poi-ta 'show' mek-i-ta 'make eat' noh-i-ta 'being put on'
pakkwu-i-ta 'changed' talli-key-hata 'make run'

b. Lexical Accomplishments
cis-ta ‘build’ cwu-ta ‘give’ kaluchi-ta ‘teach’ ponay-ta ‘send’

Examples of each verb class with their logical structures are given in (2.52)[43].

(2.52) a. States

Swunhi-nun yeypwu-ta
-TOP pretty-DEC
“Soonhi is pretty.”
LS: **be´** (Swunhi, [**pretty´**])

Chayk-i chayksang-wiey iss-ta
book-NOM desk -on is -DEC
“The book is on the desk.”
LS: **be-on´** (desk, book) [+MR]

Chelswu-nun Buffalo-ey sa-n-ta
-TOP -at live-PRES-DEC
“Chulsoo lives in Buffalo.”
LS: **live´**(Buffalo, Chulsoo) [+MR]

na-nun haksayng-i-ta
I-TOP student-be-DEC
“I am a student.”
LS: **be´** (I, [**student´**])

[43] As I mentioned in section 2.1.1.2.2.1, RRG defines thematic relations in terms of the argument positions in the LS representation, following Jackendoff (1976). Thus, we need not mark the thematic role of each arguments in (2.52), which follows from the LS representation.

b. Activities

ai-ka (hansikan-tongan) wul-ess-ta
child-NOM one.hour-for cry-PST-DEC
"The child cried (for an hour)."
LS: **do**´ (child, [**cry**´ (child)])

Chelswu-nun pap-ul mek-nun-ta
-TOP dinner-ACC eat-PRES-DEC
"Chulsoo eats dinner."
LS: **do**´(Chulsoo, [**eat**´ (Chulsoo, dinner)])

c. Achievement

Swunhi-ka (manhi) yeyppe-ci-ess-ta
-NOM much pretty-become-PST-DEC
"Soonhi became pretty."
LS: BECOME **be**´ (Swunhi, [**pretty**´])

nay-ka haksayng-i toy-ess-ta
I-NOM student-NOM become-PST-DEC
"I became a student."
LS: BECOME **be**´ (I, [**student**´])

Chelswu-ka hakkyo-ey tochakhay-ss-ta
-NOM school-LOC arrive-PST-DEC
"Chulsoo arrive at school."
LS: BECOME **be-at**´(school, Chulsoo) [+MR]

elum-i nok-ass-ta
ice -NOM melt-PST-DEC
"The ice melted."
LS: BECOME **melted**´ (ice)[+MR]

d. Accomplishments:

emeni-ka Swunhi-lul yeyppe-ci-key mantul-ess-ta
mother-NOM -ACC pretty-become-COMP make-PST-DEC
"Mother made Soonhi pretty."
LS: [**do**´ (mother, Ø)] CAUSE [BECOME **be**´ (Swunhi, [**pretty**´])]

apeci-kkeyse nay-ka haksayng-i toy-key ha-si-ess-ta
father-NOM(HON) I-NOM student-NOM become-COMP do-SH-PST-DEC
"Father let me be a student."
LS: [**do**´(father, Ø)] CAUSE [BECOME **be**´ (I, [**student**´])]

Chelswu-ka elum-ul nok-i-ess-ta
-NOM ice -ACC melt-CAU-PST-DEC
"Chulsoo made the ice melted."
LS: [**do**´(Chulsoo, Ø)] CAUSE [BECOME **melted**´ (ice)]

2.2. Korean Psych-verb Constructions, Its Verb Classification, and Lexical Representation.

In Korean, psych-verbs are used in two parallel syntactic constructions which are illustrated by the exampes (2.53) and (2.54).

(2.53) a. Swunhi-ka emeni-lul kuliwe-hay-ss-ta.
-NOM mother-ACC miss-do-PST-DEC
"Soonhi missed mother."

b. Nay-ka kay-lul mwusewe-ha-n-ta
I-NOM dog-ACC be.afraid-do-PRES-DEC
"I fear the dog."

(2.54) a. Swunhi-eykey/ka emeni-ka kuliwe-ss-ta
-DAT/NOM mother-NOM miss-PST-DEC
"Soonhi missed mother."

b. Na-eykey/ka kay-ka mwusep-ta
I-DAT/NOM dog-NOM be.afraid-DEC
"I am afraid of the dog."

In this section, I will study the differences and similarities between these two constructions and propose verb classes and lexical representations for these two types of psych-verbs according to the criteria proposed in section 2.1.2. I will refer to the examples that follow the pattern of (2.53) as *e-ha* form psych-verb constructions, and those that follow (2.54) as bare-form psych-verb constructions.

2.2.1. Two Types of Korean Psych-Verb Constructions

Both constructions contain an experiencer or cognizer, which should be animate and typically human, and a theme or stimulus. Although both psych-verb classes apparently have the same thematic roles[44], they have different syntactic characteristics. The case-marking patterns and lexical forms are different for the two constructions. There are minimal pairs that differ only with respect to the verbal suffix (i.e. *e-ha* 'do') and the case-marking pattern. In (2.53), the verbal suffix *e-ha* 'do' appears with what are considered regular transitives, . The first NP, the experiencer, gets NOM and the second NP, the theme or the stimulus, gets ACC, just as with regular transitive verbs. In (2.54),

[44]In section 2.2.2.6, I will propose that they have different thematic roles because of different Aktionart.

no overt verbal suffix *e-ha* occurs. The experiencers are marked DAT/NOM and the themes are marked NOM, not ACC. There is no restriction on *e-ha* form psych-verbs, as is shown in (2.55). However, bare-form psych constructions can only be used when the experiencer (i.e. dative nominal) is first person singular in affirmative sentences as shown in (2.56) (cf. B.S. Park 1972, 1974, I.S. Yang 1972b, C.M. Lee 1973, O'Grady 1991, among others)[45].

(2.55) a. John-i thokki-lul yeyppe-ha-n-ta
-NOM rabbit-ACC lovely-do-PRES-DEC
"John loves rabbits."

b. John-i hippi-lul pwulewe-ha-n-ta
-NOM hippie-ACC jealous-do-PRES-DEC
"John envies hippies."

(2.56) a. *John-i/eykey thokki-ka yeypwu-ta
-NOM/DAT rabbit-NOM lovely-DEC
"John loves rabbits."

b. *John-i/eykey hippi-ka pwulep-ta
-NOM/DAT hippie-NOM jealous-DEC
"John envies hippies." (I.S. Yang 1972:164)

These requirements can be explained as reflections of the fact that assertions about mental states can be appropriately only by the experiencer. However, these requirements are relaxed in the past tense, where the speaker can report another person's feeling as in (2.57).

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[45] For example, B.S. Park (1974: 60) proposes Surface Structure Constraint as follows: The subject noun of a subjective verb sentence (i.e. bare-form psych-verb construction in my term) is first person (singular). Kuno (1973: 83-84) mentions similar cases in Japanese.

In addition, in questions only second person can be the experiencer in bare-form psych-verb constructions as shown in (i).

(i) a. *John-i/eykey hippi-ka pwulep-ni ?
-NOM/DAT hippie-NOM jealous-Q
"Does John envy hippies ?"
cf. John-i hippi-lul pwulewe-ha-ni ?
-NOM hippi-ACC jealous-do-Q

b. ney-ka/eykey hippi-ka pwulep-ni ?
you-NOM/DAT hippi-NOM jealous-Q
"Do you envy hippies ?"

(2.57) a. John-i/-eykey thokki-ka yeyppe-ess-ta
-NOM/-DAT rabbit-NOM lovely-PST-DEC
"John has loved rabbits."

b. John-i/-eykey hippi-ka pwulewe-ss-ta
-NOM/-DAT hippie-NOM jealous-PST-DEC
"John envied hippies."

An interesting syntactic characteristic of bare-form psych-verb constructions (also *e-ha* form psych-verb constructions) is that the DAT or NOM experiencer always controls subject honorification, reflexivization, and *-myense* constructions, as is shown in (2.58)-(2.60).

(2.58) Subject Honorific Agreement

a. *John-i /-eykey Kim-sensayng-nim-i kuliwu-si-ta
-NOM /-DAT -teacher-HON-NOM miss-SH-DEC
"John misses (HON) Teacher Kim (HON)."

b. Kim-sensayng-nim-i /-eykey John-i kuliwu-si-ta
-teacher-HON- NOM-DAT -NOM miss-SH-DEC
"Teacher Kim (HON) misses (HON) John."

(2.59) Reflexive Pronoun Interpretation

a. *John-i/-eykey Mary$_i$ -ka [caki$_i$-uy nwui tongsayng-pota] kulip-ta
-NOM/-DAT -NOM self -GEN younger.sister -than miss-DEC
"John misses Mary$_i$ more than self's$_i$ younger sister."

b. John$_i$-i/-eykey Mary -ka [caki$_i$-uy nwui tongsayng-pota] kulip-ta
-NOM/-DAT -NOM self-GEN younger.sister -than miss-DEC
"John$_i$ misses Mary more than self's$_i$ younger sister."

(2.6o) *-Myense* Clause Interpretation

a. * PRO$_i$ haksayng-i-myense, Kim-sensayng-nim$_i$-i/-eykey
student -be-though Kim-teacher-HON-NOM/-DAT

Swunhi$_i$-ka coh-ass-ta
-NOM like-PST-DEC
"Though she$_i$ is a student, Teacher Kim (HON) liked Swunhi$_i$."

b. PRO$_i$ haksayng-i-myense, Swunhi$_i$ -ka/-eykey Kim-sensayng-nim-i
student -be-though -NOM/-DAT Kim-teacher-HON-NOM

coh-ass-ta
miss-PST-DEC
"Though she$_i$ is a student, Swunhi$_i$ liked Teacher Kim."

The subjecthood of the DAT/NOM marked experiencer is documented in Kuno & Y.J. Kim (1985), C.Youn (1986, 1989), Shibatani (1976), among others. In section 2.3.2, however, I will argue that these phenomena are semantic phenomena without reference to grammatical relations[46].

2.2.2. Verb Classes and Lexical Representation of Two Psych-Verbs.

In this section, I will use the tests from section 2.1.2 to show that *e-ha* psych-verbs are Activities and bare-form psych-verbs are States[47], and I will propose the lexical representation for the two types of psych verbs.

2.2.2.1. Stativity: Test 1, Test 2 and Test 8

Recall that Tests 1 and 2 are diagnostics for the stativity of verbs, and Test 8 distinguishes Activities from Achievements and Accomplishments. Examples from Test 1 and 8 are shown below.

(2.61) a. Swunhi-ka Chelswu-lul coha-ha-uncwungi-ta
-NOM -ACC like-do -PROG-DEC
"Soonhi is liking Chulsoo./ Soonhi has liked Chulsoo."

b. *Swunhi-ka Chelswu-ka coh-uncwungi-ta
-NOM - NOM be.likable-PROG-DEC

(2.62) a. Nay-ka kay-lul mwusewe-ha-uncwungi-ta
I-NOM dog-ACC fear -do- PROG-DEC
"I am fearing the dog./ I have feared the dog."

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[46]Pointing out some problems in the subject honorification analysis, S.K.Yun (1991) suggests a topic-oriented honorific analysis which attempts to characterize the occurence of *-si-* with the Topic Honorific Agreement Principle (ibid.: 569). Also, refer to Y-B. Kim (1987) for GPSG approach to Korean honorifics.

[47]In Japanese, Kuno (1973: 84) mentions that *garu* means 'to show a sign of, to behave like-ing', and it changes verbals of internal feeling into those of outward manifestation of internal feeling. *mitai* 'be anxious to see' and *hosii* 'want' are state verbals while *mitagaru* and *hosigaru* are action verbals. In Kuno's (1973) terms, Korean *e-ha* form psych-verbs are action verbs and bare-form psych-verbs are state verbs.

b. * Nay-ka kay-ka mwusep-uncwungi-ta
I-NOM dog-NOM fear- PROG-DEC

Although English translations for (2.61) and (2.62) are awkward, the *e-ha* form psych-verbs can occur with the progressive form *-uncwungi-* (i.e. Test 1), and this preogressive form entails that the experiencer has had the experience that is in progress (i.e. Test 8). That is, (2.61a) entails not only that Swunhi likes Chelswu now, but also that she has liked him already. (2.62a) entails that I fear the dog now and that I have feared the dog already. On the other hand, bare-form psych-verbs cannot occur in the progressive form, as demonstrated by (2.61b) and (2.62b).[48]

The result of Test 2 show that bare-form psych-verbs are states and *e-ha* form psych -verbs are non-states.

(2.63) a. Swunhi-ka Chelswu-lul coha-ha-n-ta
-NOM -ACC like-do -PRES-DEC
"Soonhi likes Chulsoo."/ "Soonhi is liking Chulsoo."

b. *Swunhi-ka Chelswu-ka coh-un-ta
-NOM - NOM be.likable-PRES-DEC

(2.64) a. Nay-ka kay-lul mwusewe-ha-n-ta
I-NOM dog-ACC fear -do- PRES -DEC
"I do fear the dog."/ "I am fearing the dog."

b. * Nay-ka kay-ka mwusep-n-ta
I-NOM dog-NOM fear- PRES-DEC

As shown in (2.63) and (2.64), *e-ha* form psych-verbs can take the present tense *-(u)n* and the present tense form entails progressive process to like or fear, while bear-form psych-verbs cannot occur with *-(u)n* in present form. In this sense, bare-form psych-verbs are similar to predicative adjectives, in that both imply an inherent state. From these fact we

[48]B.S. Park (1974: 47) argues that these two types of psych-verbs are different in their semantics: bare-form psych-verbs are stative verbs while *e-ha* form psych-verb are non-stative.

can say that *e-ha* form psych-verbs are non-states, and bare-forms are states[49] since *e-ha* form psych-verbs pass the Test 1, Test 2 and Test 8 whereas bare-form psych-verbs do not.

(2.65) Test 1, Test 2 and Test 8 applied to psych-verbs

Criterion	*e-ha* form	bare-form
Test 1: Occurs with progressive form *-(u)ncwungi-ta.*	YES	NO
Test 2: The present tense *-(u)n-* entails action in progress/ chnage of state	YES	d.n.a.
Test 8: Progressive form entails *x has ƒ ed.*	YES	d.n.a.

2.2.2.2. Test 3: Occurs with adverbs like *paklyekisskey* / *himchakey* /*hwaltongcekulo/ hwalpalhi* 'vigorously', *swutasulepkey* 'actively', etc.

In section 2.2.2.1, we demonstrated that *e-ha* form psych-verbs are non-states and bare-forms are states. With Test 3, we can see what kind of non-state the *e-ha* form psych-verb is.

(2.66) a. Swunhi-ka Chelswu-lul paklyekisskey coha-hay-ss-ta
-NOM -ACC vigorously like -do-PST-DEC
"Soonhi vigorously liked Chulsoo."

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[49]Imperative or propositive formation is an often-used test for agentivity (cf. Y.J. Kim 1990). *E-ha* form psych-verbs can take imperatives and propositives (i.e. 'let's' imperatives), but bare-form can not, as shown in (i) and (ii):

(i) a. Chelswu-lul coha-ha-ca
-NOM like-do-PROP
" Let's like Chelswu."

b. *Chelswu-ka coh-ca
-NOM be.likable-PROP

(ii) a. kay-lul mwusewe-ha-yela
dog-ACC fear - do -IMP
"(You) fear the dog."

b. * kay-ka mwusewe-la
dog-NOM fear -IMP

The fact that the *e-ha* form psych-verbs, but not the bare-form pysch-verbs, may occur in imperative and propositive forms supports the idea that the former are non-states and the latter are states.

b. *Swunhi-ka Chelswu-ka paklyekisskey coh-ass-ta
-NOM - NOM vigorously be.likable-PST-DEC

(2.67) a. Nay-ka kay-lul swutasulepkey mwusewe-hay-ss-ta
I-NOM dog-ACC actively fear -do- PST-DEC
"I actively feared the dog."

b. * Nay-ka kay-ka swutasulepkey mwusewe-ss-ta
I-NOM dog-NOM actively fear- PST-DEC

As shown in (2.66) and (2.67), *e-ha* form psych-verbs can occur with adverbs like *vigorously*, *actively* etc. , but bare-forms cannot. For Test 3, *e-ha* psych-verbs act like Activities (or Accomplishment), and bare-form psych-verbs act like States (or Achievements).

(2.68) Test 3: Occurs with adverbs like *paklyekisskey* / *himchakey* /*hwaltongcekulo/ hwalpalhi* 'vigorously', *swutasulepkey* 'actively', etc.

a. *e-ha* form psych verb: yes
b. bare-form psych verbs: no

2.2.2.3. Test 4: Occurs with *hansikan-tongan* 'for an hour' and Test 7: 'for an hour' entails 'at all times in the hour'

As shown in (2.69) and (2.70), both *e-ha* form psych-verbs and bare-form psych-verbs can occur with *hansikan-tongan* 'for an hour' (i.e. Test 4).

(2.69) a. Swunhi-ka Chelswu-lul hansikan-tongan coha-hay-ss-ta
-NOM -ACC one.hour-for like -do -PST-DEC
"Soonhi has liked Chulsoo for an hour.
(After one hour, Soonhi didn't like him.")

b. Swunhi-ka Chelswu-ka hansikan-tongan coh-ass-ta
-NOM - NOM one.hour-for be.likable-PST-DEC
"Soonhi has liked Chulsoo for an hour."

(2.70) a. Nay-ka kay-lul hansikan-tongan mwusewe-hay-ss-ta
I-NOM dog-ACC one.hour-for fear -do- PST-DEC
"I have feared the dog for an hour."
(However, I don't fear the dog anymore.)

b. Nay-ka kay-ka hansikan-tongan mwusewe-ss-ta
I-NOM dog-NOM one.hour-for fear- PST-DEC
"I have feared the dog for an hour."

However, there is a semantic difference between them. *E-ha* form psych-verb constructions entail that the experiencer (i.e. *Swunhi* in (2.69a) and *Nay* 'I' in (2.70a))

have experienced the theme (i.e. *Chelswu* in (2.69a) and *kay* 'dog' in (2.70b)) only for an hour and that after the hour the experiencer didn't experience the theme any longer. In bare-form psych-verb constructions, this entailment does not exist. Although there is the semantic difference, however, both constructions entail that the event happened at all times in the hour (i.e. Test 7).

(2.71) Test 4 and 7 to psych-verbs

Criterion	*e-ha* form	bare-form
Test 4: Occurs with *hansikan-tongan* 'for an hour'	YES	YES
Test 7: 'for an hour' entails 'at all times in the hour'	YES	YES

In section section 2.2.2.1, we demonstrated that bare-form psych-verbs are states and *e-ha* form psych-verbs are non-states. The test result (2.71) indicates that both psych verbs are neither Achievements nor Accomplishments. As a result of these facts, *e-ha* form psych-verbs are activities and bare-forms are states.

2.2.2.4. Test 5 and 6: Telicity

In section 2.1.2.4, I mentioned that when states and activities occur with *hansikan-maney* 'in an hour' in Korean, they entail that the event started after an hour, rather than finished within an hour This phenomenon contrasts with achievements and accomplishments. Let's consider how psych-verbs behave with relation to this test.

(2.72) a. Swunhi-ka Chelswu-lul hansikan-maney coha-hay-ss-ta
-NOM -ACC one.hour-in like -do-PST-DEC
"Soonhi started to like Chulsoo after an hour."
(but does not mean that * "Soonhi liked Chulsoo for an hour.")

b. ?Swunhi-ka Chelswu-ka hansikan-maney coh-ass-ta
-NOM - NOM one.hour-in be likable-PST-DEC

(2.73) a. Nay-ka kay-lul hansikan-maney mwusewe-hay-ss-ta
I-NOM dog-ACC one.hour-in fear -do- PST-DEC
"I started to fear the dog after an hour."
(does not mean that " * I liked the dog for an hour.")

b. ?Nay-ka kay-ka hansikan-maney mwusewe-ss-ta
I-NOM dog-NOM one.hour-in fear- PST-DEC

As shown in (2.72) and (2.73), *e-ha* form psych-verbs can occur with 'in an hour', but they mean that the experiencer begins Xing after an hour, but they do not mean that the events are completed within an hour. Bare-form psych-verbs can not occur with 'in an hour' like regular states. Both constructions do not pass the Test 5. This fact shows that Korean psych-verbs are atelic.

I also mentioned that intransitives cannot occur with the perfective morpheme *e-iss* if they are states or activities. As I will show in section 2.3.2, bare-form psych-verbs

are intransitive and *e-ha* form psych-verbs are transitive from perspective of RRG. Therefore, the test (i.e. Test 6) using perfective morpheme *e-iss* cannot apply to *e-ha* form psych-verbs; however, the Test 6 can apply to bare-form psych-verbs.

(2.74) a. *Swunhi-ka Chelswu-ka coh-a-iss-ta
-NOM - NOM be.likable-PERF-DEC
"Swunhi had liked Chelswu."

b. * Nay-ka kay-ka mwusewe-iss-ta
I-NOM dog-NOM fear- PERF-DEC
" I had feared the dog."

(2.74) shows that bare-form psych-verbs cannot take *-e-iss* , and thus, it is atelic. This supports the claim that bare-form psych-verbs are states. The telicity can be summarized as follows:

(2.75) a. Test 5: Occurs with *hansikan-maney* 'in an hour' and implies that an event finished in the hour.
e-ha form: NO
bare-form: NO

b. Test 6: Selection of perfective form *-e-iss-* (bare form only)
e-ha form: d.n.a.
bare form: NO

2.2.2.5. Test 9: Has Inherent Causative Semantics.

The last test for the two types of psych-verbs is to check if they have inherent causative semantics. As I mentioned in section 2.2.1, Korean psych verbs have no causative meaning. Thus, the morphological causative morpheme *-key hata* is added to *e-ha* form psych-verbs to give it causative meaning. For bare-form psych-verbs one must add the achievement morpheme *-ci-ta* 'become' and the causative morpheme *-key hata* . Examples of both types of psych-verbs are given below.

(2.76) a. Na-nun Swunhi-ka/-eykey/-lul Chelswu-lul coha-ha-key ha-yess-ta[50]
I-TOP -NOM /DAT/ACC -ACC like-do-CAU do-PST-DEC
"I made Soonhi like Chulsoo."

[50]Many studies describe two kinds of Korean causatives and the case alternation of NOM, DAT, and ACC in morphological causatives. For details, refer to Gerdts (1990) from RelG's perspective, O'Grady (1991) from CG's perspective, and K. Park (1993a) from RRG's perspective, among others.

b. Na-nun Swunhi-ka/eykey/-lul Chelswu-ka coha-ci-key ha-yess-ta
I-TOP -NOM/- DAT/-ACC -NOM like-BECOME-CAU do-PST-DEC
"(lit.) I made Soonhi become to like Chulsoo."

(2.77) a. Swunhi-nun Nay-ka/-eykey/-lul kay-lul mwusewe-ha-key ha -yess-ta
-TOP I-NOM /-DAT/-ACC dog-ACC fear -do- CAU do- PST-DEC
"Soonhi caused me to fear the dog."

b. Swunhi-nun Nay-ka/-eykey/-lul kay-ka
-TOP I-NOM/-DAT/ -ACC dog-NOM

mwusewe-ci-key ha-yess-ta
fear-BECOME-CAU do-PST-DEC
"(lit.) Soonhi caused me to become afraid of the dog."

Examples (2.78) and (2.79) show that it is impossible to have the accusative case with duration/frequency adverbial nominal. This supports the claim that neither type of psych-verbs is not an Accomplishment. In other words, neither type of psych-verbs does not have inherent causative semantics.

(2.78) a. ??Swunhi-ka Chelswu-lul hansikan-lul coha-hay-ss-ta
-NOM -ACC one.hour-ACC like -do-PST-DEC
"Soonhi did like Chulsoo for an hour."

b. *Swunhi-ka Chelswu-ka hansikan-lul coh-ass-ta
-NOM - NOM one.hour-ACC be.likable-PST-DEC

(2.79) a. ??Nay-ka kay-lul twupen-lul mwusewe-hay-ss-ta
I-NOM dog-ACC two.times-ACC fear -do- PST-DEC
"I did fear the dog two times."

b. *Nay-ka kay-ka twupen-lul mwusewe-ss-ta
I-NOM dog-NOM two.times-ACC fear- PST-DEC

To be grammatical sentences, (2.78) should occur with *hansikan-tongan* 'for an hour' without the accusative marker (cf. section 2.2.2.3), and (2.79) should occur with *twupen* 'two times' without any case marker.

From section 2.2.2.1-2.2.2.5, we can summarize the verb classes of the two types of psych-verbs as follows:

(2.80) Verb Classification of Korean Psych Verbs

Criterion	States (bare-form psych verbs)	Activities (*e-ha* form psych verbs)
1. Occurs with progressive form *-(u)ncwungi-ta*	NO	YES
2. The present tense *-(n)un-* entails action in progress/ change of state	d.n.a.	YES
3. Occurs with adverbs like *paklyekisskey* 'vigorously' and *swutasulepkey* 'actively'	NO	YES
4. Occurs with *hansikan-tongan* 'for an hour'	YES	YES
5. Occurs with *hansikan-maney* 'in an hour' and implies that an event have completed in the hour.	NO	NO
6. Selection of perfective form *e-iss*	NO	d.n.a.
7. 'for an hour' entails 'at all times in the hour'	YES	YES
8. Progressive form entails 'x has Øed'	d.n.a.	YES
9. has inherent causative semantics	NO	NO

Table (2.80) shows that bare-form psych-verbs are States and *e-ha* form psych-verbs are Activities according to the criteria proposed in section 2.1.2. S.A. Chun and Zubin (1990) propose a similar analysis in which, in bare-form psych-verb constructions ('experiential constructions' in their terms), the experiencer is categorized as a location approached by a theme (i.e. stativity), while *e-ha* form psych-verb constructions ('agentive constructions' in their terms) has a force-dynamic (i.e. agentivity or activity). Thus, they propose the following cognitive folk models for the two types of psych-verbs.

(2.81) Folk models of mental events (S.A.Chun and Zubin 1990: Table 3)

	experiencer object of experience
Experiential construction (i.e. bare-form psych-verbs)	motion LOC <---------- Stimulus (Source)
Agentive construction (i.e. *e-ha* form psych-verbs)	energy AGENT ----------> Object

2.2.2.6. Lexical Representation of Psych-verbs.

RRG claims that States and Activities are primitives and that Achievements and Accomplishments are derived from these primitives, using derivational examples of State-> Achievement -> Accomplishment in many languages as evidence for this claim (cf. section 2.1.1.2). Korean psych-verb constructions also support this claim. In the previous section, we demonstrated that bare-form psych-verbs are States, and that *e-ha* form psych-verbs are Activities. The bare-form psych-verbs show a derivational relationship between State-> Achievement-> Accomplishment. (2.82) shows that if the BECOME morpheme *-ci-* is added to stative psych-verbs, then it can be an achievement verb. In turn, the achievement verb can become an accomplishment by taking CAUSATIVE morpheme *-keyhata* (cf. Wilkins 1990 for a similar situation in Mparntwe Arrernte).).

(2.82) Examples of derivational relationships between State -> Achievement-> Accomplishment in bare-form psych verbs and LS[51].

States	Achievements (State + *ci-ta*)	Accomplishments (Achievement +*keyha-ta*)
kulip-ta 'miss, long for'	kuliwe-ci-ta	kuliwe-ci-keyha-ta
mwusep-ta 'be afraid of'	mwusewe-ci-ta	mwusewe-ci-keyha-ta
mip-ta 'hate'	miwe-ci-ta	miwe-ci-keyha-ta
coh-ta 'like, prefer'	coha-ci-ta	coha-ci-keyha-ta
silh-ta 'dislike'	sile-ci-ta	sile-ci-keyha-ta
pwulep-ta 'be envious of'	pwulewe-ci-ta	pwulewe-ci-keyha-ta
mwukep-ta 'feel heavy'	mwukewe-ci-ta	mwukewe-ci-keyha-ta
elyep-ta 'be difficult for'	elyewe-ci-ta	elyewe-ci-keyha-ta
yeyppwu-ta 'be pretty, good'	yeyppe-ci-ta	yeyppe-ci-keyha-ta
wusup-ta 'be funny'	wusuwe-ci-ta	wusuwe-ci-keyha-ta
kwiyep-ta 'be lovable'	kwiyewe-ci-ta	kwiyewe-ci-keyha-ta
cikyep-ta 'tedious'	cikyewe-ci-ta	cikyewe-ci-keyha-ta
swip-ta 'be easy'	swiwe-ci-ta	swiwe-ci-keyha-ta
pwulan-ha-ta 'feel unsecured'	pwulan-hay-ci-ta	pwulan-hay-ci-keyha-ta
ywukhway-ha-ta 'feel pleasant'	ywukhway-hay-ci-ta	ywukhway-hay-ci-keyha-ta
pwulkhway-ha-ta 'feel upset'	pwulkhway-hay-ci-ta	pwulkhway-hay-ci-key ha-ta
sinki-hata 'be amazed'	sinki-hay-ci-ta	sinki-hay-ci-keyha-ta

LS: States: **predicate´** (x,y) [+MR]
Achievements: BECOME **predicate´** (x,y) [+MR]
Accomplishments: [**do´**(z, Ø)] CAUSE [BECOME **pred´** (x,y)]
x=experiencer, y=theme, z=effector

[51]These stative and activity examples are borrowed from S.A. Chun and Zubin's (1990) Table 1: Morpho-syntactic relations between experiential and agentive predicates. They include other examples such as verb-*i-ta* , verb-*ci-ta*, noun-*toy-ta*, noun-*sulep-ta*, etc. However, I omit them here since it is not relevant to my argument.

As an Activity, the*e-ha* form psych-verbs cannot show this same set of derivational possiblities. As shown in (2.83), Activity verbs with *-ci-ta* 'become' are ungrammatical; however, Activity verb plus *keyha-ta* are possible .

(2.83) Examples of derivational relationships between Activity -> Achievement-> Accomplishment in *e-ha*-form psych verbs and LS.

Activities	Activity +*ci* + *ta*	Accomplishment (Activity + *keyha-ta*)
kuliwe-ha-ta 'miss, long for'	*kuliwe-hay-ci-ta	kuliwe-ha-keyha-ta
mwusewe-ha-ta 'be afraid of'	*mwusewe-hay-ci-ta	mwusewe-ha-keyha-ta
miwe-ha-ta 'hate'	*miwe-hay-ci-ta	miwe-ha-keyha-ta
coha-ha-ta 'like, prefer'	*coha-hay-ci-ta	coha-ha-keyha-ta
silhe-ha-ta 'dislike'	*silhe-hay-ci-ta	silhe-ha-keyha-ta
pwulewe-ha-ta 'be envious of'	*pwulewe-hay-ci-ta	pwulewe-ha-keyha-ta
mwukewe-ha-ta 'feel heavy'	*mwukewe-hay-ci-ta	mwukewe-ka-keyha-ta
elyewe-ha-ta 'be difficult for'	*elyewe-hay-ci-ta	elyewe-ha-keyha-ta
yeyppe-ha-ta 'be pretty, good'	*yeyppe-hay-ci-ta	yeyppe-ha-keyha-ta
wusuwe-ha-ta 'be funny'	*wusuwe-hay-ci-ta	wusuwe-ha-keyha-ta
kwiyewe-ha-ta 'be lovable'	*kwiyewe-hay-ci-ta	kwiyewe-ha-keyha-ta
cikyewe-ha-ta 'tedious'	*cikyewe-hay-ci-ta	cikyewe-ha-keyha-ta
swiwe-ha-ta 'be easy'	*swiwe-hay-ci-ta	swiwe-ha-keyha-ta
pwulan-hay-ha-ta 'feel unsecured'	*pwulan-hay-hay-ci-ta	pwulan-hay-ha-keyha-ta
ywukhway-hay-ha-ta 'feel pleasant'	*ywukhway-hay-hay-ci-ta	ywukhway-hay-ha-keyha-ta
pwulkhway-hay-ha-ta 'feel upset'	*pwulkhway-hay-hay-ci-ta	pwulkhway-hay-ha-keyha-ta
sinki-hay-hata 'be amazed'	*sinki-hay-hay-ci-ta	sinki-hay-ha-keyha-ta

LS: Activity **do´** (x,[**predicate´** (x,y)])
Accomplishments: [**do´**(z, Ø)] CAUSE [**do´**(x, [**pred´** (x,y)])][52]
x=effector and experiencer, y=theme, z=effector

RRG assumes that States and Activities are primitives. It is very difficult to find examples of derivation from Activity -> Achievement -> Accomplishment even though the derivational relationship is possible[53]. The fact that bare-form psych verbs can be serve as

[52]Van Valin (p.c.) points out that there is a general question, whether 'BECOME' can belong to LS of Accomplishments,'ϕ CAUSE ψ', when ψ is an activity predicate. With Korean Accomplishments derived from activity psych-verb, there is no morpheme *-ci-* 'BECOME', we can say that the question is open. Thus, I do not include BECOME in the LS of accomplishment.

[53]Van Valin (p.c.) mentions that there is no example of Activity -> Achievement in English, and he knows only a few examples of such a derivational relationship, in Russian and Georgian.

a derivational base for Achievements and accomplishments, but that *e-ha* form psych-verbs cannot is further evidence that bare-forms are States and *e-ha* forms are Activities. From this point on, we will call bare-form psych-verbs stative (intransitive) psych verbs and *e-ha* form psych-verbs activity (transitive) psych-verbs.

With these different aspectual verb classes, we can represent the LS of the two types of psych verb constructions as follows:

(2.84) Activity Psych-verb Constructions (2.53)

a. Swunhi-ka emeni-lul kuliwe-hay-ss-ta.
-NOM mother-ACC miss-do-PST-DEC
"Soonhi missed mother."

LS: (**do**´ (Soonhi,[**miss**´ (Soonhi, mother)])
Soonhi = effector+experiencer, mother = theme

b. Nay-ka kay-lul mwusewe-ha-n-ta
I-NOM dog-ACC be.afraid-do-PRES-DEC
"I fear the dog."

LS: (**do**´ (I, [**be-afraid**´ (I, the dog)])
I=effector+experiencer, the dog =theme

(2.85) Stative Psych-verb Constructions (2.54)

a. Swunhi-eykey/ka emeni-ka kuliwe-ss-ta
-DAT/NOM mother-NOM miss-PST-DEC
"Soonhi missed mother."

LS: **miss**´ (Soonhi, mother)[+MR]
Soonhi = experiencer, mother = theme

b. Na-eykey/ka kay-ka mwusep-ta
I-DAT/NOM dog-NOM be.afraid-DEC
"I am afraid of the dog."

LS: **be-afraid**´ (I, the dog) [+MR]
I=experiencer, the dog =theme

Notice that the LS in (2.84) consists of (**do**´ (x, [LS of stative psych-verbs]) and that the morphological structure of activity psych-verbs consists of the stative psych-verb + *hata* 'do'. The LS and morphological form of activities support Dowty's (1979) limited lexical derivational scheme[54], which says that Activities should be derived from Stative

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[54]This derivational scheme is limited to perception and cognition verbs.

predicates. The derivational scheme of Activity psych-verbs from Stative psych-verb in Korean supported by four points. First, the LS of Activity psych-verbs is identical to the LS of States plus **do´**(x,...). Second, Activity psych-verbs are morphologically derived from States adding the agentive verb *-hata* 'do'[55]. Third, I proposed the LS for the two types of psych-verbs: Activity; **do´**(x, [**predicate´** (x,y)]) x=effector and experiencer, y=theme, and States; **predicate´** (x,y)[+MR] x= experiencer, y=theme. The thematic relations are defined in terms of the argument position in the decomposed LS representation in RRG (Van Valin 1993a:39). These different thematic relations support S.A. Chun and Zubin's (1990) cognitive analysis that the Activity psych-verb constructions (their 'agentive constructions') have an external observer/cognizer, whereas the stative psych-verb constructions (their 'experiential constructions') identify the cognizer with the experiencer and are more subjective than Activities. Fourth, RRG assumes a universal exception to the default generalization regarding the number of macroroles: multiple-argument activity verbs never have an undergoer macrorole since the prototypical thematic relation of the UNDERGOER, i.e. patient, never occurs with activity verbs (cf. Van Valin 1993a:47-48). Thus, Korean Activity psych-verbs are not really the same as general Activities since they can get not only the ACTOR (i.e. NOM case) but also the UNDERGOER (i.e. ACC case) (cf. section 2.3.2.2.). In this sense, Activity psych-verbs like regular transitive verbs. If we think of Activity psych-verbs as being derived from stative counterpart through nuclear juncture (cf. section 4.3.3.2), then we can solve the problems[56].

2.3. Grammatical Relations and Case-marking Rules in Psych Verb Constructions.

There is a case alternation between dative and nominative case marking on the experiencer in stative psych-verb constructions (cf. section 2.2.1), illustrated by (2.86). The experiencer, rather than the theme argument, controls subject honorification, reflexivization, and *-myense* constructions[57].

(2.86) a. Swunhi-eykey kay-ka mwusewe-ss-ta
-DAT dog-NOM fear-PST-DEC

b. Swunhi-ka kay-ka mwusewe-ss-ta
-NOM dog-NOM fear-PST-DEC
"Soonhi feared the dog."

There have been several studies of the case-marking pattern in these stative psych-verb constructions done under different names like 'inversion vs. non-inversion constructions'

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[55]From this point, activity psych-verb constructions are nuclear junctures (cf. section 4.3.3.).

[56]In English, the same sort of relation exists betwen *look at* and *see*: **see´** (x,y) --> **do´** (x, [**see´** (x,y)]) (Wilkins and Van Valin 1993).

[57]In activity psych-verb constructions, these syntactic phenomena are controlled by NOM-marked experiencer, not ACC-marked theme.

(O'Grady 1991, C.Youn 1986), 'nominative subject vs. dative subject' (I.K. Kim 1990), 'advancement vs. non-advancement construction' (C.Youn 1989), and 'transitive adjectives vs. intransitive adjectives' (Y.S. Kang 1986). In all of these studies, grammatical relations, especially the notion of 'subject', play a role either directly or indirectly in explaining these case-marking and syntactic phenomena. RRG assumes that grammatical relations such as 'subject', 'object', etc. are not universal, but semantic roles are. Thus, we must explain these case-marking patterns and syntactic phenomena without reference to grammatical relations. The main purpose of this section is to handle these two syntactic phenomena within the RRG framework. That is, I will show that subject honorification, reflexivization and *-myense* constructions, and case-marking of psych-verb constructions can be explained using semantic roles. In section 2.3.1., I will review the previous studies of these phenomena, and I will privide an RRG account of the phenomena in section 2.3.2.

2.3.1. Previous Studies.

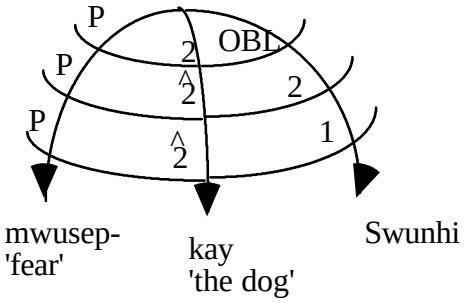
In this section, I will review the analysis of stative psych-verb constructions, within RelG, GB, and CG.

2.3.1.1. Relational Grammar

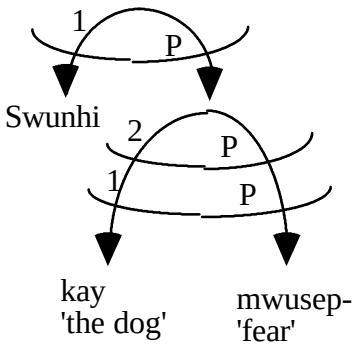
Psych-verb constructions are generally treated as inversion constructions in analyses of a number of different languages including Georgian (Harris 1984a), Udi (Harris 1984b), Italian, Japanese and Quechua (Perlmutter 1978), and Choctaw (Davies 1981, 1986). However, there are two opposing approaches to Korean stative psych-verb constructions in RelG: advancement and inversion (or retreat). The former position, which argues that the dative-marked experiencer is an initial 3 or OBL that advance to 1, is argued for by Gerdts and C. Youn (1988, 1989b), and C.Youn (1989). The latter position, that the dative-marked experiencer is an initial 1 and retreats to final 3, is argued for by C.Youn (1986) and I.K. Kim (1990).

In RelG, there are two approaches to handle the structure of stative psych-verb constructions: a monoclausal analysis (C.Youn 1986,1989, Gerdts and C.Youn 1988, I.K. Kim 1990) and a biclausal analysis (K. S. Lee 1991). In RelG, it is assumed that the stative psych-verb construction is initially unaccusative, following Perlmutter (1978) (cf. C. Youn 1989; I.K. Kim 1990). Psych-verbs are verbal and adjectival forms which do not describe willed or volitional acts, but rather describe psychological states, processes, or attributes, suggesting that the stative pysch-verb construction is initially unaccusative (cf. Y.J. Kim 1990). Thus, C.Youn (1989) and K.S. Lee (1991) propose the relational networks in (2.87).

(2.87) a. Monoclausal Advancement Approach: C. Youn (1989: 198)[58] (cf. 2.86)



b. Biclausal Unaccusative Advancement Approach: K. S. Lee (1991) (cf. 2.86)



Both analyses propose that the experiencer is a final 1 (i.e. subject) because these nominals display some subject properties[59]. These analyses can handle Subject Honorific Agreement, Reflexivization, and *-myense* clause constructions through the final 1-hood of the DAT/NOM marked experiencer. However, they have problem in that they must argue not only NOM-marked argument but also the DAT-marked one is a final 1. These

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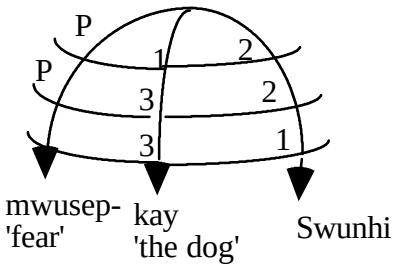
[58]Monoclausal Inversion Approach can be representend, as shown in (i). Refer to C. Youn (1989) for the problem of inversion approach.

(i) cf. I.K. Kim (1990: 74)



[59]The final 1-hood of the dative-marked experiencer is demonstrable with case stacking (C.Youn 1989: 4.1.1), subject honorification(ibid., 4.1.2), plural copying(ibid., 4.1.3), the *myense* construction(ibid., 4.1.4).

advancement approaches are against RelG's general assumption that inversion construction, rather than advancement construction, is universal (cf. Perlmutter 1978, Harris 1984a &b).

2.3.1.2. Government and Binding Theory

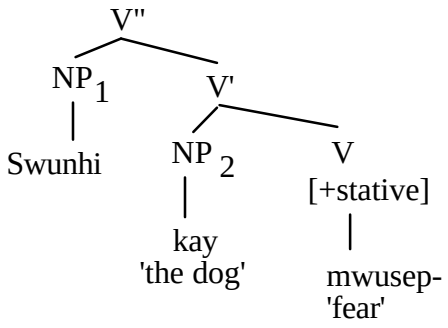
Y.S. Kang (1986) handles NOM-NOM case of stative psych-verbs in GB-theory by claiming that all case in Korean is structural, rather than inherent, and that V, rather than INFL, is the head of sentence. He refers to the stative psych-verbs as transitive adjectives (transitive stative verb) and proposes the case-assignment rule (2.88a) and mono-clausal D-structure of (2.88b).

(2.88) a. Case-marking Rule:

(i) Accusative Case is assigned to NPs which are sisters of [-stative] V^0.

(ii) Nominative Case is assigned to all non-case-marked NPs.

b. D-structure (Kang 1986: 45)



Even though the NP_2 is a sister of V, ACC case assignment is blocked because the psych-verb is [+stative]. Then through case rule (2.88aii), NP_1 and NP_2 can both get NOM case. The structure of (2.88b) can also account for the honorification agreement with the experiencer *Swunhi* instead of theme *kay* 'the dog'(cf. Kang 1986:46). Though this analysis can handle NOM-NOM case, it does not handle the DAT-NOM case-marking.

Y.J. Kim (1990) approaches the problem of the stative psych-verbs through argument structure, arguing that the verbs are unaccusative, do not assign accusative case to their complements, and do not have an external argument. Showing that there is an identical relationship between stative psych-verbs and existential verbs such as *iss* 'have', she proposes the following logical structure and argument structure, with linking between them.

(2.89) *mwusep-* 'be afraid, be scared' as a dyadic predicates:

DS: [$_{NP}$ Swunhi] [$_{NP}$ kay 'dog'] mwusep-ta

AS : 0 (a (a))

EXP: NOM/DAT Theme: NOM

LCS: [$_{STATE}$ BE (x, [$_{PLACE}$ AT SCARY] [$_{PLACE}$ AT y]]

(Y.J. Kim 1990:79)

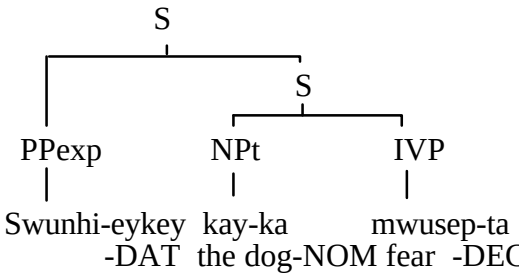
She proposes that the dative case on the experiencer is a realization of inherent oblique case assigned by the unaccusative predicate, and the nominative marking is by default under the following case marking rule:

(2.90) a. Nominative Case in Korean is not assigned by any element.
b. Default nominative marking in Korean takes place when an NP lacks a surface case.
c. The case filter in Korean states: *NP if NP has phonetic content and no surface case.

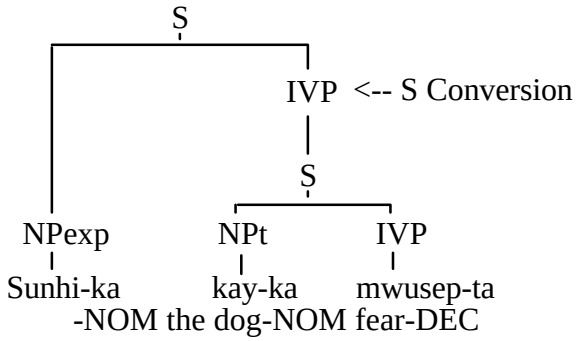
2.3.1.3. Categorial Grammar

O'Grady (1991) handles Korean inversion constructions (i.e. stative psych-predicate construction) in CG framework. In particular, he tries to solve the mysterious case alternation of DAT/NOM, which contradicts the traditional view that case serves to distinguish among a verb's arguments (cf. O'Grady 1991:97). To solve this problem, he adopts a view that the verbs are syntactically intransitive even though the lexical semantics of the verbs determines two thematic roles and that the DAT experiencer is a non-term. He proposes two different structures for stative psych-verb constructions as follows:

(2.91) a. Inversion construction



b. Non-inversion construction



With these proposed structures and the notion of 'last semantic argument', he accounts for Reflexive Interpretation, Subject Honorific Agreement, and *-myense* Clause Interpretation as follows:

(2.92) a. Reflexive Interpretation: *casin* 'self' takes the verb's last semantic argument as its antecedent.

b. Honorific Agreement: Honorific agreement is triggered by the verb's last semantic argument.

c. *-myense* Clause Interpretation: PRO in a *myense* clause is controlled by the last semantic argument of the matrix verb.

Many studies propose bi-clausal structure like (2.91b)[60] for non-inversion constructions (H.B. Lee and M.K. Kim 1988, K.S. Lee 1991, B.S. Park 1973, Y.J. Yim 1985, among others). The problem is that any analysis has to show that the theme argument is the subject of the embedded clause, yet it can not control the reflexive *casin* and subject honorific agreement, etc. For a valid bi-clausal analysis of psych verbs, the subjecthood of the theme in the embedded clause must be demonstrated

[60]O'Grady (1991:113) states that his proposal differs from the earlier proposal in the point that the sentence-initial nominative marked NP combines with IVP, not S.

2.3.2. Role and Reference Grammar

The studies mentioned in section 2.3.1. handle case-marking and syntactic grammatical processes of psych-verbs either directly (RelG, GB) or indirectly (CG) with grammatical relations. Since RRG assumes that semantic roles, rather than grammatical relations are universal, it must handle the grammatical processes and case-marking without reference to grammatical relations. RRG (Van Valin 1990b, c, 1993a) handles the agreement and case-marking rules in some languages (i.e. Icelandic, Dyirbal, Georgian, among others) by making crucial reference to macrorole and direct core argument. In this section, I examine three grammatical phenomena associated with Korean psych-verbs, i.e. subject honorification, reflexivization and *myense* construction, and I propose a case-marking rule within RRG's syntax-semantics interface framework without invoking any grammatical relations.

2.3.2.1. Syntax-semantics Interface in RRG.

As was already mentioned in section 1.1.3, RRG's assumptions regarding grammatical relations are different from other theories on three points: i) RRG does not consider the grammatical relations[61] to be basic, like RelG and LFG do, nor does it derive them from structural configurations, like GB does, ii) RRG recognizes only one syntactic function, not three as in other theories, since there is nothing in RRG such as direct object (2) and indirect object (3), and iii) RRG assumes that semantic roles[62] are universal (Van Valin 1993a:50). The central concept in RRG used for grammatical relations is 'pivot of a syntactic construction'(ibid.:56). The notion of pivot is different from syntactic subject on two points: i) pivots are construction-specific, while grammatical relations like subject are not, ii) there are many languages like Jacaltec (Van Valin 1981) and Icelandic (Van Valin 1991b) in which the syntactic pivot is not the same as subjet as defined by case-marking and verb agreement, even though the syntactic pivot is the same with syntactic subject in English. The choice of pivot for transitive verbs, which have both actor and undergoer, depends on whether the language is syntactically accusative (i.e. English) or ergative (i.e. Dyirbal, Sama) as follows:

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[61]In RRG, the definition of 'Grammatical Relation' is as follows: 'a restricted neutralization of semantic roles for syntactic purposes in a grammatical constructions'.

Van Valin (1993a:57-58) gives the examples of the grammatical relations that can be found in English equi-NP-deletion and raising constructions.

[62]Van Valin (1993a: section 4.2) gives the example of Acehnese (Austronesian, Sumatra) in which grammatical relations cannot play a role, but semantic roles can. Even though languages like Acehnese are very unusual, it provides evidence for the universality of semantic roles, rather grammatical relations.

(2.93) a. Hierarchy of markedness for pivot choice: syntactically accusative languages
Actor > Undergoer > other

b. Hierarchy of markedness for pivot choice: syntactically ergative languages
Undergoer>Actor> other

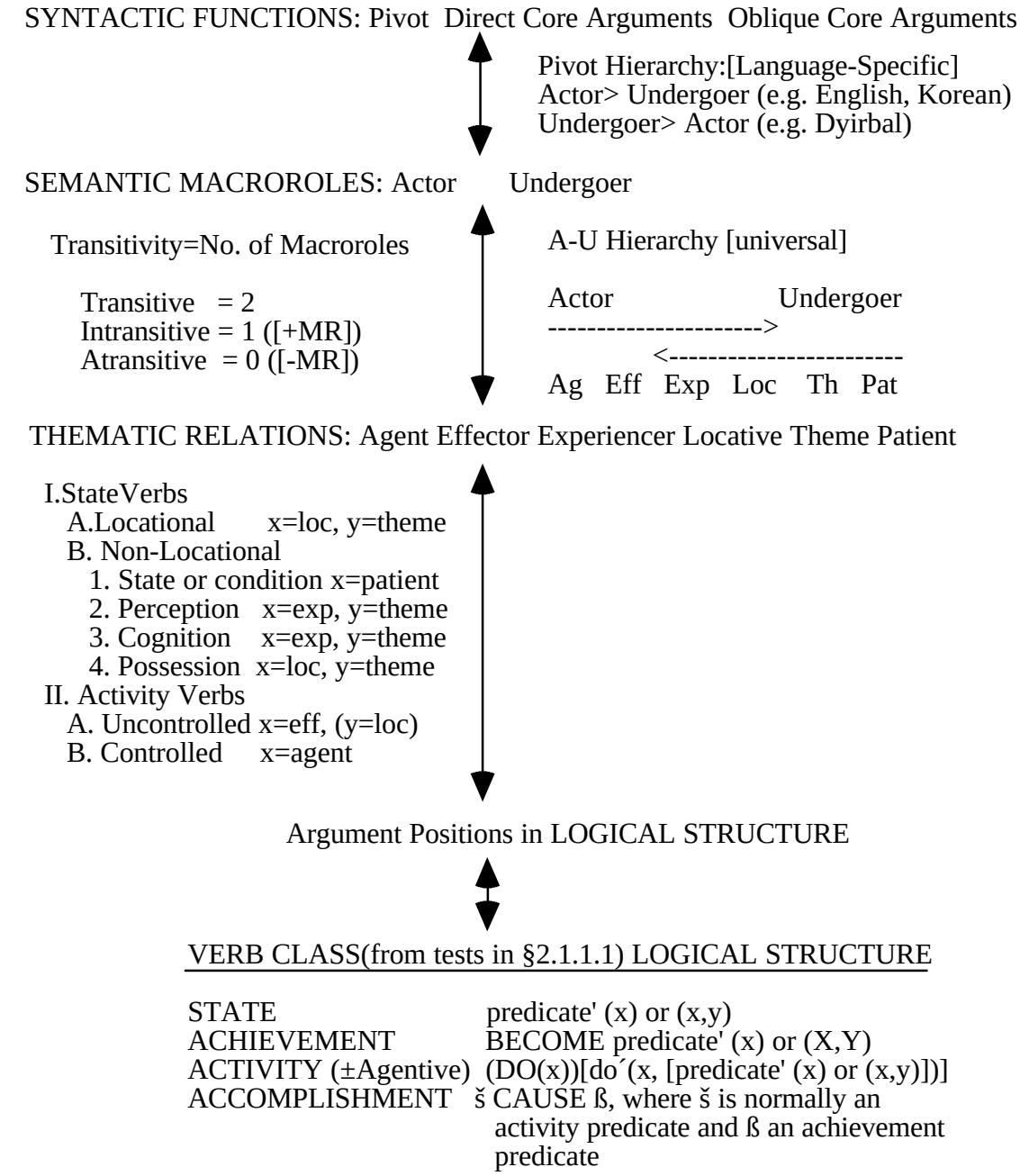
In addition RRG selection of the argument to function as pivot in a syntactic construction can vary depending upon whether discourse-pragmatic considerations influence this selection (Van Valin 1993a:64-65). If the discourse-pragmatics plays a role in the selection, it is a pragmatic pivot. If pragmatics play no role, it is a semantic pivot. The difference is described in terms [±pragmatic influence]. In the majority of languages, discourse pragmatics cannot play a role; [+pragmatic influence] is marked case, while [-pragmatic influence] is unmarked case. Thus, Van Valin (1993a:65) proposes the definition of two types of syntactic pivots as follows:

(2.94) a. Syntactic pivot [+pragmatic influence]: the selection of the argument to function as pivot of a transitive verb is not predictable from its semantic role and may be influenced by discourse-pragmatic considerations, in particular its topicality. Such a pivot will be called a PRAGMATIC PIVOT [PrP].

b. Syntactic pivot [-pragmatic influence]: the selection of the argument to function as pivot of a transitive verb is predictable from its semantic role, which is determined by the lexical semantic properties of the verb. Such a pivot will be called a SEMANTIC PIVOT [SmP].

In RRG morphosyntactic functions and structures are based on the lexical-semantic properties of verbs. The lexical representation of a given predicate determines the morphosyntactic functions. This is why an uncommonly rich system for the lexical decomposition of verbs is used to define the thematic relations which are linked to syntactic positions via the semantic macroroles. (2.95) is a representation of linking syntactic and semantic representation in RRG (cf. Van Valin 1993a:75, Figure 16).

(2.95)



In (2.95), there are two discrete levels: Logical Structure and Syntactic Function. The levels are linked through a linking algorithm. Such an algorithm "is central to a theory like RRG that posits only one level of syntactic representation, for it must be able to deal not only with canonical clause patterns, i.e. those in which the default correlations between syntactic and semantic structure exist, but also with the non-canonical patterns that motivated the use of syntactic transformations and multiple levels of syntactic representation in the first place." (Van Valin 1993a:74) There are discrete steps to arrive from the lexical representation to syntactic structure set up to insure there is no circularity.

Determination is unidirectional, from semantics to syntax. This differs from other theories where syntax is presumably derived from semantics, but the semantics is inferred from the surface syntax. (Abdoulaye 1992:21)

Other syntactic theories explain case-marking and agreement in terms of grammatical relations, either directly or indirectly (cf. section 2.3.1 for Korean psych-verb constructions). Since RRG has no place for grammatical relations such as subject and object, case marking and agreement must be accounted using other notions. RRG handles the case marking and agreement with macroroles and direct core argument status (e.g. the inversion constructions in Icelandic and Georgian, whose logical subject is in the dative case and whose logical object is in the nominative, cf. Van Valin 1990a;1991b; 1993a) .

Let's illustrated with an Icelandic example. In Icelandic, "regular case marking involves four cases: nominative, accusative, dative and genitive. The nominative case marks the subject in most instances, and the verb agrees with the nominative argument only" (Van Valin 1991b:146). However, there are sentences in which these regular case marking and agreement rules do not apply as in (2.96c, d). These are known as the phenomenon of 'quirky case'.

(2.96) a. Henni hefur alltaf ótt Ólafur leiDinlegur.
Her (D) has always thought Olaf (N) boring(Nsg)
"She has always considered Olaf boring."

b. Mer *hef/hefur/hafa alltaf ótt
Me(D) *have.1sg/have(IMPER)/have(3pl) always thought(N)

eir leiDinlegur.
they(N) boring(N)
"I have always considered Olaf boring."

c. Mér kólnar.
Me(D) get.cold (IMPER)
"I'm getting cold."

d. Mig vantar peningpa.
Me(A) lack(IMPER) money(A)
"I lack money." (Van Valin 1991b:146-147)

In (2.96a) and (2.96b), *kja* 'think, consider' has its 'logical subject' in the dative (i.e. *Henni* in (2.96a) and *Mér* in (2.96b)) and 'logical object' in the nominative (i.e. *Ólafur* in (2.96a) and *eir* in (2.96b)). The finite verb *hafa* 'have' agrees with the nominative NP, which is the logical object, rather than the dative NP which is the logical subject. In (2.96c) and (2.96d), there are no nominative NPs, and the verb does not agree with any NP. Thus, these cases do not follow regular case marking and agreement rules. Van Valin (1991b: 171-173) proposes the following alternatives.

(2.97) Case marking rules for Icelandic (Van Valin 1991b:171)

a. Highest ranking macrorole takes NOMINATIVE case.
b. The other macrorole argument takes ACCUSATIVE case.
c. Non-macrorole arguments take DATIVE as their default case.

(2.98) Agreement rules for Icelandic (Van Valin 1991b:173)

a. The finite verb agrees with the highest ranking macrorole in its clause.
b. Predicate adjectives and passive particles agree with the undergoer of the predicate of which they are a part.

To explain Icelandic quirky case and the true syntactic subjecthood of the non-nominative logical subjects of (2.96), Van Valin (1991b) proposes the following LS and accessibility to pivot hierarchy.

(2.99) Logical Structures

a. *ykja* 'think, consider' : **consider´**(x,y) [+MR] (2.96a and b)[63]
b. *kólnar* 'get.cold' : BECOME **cold´** (x) [-MR] (2.96c)
c. *vanta* 'lack': NOT **have´** (x,y)[-MR] x, y=ACC (2.96d)

(2.100) Accessibility to pivot hierarchy: the highest ranking argument with respect to the Actor end of the Actor-Undergoer Hierarchy, regardless of whether it is a macrorole or not, is the pivot. (Van Valin 1991b:181)

The intransitivity of *ykja* and (2.100) explain the quirky case in Icelandic. Since the dative NP (i.e. experiencer) outranks the nominative undergoer (i.e. theme) with respect to the Actor-Undergoer Hierarchy, the dative NP functions as syntactic pivot (i.e. syntactic subject) according to (2.100). In this way, RRG explains Icelandic case marking and verb agreements without reference to grammatical relations.

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[63]Notice that *ykja* is analyzed as intransitive. If it is analyzed as transitive (i.e. Exp=A, Theme =U), then there are several problems: i) Case marking is exceptional and must be stipulated, ii) Finite verb agreement is exceptional and must be stipulated, iii) Failure to passivize is exceptional and must be stipulated. If *y kja* is analyzed as intransitive (i.e. Exp= direct core argument, Theme =U), then case marking, verb agreement and failure to passivize are all predicted (cf. Van Valin 1991b).

2.3.2.2. Three Syntactic Phenomena Associated with Psych Verbs.

In section 2.2.1, I mentioned that the first argument, which is either DAT or NOM-marked in stative psych verb constructions and NOM in activity psych-verbs always controls subject honorification, reflexivization, and *-myense* constructions. These syntactic phenomena are regarded as tests of subjecthood in other theories[64] but will be handled using thematic roles and macroroles here.

In Korean, like Icelandic, the NOM NP is the actor, and functions as syntactic subject. The ACC NP is the undergoer and works as syntactic object in most clauses. The NOM NP always controls subject honorification, reflexivization, and *-myense* constructions. This is illustrated in (2.101).

(2.101) a. apeci-kkeyse Swunhi-lul ttayli-si-ess-ta
father-NOM(HON) -ACC hit-SH-PST-DEC
"Father (HON) hit (HON) Soonhi."

b. apeci$_i$-kkeyse Swunhi$_j$-eykey caki$_{i/*j}$-uy chayk-lul cwu-si-ess-ta
father-NOM(HON) -DAT self$_{i/*j}$-GEN book-ACC give-SH-PST-DEC
"Father(HON) gave(HON) his book to Soonhi."

c. PRO$_{i/*j}$ haksayng-i-myense, apeci$_i$-kkeyse Swunhi$_j$-eykey
student-be-though father-NOM(HON) -DAT

ton-lul cwu-si-ess-ta
money-ACC give-SH-PST-DEC
"Though he$_{i/*j}$ is a student, father$_i$(HON) gave(HON) money to Soonhi$_j$."

In (2.101), the Actor (i.e. *apeci* 'father') controls subject honorification (2.101a), reflexivization (2.101b), and the *-myense* construction (2.101c), neither the undergoer nor dative marked argument. That is, the highest ranking macrorole (i.e. Actor) is the pivot in these syntactic constructions. In this instance, regular agreement rule for Icelandic (cf. 2.98a) can apply to these three syntactic constructions with slight revision as follows:

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[64]These three syntactic phenomena have been used as a powerful test to determine subjecthood on some sentence patterns where their grammatical relations of NPs are not clear. The subject properties of these syntactic phenomena were first observed by Shibatani (1976), many studies (Kuno and Y-J Kim 1985, C. Youn 1986; 1989, among others) adopt these phenomena as tests to determine subjecthood. Similar Japanese grammatical processes like subject honorification, reflexive binding, control, possessor ascension, cross-clausal coreference, and quantifier floating are regarded as evidence for subjecthood by Shibatani (1977,1990).

However, S.K. Yun (1991) suggests a topic-oriented honorific analysis in Korean, and Y-B. Kim (1987) attempts to analyze Korean honorification within a GPSG framework, claiming that some nouns triggering the subject honorific agreement need to be specified with an inherent honorific feature [+HON] in the lexical entry.

(2.102) Syntactic Pivot for Korean Subject Honorification, Reflexivization, and *-myense* Constructions [General Case]:

The highest ranking macrorole is the pivot for subject honorification, reflexivization, and *-myense* constructions in its clause.

However, this syntactic rule can not apply to Korean stative psych-verb constructions, since not only the NOM NP, but also the DAT NP can act as controller in these constructions as in (2.103)-(2.105).

(2.103) Subject Honorific Agreement

a. *John-i /-eykey Kim-sensayng-nim-i mwusewu-si-ta
-NOM /-DAT -teacher-HON-NOM fear-SH-DEC
"John fears (HON) teacher Kim (HON)

b. Kim-sensayng-nim-i /eykey John-i mwusewu-si-ta
-teacher-HON- NOM/DAT -NOM fear-SH-DEC
"Teacher Kim (HON) fears (HON) John."

(2.104) Reflexive Pronoun Interpretation.

a. *John-i/-eykey Mary$_i$ -ka [caki$_i$-uy nwui tongsayng-pota] mwusep-ta
-NOM/-DAT -NOM self -GEN younger.sister -than fear-DEC
"John fears Mary$_i$ more than self's$_i$ younger sister."

b. John$_i$-i/-eykey Mary -ka [caki$_i$-uy nwui tongsayng-pota] mwusep-ta
-NOM/-DAT -NOM self -GEN younger.sister -than fear-DEC
"John$_i$ fears Mary more than self's$_i$ younger sister."

(2.105) *Myense*-construction

a. *PRO$_i$ kyengchal-i-myense, Mary-ka/-eykey Swunhi$_i$ -ka mwusep-ta
policeman-be-though -NOM/-DAT -NOM fear-DEC
"Though she$_i$ is a policeman, Mary fears Soonhi$_i$."

b. PRO$_i$ kyengchal-i-myense, Mary$_i$ -ka/-eykey Swunhi-ka mwusep-ta
policeman-be-though -NOM/-DAT -NOM fear-DEC
"Though she$_i$ is a policeman, Mary$_i$ fears Soonhi."

In (2.103)-(2.105), the DAT NP or the first NOM NP controls the syntactic phenomena. The ungrammaticality of (2.103a) shows that the second NOM *Kim-sensayngnim* (i.e. theme) cannot trigger subject honorification. The grammaticality of (2.103b) shows that either a NOM or a DAT experiencer (i.e. *Kim-sensayngnim*) triggers honorification. Case-marking does not matter for honorific agreement. The ungrammaticality of (104a)

shows that the second NOM cannot trigger Reflexivization and the grammaticality of (104b) shows that the experiencer triggers Relexivization. Grammatical relation or case-marking does not play a role in Reflexivization. Also, (105) shows that the experiencer argument, not the theme argument, controls *-myense* construction. This points out that these syntactic phenomenas are sensitive to either case-marking or word order.

These cases of stative psych verbs can not be explained with the general rule for determining the syntactic pivot (2.102) since the DAT nominal is not actor in DAT-NOM constructions (cf. section 2.3.2.3). Instead of following the rule in (2.102), the controller of reflexive *casin*, of subject honorification, and of *-myense* clause is always the experiencer argument, not the theme argument as in (2.103)-(2.105). These syntactic phenomena can be explained in terms of the same Accessibility to pivot hierarchy proposed for Icelandic: "the highest ranking argument with respect to the Actor end of the Actor-Undergoer Hierarchy, regardless of whether it is a macrorole or not, is the pivot." (Van Valin 1991b:181) From these we can generalize the syntactic pivot for Honorific Agreement, Reflexivization, and *-myense* constructions in Korean psych-verbs as follows:

(2.106) The accessibility to pivot hierarchy for Korean Honorific Agreement, Reflexivization, and *myense* construction:

> The highest ranking argument[65] with respect to the Actor end of the Actor-Undergoer Hierarchy, regardless of whether it is a macrorole or not, is the pivot for honorification, reflexivization, and *-myense* constructions.

Of course, the generalization in (2.106) can apply to activity psych-verb constructions as well. This fact supports RRG's assumption that semantic roles are universal in that the controller is determined on semantic ground without concern for grammatical relations or case-marking.

2.3.2.3. Case-marking Rules for Psych-verbs

In section 2.1.3., we saw that stative psych-verbs were intransitive states (i.e. **predicate´** (x,y) [+MR]) and that *e-ha* psych-verbs were transitive activities derived from states (i.e. **do´**(x, [**predicate´** (x,y)]). That stative psych-verbs are intransitives (i.e. unaccusatives) and activity psych-verbs are transitives is generally accepted. O'Grady (1991) shows that stative psych-verbs are syntactically intransitives even though the lexical semantics of the verbs determines two thematic roles. C. Youn (1989), Y.J. Kim

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[65]The notion of the highest ranking argument is similar to that of 'last semantic argument' which is defined in terms of a theme > goal > actor hierarchy (cf. O'Grady 1991: 105), as O'Grady (p.c.) suggests. However, there is an important difference between these two notions. In CG, the order in which NPs are incorporated into a sentence structure, which is built the bottom up (cf. O'Grady 1991: 26) is important. The notion of 'first' and 'last' is determined structually by the incorporation order. However, 'the highest ranking argument' is determined semantically, not structurally, without reference to any syntactic structures.

(1990) and B.S. Yang (1991) propose that the stative psych verbs are unaccusative verbs because of their case marking alternation between DAT/NOM.

Previous analyses of double nominative constructions for stative psych-verb can be divided into two groups. One group of analyses holds that all nominative-marked NPs are subjects and the extra nominative NPs to the left of the rightmost nominative NP are derived by movement from their Dative counterparts (S.C. Song 1967, Y.S. Kang 1986, and H.S. Choe 1987, C.Youn 1989 among others; Kuno 1973 for Japanese). The other view states that the extra nominative NPs are base-generated, rather than being derived from dative constructions, and that they are nominative-marked foci, not grammatical subjects. (I.S. Yang 1972, Shibatani 1977, B.S. Park 1982, Y.J. Yim 1985, among others) (cf. Y.J. Kim 1990:182-3). Since RRG posits only one level of syntactic representation and no transformational movement rules, I will adopt the latter position to handle psych verb case-marking patterns. I will repeat the case alternation here.

(2.107) Stative psych-verb constructions

a. Swunhi-eykey kay-ka mwusewe-ss-ta
-DAT dog-NOM fear-PST-DEC

b. Swunhi-ka kay-ka mwusewe-ss-ta
-NOM dog-NOM fear-PST-DEC
"Soonhi feared the dog."

(2.108) Activity psych-verb construction

Swunhi-ka kay-lul mwusewe-hay-ss-ta
-NOM dog- ACC fear- do-PST-DEC
"Soonhi feared the dog."

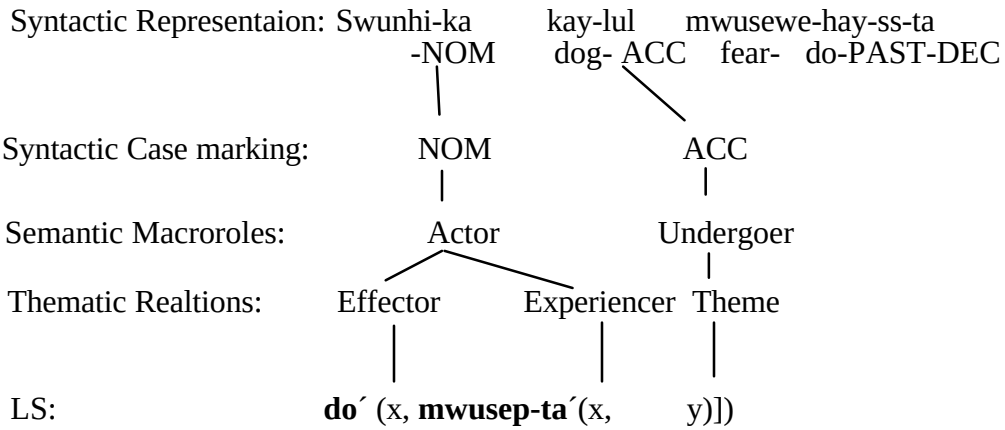
In section 2.2.2., it was stated that, "From the RRG perspective, the number of direct core arguments a verb takes is less indicative of its syntactic behavior than its macrorole number, and consequently "transitivity" is understood in RRG as semantic transitivity and defined in terms of the number of macroroles a verb takes: 2=transitive, 1=intransitive, and 0=atransitive" (Van Valin 1993a:48). The case-marking of activity psych-verbs is the same as that of regular transitive verbs. In other words, we can handle the case marking of activity psych verb constructions with Actor-Undergoer hierarchy like regular transitive constructions. According to the Actor-Undergoer Hierarchy, the experiencer can be Actor and the theme can be Undergoer. Following the case-marking rules proposed for Icelandic in Van Valin (1990b, 1991b, 1993a), we can handle the case marking of activity psych-verbs as in (2.109).

(2.109) Case marking rules for Korean

a. Highest ranking macrorole takes NOMINATIVE case.
b. The other macrorole argument takes ACCUSATIVE case.

With (2.109), the Actor takes NOM case, and the Undergoer takes ACC case. The syntax-semantics interface that determines case-marking for activity psych verbs are schematized in the following.

(2.110) Case marking for activity psych verb constructions (cf. (2.108))



The case-marking rule for stative psych verb's is a little complex because of the case alternation between in the DAT form and NOM form. Since the stative psych-verb is an unaccusative intransitive and its LS is **predicate´** (x,y)[+MR], it can take only one macrorole, the Undergoer according to the Default Macrorole Assignment Principle. The Undergoer should be the theme because the theme outranks the experiencer in the Actor-Undergoer Hierarchy. With no revision to the case marking rule in (2.109), the Undergoer takes NOM case, and the experiencer, which is a non-macrorole argument, takes DAT case as its default case.

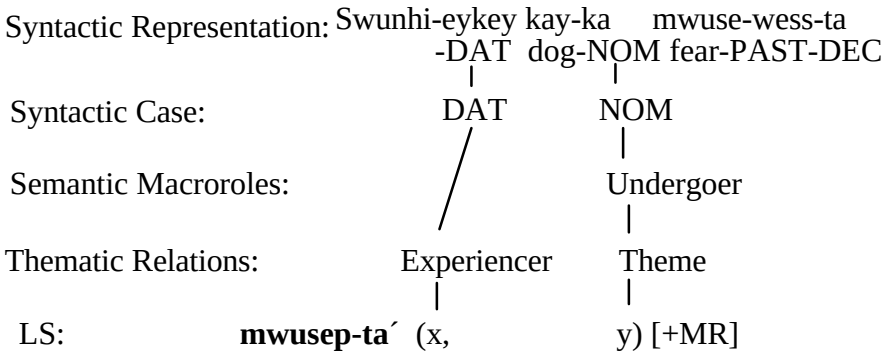
(2.111) Case marking rules for Korean (Revised)

a. Highest ranking macrorole takes NOMINATIVE case.
b. The other macrorole argument takes ACCUSATIVE case.
c. Non-macrorole direct core arguments[66] take DATIVE as their default case.

The case marking of (2.107a) can be schematized as follows:

[66]As O'Grady (p.c.) suggests, there is no empirical difference between his notion of 'a verb's non-term argument,' which is neither a grammatical subject nor a direct object, and that of 'non-macrorole direct core argument'. In that the notion of 'non-term argument' is based on grammatical relations, whereas that of 'non-macrorole direct core argument' is based on thematic roles, there is a theory-internal difference between them.

(2.112) Case Marking of DAT-NOM stative psych-verb constructions.



Unlike Icelandic and Georgian, Korean has a marked NOM-NOM case-marking pattern. In English, Van Valin (1993a) accounts for the case-marking pattern of *present* -sentences and dative shift sentences with the marked linking of the Undergoer as shown in (2.113) and (2.114).

(2.113) *present*-construction

a. Maria presented a spatula to Larry. (Maria =A, spatula =U Larry=locative)
b. Maria presented Larry with the spatula. (Maria =A Larry=U spatula=theme)
LS: [**do**´(Maria)] CAUSE[BECOME **have**´(Larry, a spatula)]

(2.114) Dative-shift case

a. John gave a book to Mary. (John=A, book=U, Mary=locative)
b. John gave Mary a book. (John=A, Mary=U, book=theme)
LS: [**do**´(John)] CAUSE[BECOME have´ (Mary, book)]

In (2.113a), which is the unmarked case, the Actor is *Maria* (effector), the Undergoer is *a spatula* (theme), and *Larry* (locative) is non-macrorole according to the Actor-Undergoer Hierarchy. In (2.113b), which is the marked case, however, the undergoerhood of *a spatula* (theme) is outranked by *Mary* (locative). This marked case does not follow the Actor-Undergoer Hierarchy. By the same token, we can explain the dative-shift case (2.114). That is, (2.114a) is the unmarked case (i.e. John=Actor; effector, book= Undergoer; theme, Mary= locative), and (2.114b) is the marked case (i.e. John=Actor; effector, Mary=Undergoer; locative, book=theme) due to their Undergoer assignment. Thus, the two constructions can be explained with semantic macroroles and marked/unmarked linking without mentioning transformations. For verbs that are marked for Undergoer, Van Valin (1993a:77) mentions two factors for the choice between marked and unmarked case: inherent lexical content such as [± animate]; and information structure such as [±focal].

However, the markedness of NOM-NOM case-marking in Korean stative psych-verb constructions[67] comes from information (i.e. pragmatic) structure. K. Park (1993b) argues that in Korean there are pragmatic cases as well as semantic cases such as (2.111). As I mentioned in section 1.2 (also cf. C. Youn 1989, O'Grady 1991, B.S. Yang 1991, among others), non-core arguments, so-called 'adverbial nominals' such as goal/destination, location, duration/frequency, or distance, can get either NOM or ACC. For example, the following double nominative constructions are the marked case that should be explained with the pragmatic case (PCM), not with the semantic case.

(2.115) a. oykwukin-tul-i seys-i hakkyo-ey o-ass-ta
foreigner-PL-NOM three-PCM school-to come-PST-DEC
"Three foreigners came to school." (C. Youn 1989:3)

b. TV-ka Zenith-ka thunthunha-ta
-PCM -NOM strong-DEC
"As for TV, Zenith is durable." (I.S. Yang 1972)

c. ku chayk-i twu pen-i ilk-hi-ess-ta
the book-NOM two.times-PCM read-PAS-PST-DEC
"The book was read twice." (Maling 1989)

d. Semywukongcang-i pwul-i na-ss-ta.
textile.factory-PCM fire-NOM break.out-PST-DEC
"Fire broke out in the textile factory." (C. Youn 1989)

The evidence for the pragmatic case is from the fact that Korean has a pragmatically based topic marker *-(n)un* (i.e. neutral topic and contrastive topic; cf. section 4.1.2 and section 5.1.2) in addition to semantically based NOM and ACC case. The two types of topic marker are pragmatic one, not semantic case. The NOM-NOM case marking of stative psych-verb constructions can be handled with pragmatic case like topic marker. There is an interesting distributional analysis of the particle *-nun* and *-ka* of double NP constructions. If the stress is not considered, there are four possible constructions in a double NP construction: NP1-*nun* + NP2-*ka*, NP1-*nun* + NP2-*nun*, NP1-*ka* + NP2-*k*a, and NP1-*ka* + NP2-*ka*. S.Y. Choi (1986, 1989) analyzes the data of the text analysis and propose the distribution of the four possibilities.

[67]According to an informal survey, 7 out of 10 like DAT-NOM case pattern better than NOM-NOM case pattern. 2 out of 10 do not allow NOM-NOM pattern. From this we can infer that NOM-NOM case is a marked pattern, and that DAT-NOM case is unmarked one. Also, the markedness of NOM-NOM might be seen with focus construction (cf. section 5.1.2) or clause structure (cf. section 4.1.2).

(2. 116) Distribution of the Particles *nun* and *ka* on NP1 and NP2
(cf. S.Y. Choi 1986: Table 2)

Korean Sentence Pattern	Cases	Percentage
NP1-*nun* + NP2-*ka* + Verb	66	89%
NP1-*nun* + NP2-*nun* +Verb	5	7%
NP1-*ka* + NP2-*ka* + Verb	2	3%
NP1-*ka* + NP2-*nun* + Verb	1	1%
Total	74	100%

Among the four possible double NP constructions, NP1-*nun* and NP-*ka* pattern is the most common (i.e. 66 cases out of 74), and NP1-*ka* and NP2-*ka* pattern (i.e. 2 cases out of 74) as well as NP1-*ka* and NP2-*nun* (i.e. one case out of 74) is least common. This shows that the theoretically possible NP1-*ka* and NP2-*ka* pattern is represented as NP1-*nun* and NP2-*ka* in real usage. In other words, the first NOM case-marker -*ka* of NOM-NOM case patterns is similar to the topic marker -*nun* of TOP-NOM case patterns. This supports the idea that The NOM-NOM case marking of stative psych-verb constructions can be handled with pragmatic case like topic marker. In section 4.1.2 I will show that contrastive topics and contrastive foci are under PCS [Precore Slot], whose domain is outside of core (cf. Hasegawa 1992 for Japanese). The NOM-marked experiencer, which is a contrastive focus, works like contrastive topic, which is a pragmatic case, not a semantic case. To account for the nominative case for these marked NOM-NOM cases of stative psych-verb constructions, we need pragmatic case as well as semantic case (cf. K. Park 1993b and section 4.1.2 in details)[68]. To distinguish pragmatic NOM case marking

[68]If we handle these constructions with semantic case, however, the analysis must slove two important problems (K. Park 1993b, Van Valin (p.c.)): marked linking and NOM case for theme. Also multiple (more than two) nominative constructions are common in Korean, which cannot be explained with semantic casesonly as in (i).

(i) a. U.B.-ka Baldy Hall-i ywukchung-i kun.pwul-i na-ss-ta
-NOM -NOM 6th.floor-NOM conflagration-NOM break out-PAST-DEC
" A conflagration broke out on the 6th floor of Baldy Hall at U.B."

b. Swunhi-ka tongsayng-i kwutwu-ka mithchang-i kwumeng-i
-NOM younger.sister.NOM shoes-NOM sole-NOM hole-NOM

sey-kay-ka na-ss-ta
three-CL-NOM make-PST-DEC
"There are three holes under Soonhi's younger sisiter's sole.

For these reasons, the case marking for NOM-NOM should be handled with pragmatic case, not with semantic case.

from semantic NOM case marking, I will use the different term 'Contrastive Focus Marker (CFM)' for pragmatic NOM[69] if it needs to be distinguished, as follows:

(2.117) a. Swunhi-ka kay-ka mwusewe-ss-ta
-CFM dog-NOM fear-PST-DEC
"Soonhi feared the dog."

b. TV-ka Zenith-ka thunthunha-ta
-CFM -NOM strong-DEC
"As for TV, Zenith is durable."

c. Semywukongcang-i pwul-i na-ss-ta.
textile.factory -CFM fire-NOM break.out-PST-DEC
"Fire broke out in the textile factory."

2.4. Summary

In this chapter, I studied two types of Korean psych-verb constructions; their verb classes, lexical representation, syntactic phenomena and case-marking rules in RRG's Syntax-Semantics interface. I proposed Korean Aspectual Verb Classification, given in (2.118).

[69] Also I will use the different term 'Contrastive Topic Marker (CTM)' for the contrastive topic *-(n)un* in addition to TOP(ic) for the neutral descriptive topic marker *-(n)un*. I thank Van Valin for his suggestion of these terms.

(2.118) Korean Aspectual Verb Classification

Criterion	States	Achievements	Accomplish	Activities
1. Occurs with progressive form *-(u)ncwungi-ta*	NO	D: YES/P: NO	YES	YES
2. The present tense *-(nu)n-* entails action in progress/ change of state (process verbs only)	NO	YES	YES	YES
3. Occurs with adverbs like *paklyekisskey* / *himchakey* /*hwaltongcekulo/ hwalpalhi* 'vigorously', *swutasulepkey* 'actively', etc.	NO	NO	YES	YES
4. Occurs with *hansikan-tongan* 'for an hour'	YES	D: YES/ P: NO	YES	YES
5. Occurs with *hansikan-maney* 'in an hour ' and implies that an event finished in the hour	NO	D: YES/ P: NO	YES	NO
6. Selection of perfective form *-e-iss-* (intransitives only)	NO	YES	YES	NO
7. 'for an hour' entails 'at all times in the hour'	YES	D: NO/P: d.n.a	NO	YES
8. Progressive form entails*x has Øed*	d.n.a.	D: NO/P: d.n.a.	NO	YES
9. has inherent causative semantics: a. occur with causative morpheme *-i* or *-key-hata* b. locative adverbial nominals with goal interpretation and duration/frequency adverbial nominals can get accusative case.	NO	NO	YES	NO

Second, I showed that, according to the proposed classification, bare-form psych-verbs are states, and *e-ha* form psych-verbs are activities derived from stative psych verbs + *hata* 'do'. The LS of state psych verbs is **predicate´** (x,y) [+MR], and that of activity psych verbs are **do´** (x,[**predicate´** (x,y)]), where is x=effector/experiencer and y=theme. Also, I showed the derivational relationships of state --> achievement --> accomplishment with morphological evidence from stative psych-verbs in Korean. Third, I handled three syntactic properties which are treated by others in terms of subjecthood and case-marking rules without reference to grammatical relations. Using only the notions of macrorole and direct argument, I proposed the agreement rules and semantic case-marking rules in (2.119) and (2.120).

(2.119) The accessibility to pivot hierarchy for Korean Honorific Agreement, Reflexivization, and *myense* construction:

> The highest ranking argument with respect to the Actor end of the Actor-Undergoer Hierarchy, regardless of whether it is a macrorole or not, is the pivot for honorification, reflexivization, and *-myense* constructions.

(2.120) Case marking rules for Korean (applied to semantic case)

a. The highest ranking macrorole takes NOMINATIVE case.
b. The other macrorole argument takes ACCUSATIVE case.
c. Non-macrorole direct core arguments take DATIVE as their default case

I mentioned that we need pragmatic cases to explain the NOM-NOM case pattern of stative psych-verb constructions, in addition to semantic case. This supports RRG in that the explanation of Korean case marking crucially involves the interaction of syntactic structures, semantics, and pragmatics; they cannot be explained in terms of either structure alone, semantics alone, or pragmatics alone (Van Valin 1993e). RRG can explain and accommodate the two types of psych-verb constructions in Korean that must be stipulated or treated in an ad hoc way in other theories.

Chapter 3
Inflectional Verb Morphemes and Operator Projection in Korean

3.0. Introduction.

Until now, the auxiliary verb has not been assigned any status in the representation of verb classes. In RRG, grammatical categories of aspect, tense, and modality are represented in the Operator Constituent, modifying different layers of the clause. The operators are further divided into categories according to their scope: Nuclear, Core, and Clausal operators. The units of the LSC like NUCLEUS, CORE, CLAUSE and the operators play a central role in clause linkage. In this chapter, I will investigate the Operator Projection, one of the proposed four possible projections in RRG, as it is reflected in Korean verbal inflectional morphology. The operator projection will be applied to complex sentence constructions in chapter 4 .

The morphological form of Korean verbs consists of a lexical verb (i.e. verb stem) and suffixes. Grammatical categories are expressed by means of verb suffixes (cf. section 1.2). There are two types of verb suffix: grammatical suffixes representing grammatical categories such as tense, aspect, and modality; and connectives linking verbal complexes or clauses, such as *-ko*, *-e*, *-ese*, *-nase*, etc. The inflectional grammatical suffixes will be studied in this chapter. Korean is a typical agglutinative language (cf. section 1.2) in the sense that verb affixes are attached to the verb stem and the ordering among the verb affixes is fixed as shown in (3.1).

(3.1) a. halapeci-kkeyse hakkyo-ey an-ka-(si)-ess-keyss-upni-ta
grandfather-NOM(HON) school-to NEG-go-(SH)-PST-GUESS-POL-DEC
"Grandfather(HON) might not go (HON) to school."

b. *halapeci-kkeyse hakkyo-ey an-ka-ess-(si)-keyss-upni-ta
grandfather-NOM(HON) school-to NEG-go-PST-(SH)-GUESS-POL-DEC

c. *halapeci-kkeyse hakkyo-ey an-ka-(si)-ess-upni-keyss-ta
grandfather-NOM(HON) school-to NEG-go-(SH)-PST-POL-GUESS-DEC

d. *halapeci-kkeyse hakkyo-ey an-ka-(si)-ess-keyss-ta-upni
grandfather-NOM(HON) school-to NEG-go-(SH)-PST-GUESS-DEC-POL

In (3.1), the only grammatical form is (3.1a), with elements in the following arrangement: negation-verb stem-subject honorific-tense-guess suffix-polite suffix-declarative sentence suffix. The other orderings are impossible, as shown in (3.1b-d). The order of the verbal affixes conveys the relative scope of the morphemes and operator meaning[70].

There have been many studies of the inflectional verbal morphemes, but the identities of the morphemes vary with the authors' perspectives, and the studies were done mainly from morphological or typological perspectives rather than syntactic

[70]Therefore, before I study the clause-linkage constructions in chapter 4, I will describe the Korean operator system defined by verbal affixes in this chapter.

perspectives (cf. Martin 1960, H.B. Lee 1989, H.-J. Yoon 1991, H.S. Lee 1991, among others). I will propose a new perspective on the Korean inflectional verbal system in terms of RRG operators. The analysis of verbal inflectional morphemes will show that Korean follows Bybee's (1985) Relevance Principle, which dictates that a morpheme whose meaning is more relevant to the semantics of the verb is positioned closer to the verb stem, and RRG's assumption that "the ordering of the morphemes expressing operators with respect to the verb indicates their relative scopes (Van Valin 1993a:9)."

Section 3.1 will introduce Korean verbal inflectional affixes and the GB approach to verbal inflectional affixes (i.e., X^0-movement). I will also introduce the RRG notions of operators. In section 3.2., I will investigate Korean verb inflection with RRG's operator system and show that they fully follow RRG's operator system. In this section, I will propose a new approach to Korean aspect, directional morphemes, tense, and evidentials. Section 3.3. will be the summary of this chapter.

3.1. Korean Verbal Inflectional Morphology

3.1.1. Korean Verbal Inflectional Affixes

Bybee (1985) points out that the categories of tense, aspect, and modality tend to be expressed cross-linguistically with verbal inflections. Korean is a highly agglutinating language where complex words are formed by affixation and/or compounding stems. A verbal phrase is a complex that consists of a series of verbal affixes with a verb stem (Martin (1960), H.B. Lee (1989) and H.-J. Yoon (1991), H.S. Lee (1991) among others). In this section, I will introduce Korean verbal affixes, at the same time discussing several previous studies.

Martin (1960:224-236) presents the following sequence of positions and an example of the maximum possibility for full conjugation.

(3.2)

wus	-usi-	ess-	ess-	keyss	-sup-	ni	ta
Verb Stem	+Status	+Tense	+Tense	+Tense+	Style+	Aspect+	Mood
smile	SH	PST	PST	FUT	Formal	indicative	Assertive

"(He) might have smiled (HON)."

The total number of paradigmatic inflectional endings for modern Korean verbs is over 400 (ibid.: 224). He classifies the various verb endings into the rough semantic categories given in (3.3).

(3.3) Martin's classification of Korean verbal affixes.

a. STATUS:	honorific (*-usi-*/*-si-*)
b. TENSE:	PST (*-ess/ass-*)
	future (*-keyss*)
c. ASPECT:	indicative (*-ni-*,*-n-*, *-Ø-*)
	subjunctive (*-si-*, *-sey-*, *-Ø-*)
	retrospective (*-ti-*, *-tu-*, *t-*, *l-*)
	prospective (*-ul-*/*-l-*)
	progressive (*-nun-*, *-n-*)
d. STYLE:	plain (*-ni, -la, -ta*)
	formal (*-sup-ni-ta, -si-o, -upsi-ta*)
	informal (*-e*)
	familiar (*-na, -sey*)
	intimate (*-ie/ye, -iey/yey*)
	polite (*-sup/ -up*)
e. MOOD:[71]	assertive (*-ta, -la, -ey, -so*)
	propositive (*-ta, -ca,- ey,*
	interrogative (*-kka, -i, -a*)
	imperative (*-o, -ula*/*-la*)

The traditional grammarian, H.B. Choi (1929, reproduced in 1989) proposes that Korean verb complexes consists of verb stem + ten inflectional suffixes *towumcwulki* + ending markers *machimpep* in Korean. There are four types of endings (i.e. *peyphwumkkol* 'declarative', *mwulumkkol* 'interrogative', *sikhimkkol* 'imperative', and *kkoyimkkol* 'propositive') and five types of speech styles (i.e. *acwunachwum* 'most downward', *yeysanachwum* 'downward', *yeysanophim* 'upward', *acwunophim* 'most upward', *panmal* 'lateral'). He proposes ten inflectional suffixes as follows:

[71]Actually Martin (1960) describes 18 moods in Korean. Here I mention only 4 out of 18 moods mentioned by Martin (1960).

(3.4) a. *haim towumcwulki* 'causative' (*-i, -hi, -li, -ki, -wu*)
b. *ipum towumcwulki* 'passive' (*-hi, -ki*)
c. *nachwum towumcwulki* 'polite' (*-op/uop, -o/uo, -p/up,* -caop,*-saop,* etc.)
d. *nophim towumcwulki* 'honorific' (*-si, -usi*)
e. *ttay towumcwulki* 'tense'
1. *icek naakam* 'progressive' (*-un, -n*)
2. *olcek* 'future' (*-keyss, -li*)
3. *cinancek* 'past' (*-ass, -ess*)
4. *tolosayngkak* 'retrospect' (*-te*)
f. *halswu towumcwulki* 'possible' (*-keyss*)
g. *milwum towumcwulki* 'guess' (*-keyss, -lyess*)
h. *tacim towumcwulki* 'assertive' (*-kes*)
i. *pelus towumcwulki* 'habit' (*-kes*)
j. *himcwum towumcwulki* 'emphatic' (*-chi, -tuli, -thuli*)

Also, he suggests that there is an important ordering among these inflectional morphemes when they occur together and they can be grouped into seven classes as follows:

(3.5) Ordering of Inflectional Morphemes in Korean

Verb Stem	1	2	3	4	5	6	7	Ending
tul	li	hi	si	ess	keyss	up	te	ita
nol	li	hi	si	ess	keyss	up	te	ita
	causative emphatic	passive	honorific	tense possible	guess habit assertive	polite	retrospe -ctive	

These seven morphemes rarely occur together, and only some of them can occur simultaneously. H.B. Choi (1989:364-365) gives several examples that occur with some of the seven classes of morphemes. It is very interesting that the ordering is consistent even though some of elements can be omitted, as in (3.6):

(3.6) a. ttang-ul nem- ki- si- ess-keyss-sao-ni.
V- 1 -3- 4- 5- 7- Ending
field-ACC sell -CAU-SH-PST-GUESS-RETRO-DEC
"(I) guess that (you) sold(HON) the field."

b. kulus-lul kkay-ttuli-si-ess-keyss-te-la
V- 1 -3 - 4 - 5 - 7- Ending
dish-ACC brake-EMP-SH-PST-GUESS-RETRO-DEC
"(I) guess that (he) broke (HON) the dish."

c. os-lul cap-hi-si-ess-up-nita
V -1 -3- 4 -6- Ending
clothes-ACC put -CAU-SH-PST-POL-DEC
"(He) put (HON) his clothes be (in the pawn shop)."

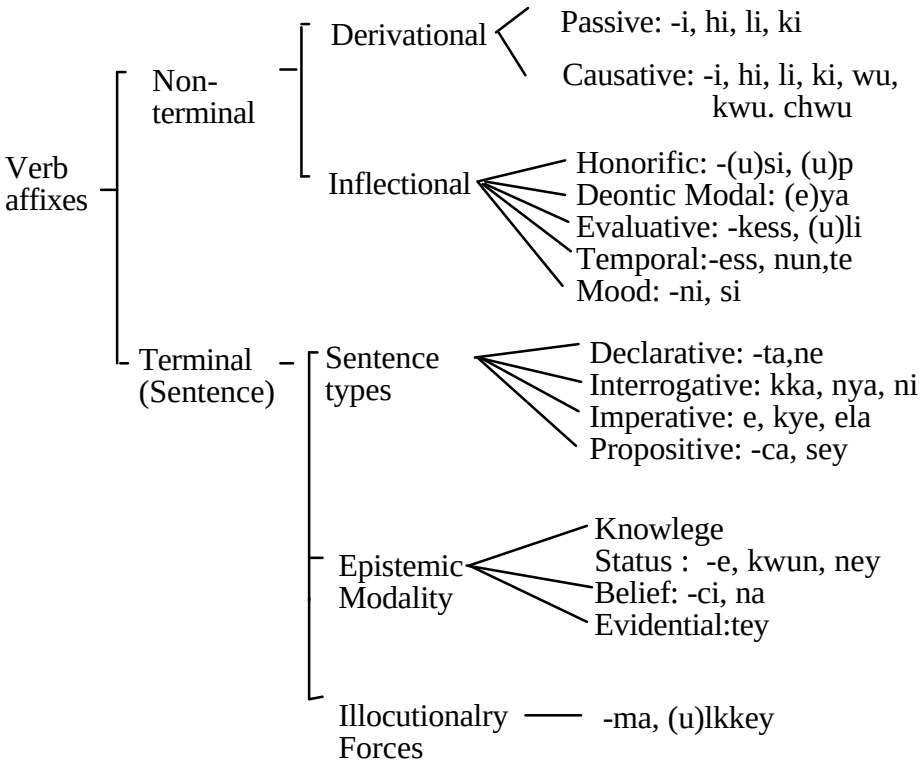
d. nul tampay-man phi-wu-si-kes-ta
V - 1- 3- 5 -Ending
always cigarette-only smoke-CAU-SH-GUESS-DEC
"(I) guess that (he) smokes(HON) cigarette always."

e. kuli ha-si-keyss-up-nita
V- 3- 5- 6- Ending
so do-SH-GUESS-POL-DEC
"(I) guess that (he) does (HON) so."

f. ne-to po-ass-kes-ta
V- 4- 5- Ending
you-too see-PST-GUESS-DEC
"(I) guess that you saw (it), too."

Recently H.S. Lee (1991) analyzed Korean verbal affixes and proposed the following typology.

(3.7) Typology of Verbal Affixes in Korean (adopted from H.S. Lee (1991:132)[72]



In addition to the fixed ordering among the verb suffixes, the other characteristics of Korean morphological phenomenon is that there are dimensions along which varieties of speech styles are distinguished. As for the speech style, H.B. Choe (1989) proposes a four-level system, Martin (1960) a six-level system, and H.S. Lee (1991) a seven-level system[73]. H.S. Lee's (1991) seven-speech styles are as follows:

[72]In his original study, H.S. Lee (1991) mentions the clause terminal affixes such as *-(u)n, (u)l*, etc. Here I omit them since they are not relevant to the topic.

[73]cf. H.S. Lee (1991:143-148) for the detailed summary of Korean speech styles.

(3.8) Korean Morphological Marking of speech styles
(Borrowed from H.S. Lee (1991:141))

		Declarative	Interrogative	Imperative	Propositive
Formal	upward	-(u)p-ni-ta	-(u)p-ni-kka	-(u)p-si-o	-(u)p-si-ta
	lateral	-(u)o/-so	-(u)o/-so	-(u)o	-(u)p-si-ta
	downward	-ne	-na/-(nu)nka	-key	-sey
	neutral	-ta	-(nu)nya/-(nu)nka	-(u)la	-ca
Informal	upward	-e-yo	-e-yo	-e-yo	e-yo
	lateral (pan-mal)	-e	-e	-e	-e
	downward (blunt)	-ta	-nay/-ni	-(e)la/ -kela/-nela	-ca

Each of these studies has its own categories for Korean verbal suffixes and use the notions of mood, modality and illocutionary force in confusing and overlapping ways to cover three grammatical categories, which must be clearly distinguished. Foley and Van Valin (1984: 213-215) point out that the same situation occurreded in the Western grammatical tradition. Because of different use of terms and categories for Korean verbal suffixes, the abovementioned analysis seems to go against Bybee's (1985) relevance principle and RRG's claim. For example, in Martin's (1960) analysis of Korean verbal suffixes, clausal operators such as status and tense are positioned closer to the verb stem than nuclear operators such as aspect. H.B. Choi's (1989) analysis put modality, like guessing and aspect marker like the habitual further from the verb stem than tense. If we follow this analysis, Korean verbal inflectional affixes do not follow the universal principle that was proposed in Bybee (1985) and assumed in RRG.

On the other hand, H.B. Lee (1989) proposes an ordering of six elements in Korean verbs which seems to follow Bybee's (1985) relevance principle; (i) verb stem, (ii) voice suffix, (iii) honorific suffix, (iv) tense suffix(es), (v) humble suffix, and (vi) inflectional ending.

(3.9) cap-hi-si-esskeyss-saop-nita
catch-PAS-SH-tense.suffix-humble.suffix-inflectional.ending
'[He] may have been captured." (H.B. Lee 1989:76)

Of these six elements, the stem and the inflectional ending are the obligatory elements, one never occurring without the other; all other elements found between the stem and the inflectional ending are optional. It should be noted that he does not mention 'aspect' as a category in Korean verb morphology and that he uses the category 'tense' not only for simple tenses (e.g. present, past, future) but also for compound tense forms[74]. Even

[74]In the analysis of the Korean tense in section 3.2.3, I will follow his tense system except the compound tense system and retrospective tense since compound tenses can be analyzed by complex nexus types and the retrospective tense can be explained with an

though his six elements for Korean verb suffixes follows RRG's assumptions, H.B. Lee (1989) does not explain the position of aspect.

There are some studies that there argue for three levels of verb suffixes in Korean although these levels do not exactly match RRG's three juncture levels. J.O. Cho and Morgan (1987:30-31) and J-M Yoon (1990:344) propose that there are three levels of verb suffixes: stem-forming suffixes which combine with a stem to form a complex stem; word-forming suffixes which combine with a stem to form a word; and word suffixes like discourse marker *-yo* and *-ney* which combine with a word to form a word. J.O. Cho and Morgan (1987:32) provides examples of each suffix and suggests that if suffixes from more than one class combine with a verbal stem, the order of suffixes must be fixed[75].

(3.10) Three levels of verb suffixes

a. Stem-forming suffix:	1-class: honorific *-(u)si-*, 2-class: tense *-ess-*, *-keyss-*, 3-class: speech level marker *-(s)upni-*, tense/speech level? *-(nu)n*, imperative/propositive *-si-*
b. Word-forming suffix[76]:	4-class: mood (neutral) *-ta*, *-ni*, *-na*, *-ela*, *-ca*, *-te*, *-ci* mood (formal) *-kka*, *-o*, *-ta*
c. Word suffix:	6-level: discourse suffixes *-yo*, *-ney*, *-(nu)n*

Although each study has different concepts about the various morphemes, the above studies agree on one generalization about verbal inflectional morphology: the order of suffixes must be fixed if suffixes from more than one class combine with a verbal stem. In

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evidential operator, not a tense operator. Refer to 3.2.3 and 3.2.5. for the Korean aspect and tense system in detail.

[75]The order of suffixes Cho and Morgan (1987) propose is the same consequences with the number that classifies the classes in (3.10): Verbal Stem+1+2+3+4+5+6. Even though they suggest three levels for the verb suffixes, some of the suffixes that they mention are not inflectional verbal suffixes, but connectors between two junctures.

[76]In their classification, J.O. Cho and Morgan (1987) includes 2-class, 3-class, and 5 class word-forming suffix. Since they are not inflectional suffixes functioning as grammatical categories, but attributive suffixes modifying nominals or connectives linking to other verbal complexes or clauses, however, I do not include them here. Their 2-class word-forming suffixes are modifier tense *-(n)un*, *-(l)ul*, adverbial *-key*, *-(h)i*, nominalizer *-(u)m*, *-ki-*, *-i*, tenseless COMP *-e*, *-key*, *-ci*, *-(u)re*, *-ko*, *-tolok*, *-(u)myense*. 3-class word-forming suffixes are tensed COMP *-(u)myen*, *-telamyen*, *-eto* . 5-class word-forming suffix is quotative COMP *-ko*.

section 3.2, I will study the fixed ordering of verbal suffixes in the RRG operator projection.

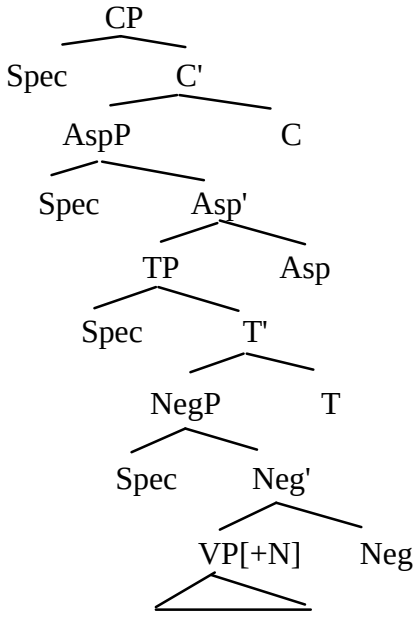
3.1.2. GB analysis on INFL: X^0-movement for Inflectional Morphology

Grammatical categories like tense, aspect, and modality have not interested GB grammarians until recently. In recent studies, Pollock (1989: Theta-Opacity Parameter), Chomsky (1989: Economy principle), and Pesetsky (1989: Earliness Principle), among others, propose that the structure of IP becomes more articulated with AGR, Tense, and Aspect, which are analyzed as the syntactic (functional) head of a maximal projection in GB. The theory analyzes inflectional morphology in terms of verb movement in the syntax called X^0 -movement. GB proposes grammatical categories like aspect, tense, and modality be treated like independent constituents (i.e. Aspect Phrase (AP), Tense Phrase (TP), and Modality Phrase (MP)).

In Korean, whose studies of syntax has been influenced by generative-transformational grammar and GB-theory, the study of inflectional morphemes is not done in syntax until early 90s Given the assumption that verbal inflections in Korean are categories in their own right, many studies on Korean verbal inflections (J-M Yoon 1990, H.D. Ahn 1991, Y. M. Park 1991) propose a D-structure representation for the verbal complex which exactly parallel that of English/French inflection.

J-M Yoon (1990) proposes the structure for Korean IP, shown in (3.11). Inflectional morphology in Korean is explained in terms of verb movement in GB syntax, positing CP, AspP, TP, NegP as maximal projections above VP, excluding the existence of AgrP.

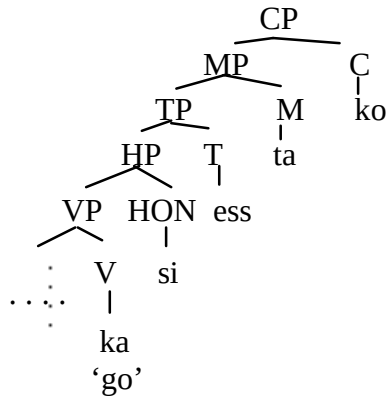
(3.11) J-M. Yoon (1990:347)



She claims only post-verbal (i.e. long-form) negation is done in syntax, whereas pre-verbal (i.e. short form) negation is a lexical process[77]. She tries to set up the structure of IP so that the inflectional morphemes are functional heads. However, her analysis of Korean inflectional morphemes are against Bybee's (1985) relevance principle and RRG's general assumption of operators because AspP is the outermost projection.

A much more detailed treatment of Korean verbal inflection in GB frameworkt is proposed by H-D. Ahn (1991). He (1991:199) demonstrates how verbal inflection in Korean can be parsed into several distinct layers and further argues that each of these inflections must head its own independent maximal projection. His treatment of verbal inflection in Korean exactly parallels that of English/French inflection, as put forward in Pollock (1989). He suggests the following D-structure representation for the verbal complex as in (3.12):

(3.12) H-D Ahn (1991:199)



Lasnik (1981) argues that morphological requirements are what attracts the verb to combine with Hon^{o}, T^{o}, M^{o}, and C^{o}. Following this line of analysis, H-D. Ahn (1991) explores at least four functional categories heading their own projections in Korean;

[77]Refer to section 3.2.4. for two types of Korean negation and its treatment in RRG. I will handle not only post-verbal , but also pre-verbal negation with operators.

Comp^{o}, Mood^{o}, Tense^{o}, and Hon^{o}[78]. Citing evidence for the existence of a negation phrase (NegP) (section 3.3.2.2), he proposes that the position of NegP must be above TP but below MP (section 3.3.2.2.3). His main idea for the position of NegP comes from the fact that negation is not projected, if tense is not projected. This structure of IP follows Bybee (1985); however, in the proposed position for NegP, there is no distinction between the broad scope negation and the narrow scope.

3.1.3. Theoretical Background on Inflectional Morphemes in RRG: the Relative Order and Scope of Operators

In RRG, grammatical categories are treated as operators modifying different layers of the clause. The operators consist of morphemes which are the realization of grammatical categories of aspect, tense, and modality, while the constituents of the layered structure consist of the predicate, its arguments, and periphery.

Foley and Van Valin (1984) distinguishes three grammatical categories in the category of mood and modality: illocutionary force (Austin 1962, Searle 1969); status, i.e. epistemic modals (Whorf 1956); and modality, i.e. deontic modals. They also show that all of these categories are operators, but they are not operators at the same layer. Modality is an operator at the core layer having both the nucleus and its core arguments in its scope. Status is a clausal operator expressing the reality of the entire proposition and bearing no direct relation to the nucleus or to any of its core arguments. Illocutionary Force (IF) is the outermost operator, taking the entire clause as well as the other clausal operators (i.e. status, tense, and evidentials) within its scope. Each of the clause levels is modified by one or more of the operators as in (3.13).

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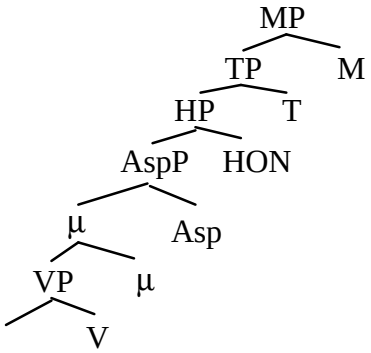
[78]He also suggests two other potential functional categories for which he has less evidence: Aspect^{o} and μ^{o} . By adding these categories, a simple root clause would have the following structure (ignoring CP in Korean root clause):

(i)



(3.13) The relative order and scope of operators (Van Valin 1993a:8)

a. Nuclear operators:	Aspect
	Directionals (only those modifying orientation of action or event without reference to participants)
b. Core operators:	Directionals (only those expressing the orientation or motion of one participant with reference to another participant or to the speaker)
	Modality (root modals, e.g. ability, permission, obligation)
	Internal (narrow scope) negation
c. Clausal operators:	Status (epistemic modals, external negation)
	Tense
	Evidentials
	Illocutionary Force [IF]

In (3.13), each operator has scope over its own level. The nuclear operators have scope over the nucleus; they modify the action, event or state itself without reference to the participants. Core operators modify the relations between a core argument and the action. Clausal operators modify the clause as a whole[79] (Van Valin 1993a: 9).

RRG follows the general assumption that there is a relative order among the morphemes with reference to the nucleus and assumes that the ordering indicates their relative scopes. That is, the morphemes realizing nuclear operators should be closer to the nucleus than those realizing core or clausal operators, and those expressing core operators should be between those realizing nuclear operators and clausal operators, and those manifesting clausal operators should be outside of those signaling nuclear and core operators.[80] According to this view, there are two possible linear orderings of operators depending on the position of verb stem, as in (3.14).

(3.14) a. IF-EVID-TENSE-STATUS-MOD-DIR-ASPECT-Verb Stem
(cf. Tiwi of Australia, English)

b. Verb Stem-ASPECT-DIR-MOD-STATUS-TENSE-EVID-IF
(cf.Kewa, Lisu (Tibeto-Burman), Imbarura Quechua, Turkish, Japanese, Korean)

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[79]Clausal operators fall into two groups: one is tense and status, and the other is evidentials and IF. The latter is "sentential" in that evidentials and IF are modifiers of the sentence or utterance as a whole, rather than one of its constituent clauses (Van Valin 1993a: 9).

[80]As I mentioned in the previous section, many studies on Korean verbal suffixes seem to contradict this assumption (cf. Martin 1960, H.-J. Yoon 1991, J-M Yoon 1990, among others). However, I will show that Korean verbal suffixes do not contradict this assumption in section 3.2 .

This claim[81] can be validated from the large number of languages that are surveyed in Foley and Van Valin (1984), Bybee (1985), and Ohori (1992). Foley and Van Valin (1984) investigates English (section 5.4), Kewa, Fijian, Yoruba, Lisu (Tibeto-Bruman), Yimas of Papua New Guinea, Lisu, Imbarura Quechua, and a number of creoles of independent origins such as Sranan (South America), Haitian Creole, Hawaiian Creole, and Fore (Papua New Guinea). Ohori (1992) finds a similar ordering of morphemes in Japanese. Bybee (1985) examines the morphemes in pairs to determine their relative order. In a 50-language sample she finds only one exception to the proposal that aspect occurs closest to the verb stem, with tense and then mood occurring closer to their periphery[82]. Her study can be summarized as follows:

> Aspect markers were found to be closer to the stem than tense markers in 8 languages, while the opposite order did not occur in the sample. There were a total of 18 languages that have both aspect and tense, but in 10 cases their ordering was not relevant to the hypothesis.
>
> Aspect markers were found to be closer to the stem than mood markers in 10 languages, out of a total of 23 that have both aspect and mood. There were no languages in the sample in which the mood marker occurred closer to the stem than the aspect marker.
>
> Aspect markers were found to be closer to the stem than person markers in 12 out of 21 languages. In one language, Navaho, the person markers occur closer to the stem than the aspect marker.
>
> Tense markers occur closer to the stem than mood markers in 8 languages out of 20 that have both tense and mood. In one language, Ojibwa, the mood marker occurs closer to the stem than the tense marker.
>
> Tense markers occurs closer to the stem than person markers in 8 languages out of 17 that have both tense and mood. In one language, Navaho, the person markers occur closer to the stem than the tense markers.
>
> Mood markers occur closer to the stem than person markers in 13 languages out of 26. In 5 languages the opposite order occurs.
>
> (Bybee 1985:34-35)

The results of her survey give us strong evidence for the hierarchical ordering of ASPECT, TENSE, and MOOD that is assumed in RRG.

Here are several examples that illustrate the relevant ordering of the verbal affixes.

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[81]It is interesting to note that Tesnière (1939) proposed a similar universal order of verbal affixes: voice, aspect, tense (of aspect), mode, tense (of mode) (Foley and Van Valin 1984: 223) and that H.B. Lee (1989) proposes a similar order for Korean suffixes.

[82]The exception is in Ojibwa, where the Dubitative suffix precedes the Preterite suffix. Since Dubitative is a kind of status marker, however, this ordering is in accord with the RRG prediction.

(3.15) Kewa (Papua-New Guinea; Franklin 1971; cited from Van Valin (1993a:8))

a. Íra-paa/waa-ru.
cook-PERF/IMPF-1SG PST (V-ASPECT-TENSE)
"I finished cooking it./I cooked part of it."

b. Íra-a-na/ya.
cook-3SG PST-seen/unseen (V-TENSE-EVID)
"He cooked it(seen)/ He cooked it (didn't see it)."

c. Íra-pa-niaa/saa-ru
cook-PERF-down/up-PST (V-ASPECT-DIR-TENSE)
"I burned it downward/ upward (as a hill)."

(3.16) English (Van Valin 1993a:8)

a. He may be leaving soon. (TENSE-STATUS-ASPECT-V)
b. She had been able to see them. (TENSE-MODALITY-V)
c. Will they have to be leaving ? (IF-TENSE-MODALITY-ASPECT-V)

(3.17) Lisu (Tibeto-Burman; Hope 1974; recited from Foley and Van Valin 1984: 212)

a. Ása dza dzà γ -u.
Asa rise eat PERF-PST (V-ASPECT-TENSE)
"Asa had eaten his rice."

b. Ása nya gwa lwé ye tyâ-a
Asa TOP there roll go PROG-NPST (V-ASPECT-TENSE)
"Asa is rolling away over there."

(3.18) Japanese[83]

a. Sakuban-wa oki-te.i-rare-nakat-ta-n-desu-ka ?
last night-TOP wake.up-STAT-MOD-NEG-PST-PRT-PRED-Q
(V-ASPECT-MODALITY-Internal negation-TENSE-IF)
"Weren't (you) able to stay awake last night ?" (Ohori 1992:20)

[83]Shibatani (1990: 307) proposes that the order of verbal affixes is generally fixed in Japanes as follows:

(i) Verb Stem- causative - passive- aspect - desiderative -NEG -tense

b. zyoon-wa tomodati-ni a-e-ta-soo-yo.
John-TOP her friend-DAT meet-can-PST-EVID-PRT(IF)
(V-MOD-TENSE-EVIDENTIAL-IF)
"(I hear that) John could meet her friend." (Hasegawa 1992:45)

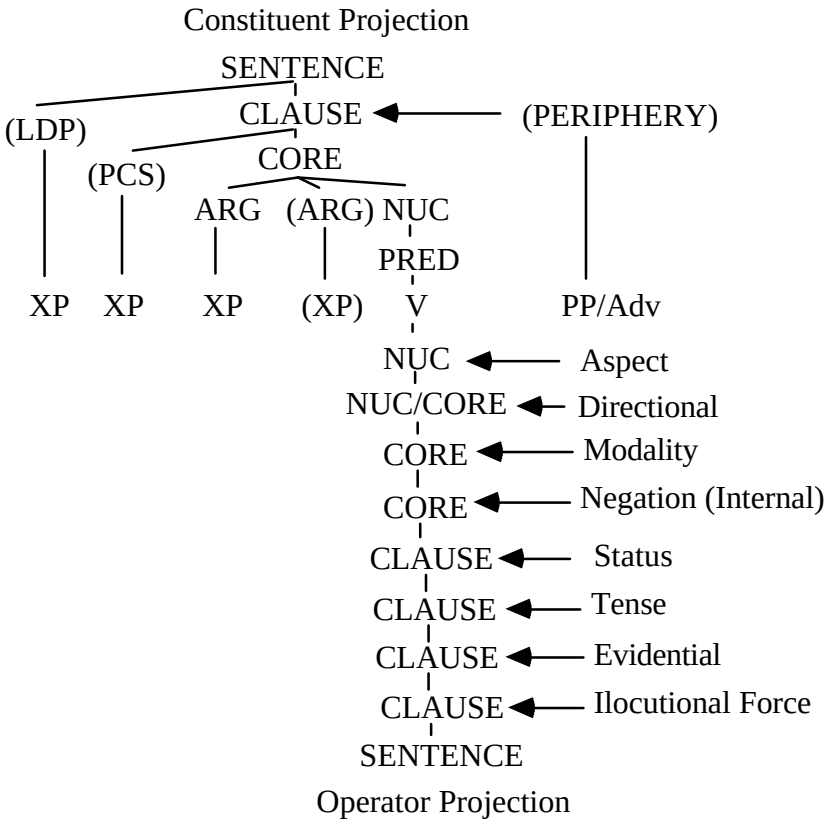
(3.19) Turkish (Watters 1993)

a. Gel-mis3
come- mis3 (V-EVID)
"I gather that he has come." (ibid.: 538)

b. Gel-emi-yebil-ir-im
come-NEG.ABIL-ABIL-AOR-1SG (V-MOD-STATUS-TENSE)
"I may be unable to come." (ibid.: 541)

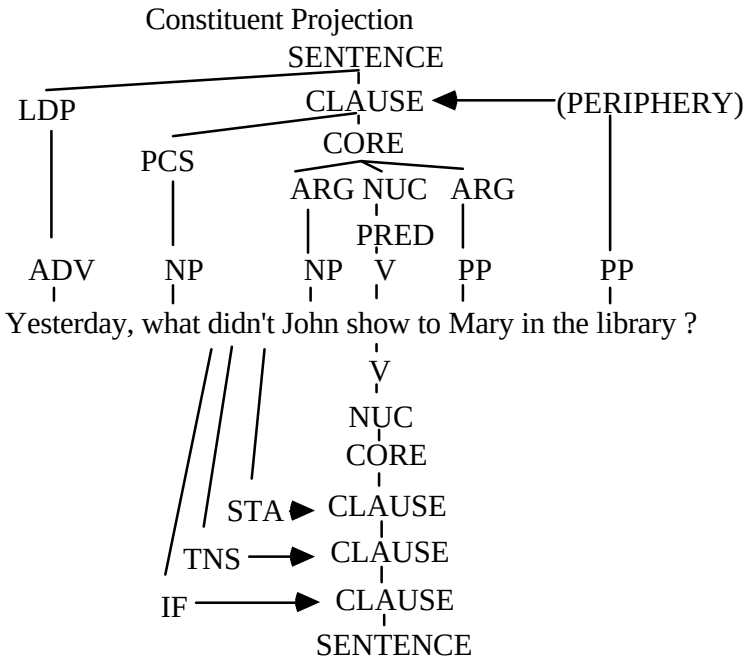
Since these grammatical categories are treated as operators modifying different layers of the clause, RRG represents the operators separately from the layered structure. The representation of layered structure itself is referred to as the Constituent Projection, which will be the main subject of Chapter 4. The representation of operators is referred to as the Operator Projection, as shown in the following figure for simple sentences.

(3.20) LSC and Operator Projection in RRG (Van Valin 1993a: figure 3)

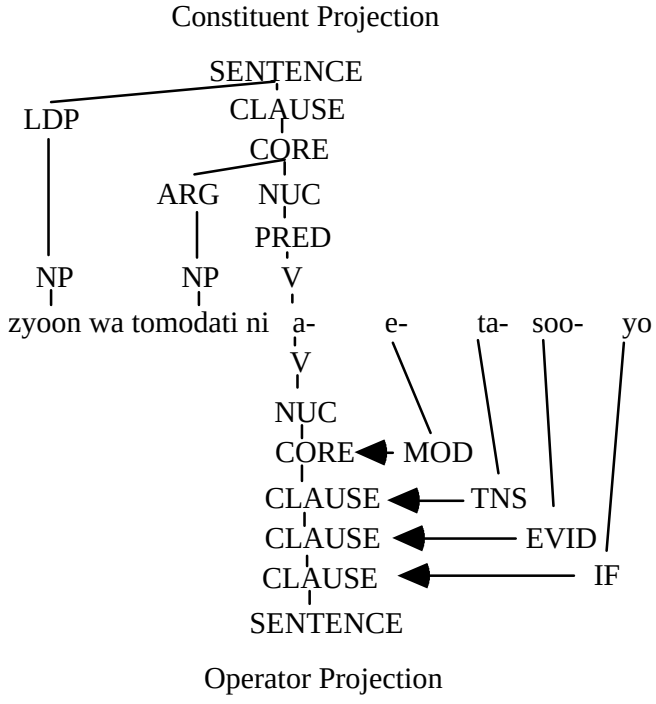


The operators which have scope over the nucleus, i.e. the verb and the innermost layer of the clause, are nuclear operators like aspect and some directionals. The core operators are those like modality or onternal negation which have scope over the core, consisting of one or two arguments and the predicate. The clausal operators like status, tense, evidentials, and IFs have scope over whole clause. The examples from English (3.21) and Japanese (3.22) are given, following the RRG representation of projection.

(3.21) Constituent and Operator Projection for English Simple Sentence



(3.22) Constituent and Operator Projection for Japanese Simple Sentence



zyoon wa tomodati ni a- e- ta soo yo.
TOP DAT meet-can-PST-EVID-PRT(IF)
"(I heard that) Joan could meet her friend." (Hasegawa 1992: 46)

3.2. Korean Operator Projection for Inflectional Morpheme

In this section, I will analyze Korean verbal inflectional morphology within the RRG operator system. As shown in section 3.1.1, the ordering of Korean verbal affixes is fixed. (3.23) illustrates all possible verbal affixes that can be added to a verb stem.

(3.23) a. an- tul- li- wu- (si)- lswuiss-cianh-ass-keyss-up-nita
NEG-hear-CAU-PAS-(SH)-ABLE-NEG-PST-PRESUM-POL-DEC
"(I) guess that [He] might [HON] not be heard."

b. hakkyo-ey ka-(si)-ko-iss-ess-keyss-te-ita
school-to go-(SH)-CONN-be(CONY)-PST-PRESUM-RETRO-DEC
"(I) remember that (he) might was going to school."

c. cap-hi-(si)-ess-keyss-saop-nita
catch-PAS-(SH)-tense.suffix-humble.suffix-inflectional.ending
'[He] may have been captured." (H.B. Lee 1989:76)

In this section I will examine the fixed verbal affixes and show that each inflectional morpheme follows the RRG operator system.

3.2.1. Causative and Passive suffixes: *-i, -hi,-li, -ki*

Passive suffixes and causative suffixes are attached directly to the verb stem. Nothing can intervene between the verb stem and the passive suffixes or causative suffixes. In Korean, the same set of suffixes are used both as a passive suffix and a causative suffix,namely *-i,-hi,-li,-ki*[84]. This raises the intriguing question of whether they are the same morpheme in different uses or different morphemes (i.e., simple homonyms) (cf. K. Park 1986, 1988). These four suffixes are phonologically conditioned allomorphs[85]. These suffixes are derivational, not inflectional. The causative and/or passive constructions formed with these suffixes are referred as 'lexical/ morphological causatives' or 'lexical/ morphological passives'. These verbal suffixes are better handled by lexical semantics than by operators. Thus, I will not analyze these suffixes as operators.

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[84]There are also suffixes that are used only for causatives and not for passives: *-wu, -kwu, -chwu* .

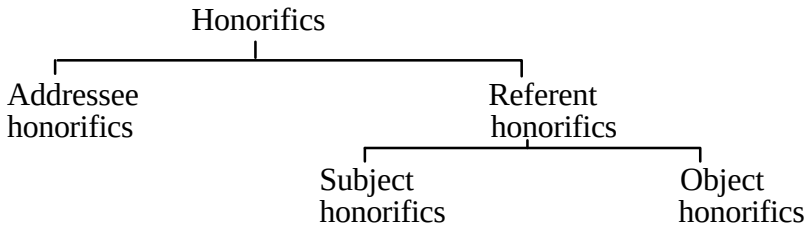
[85]The phonologically conditions for the allomorphs *-i*, *-hi*, *-li*, and *-ki* are as follows (cf. H.B. Lee 1989):

(i) *-i* after stems ending in /-p, t, k, h, V/
(ii) *-hi* after stems ending in /b, d, g, j, e /
(iii) *-li* after l-final stems and l-doubling stems and after the d-final stems
(iv) *-ki* after stems ending in /-m, n, s, c, and nh/

3.2.2. Honorific Suffix *-(u)si-* and Speech style *-(u)pni-*

Korean is a well known for its rich system of honorifics. This honorific system is broken down in (3.24) according to the target of the honorification.

(3.24) Korean honorific system (W-K Lee 1991:8)



These honorifics are expressed with inflectional suffixes: the subject honorific suffix *-(u)si-*, the object honorific suffix *-tuli-*, and the polite suffix *-(u)p-* .

(3.25) a. Chelswu-ka Swunhi-eykey malhay-ss-upni-ta : Addressee Honorific
-NOM -DAT speak-PST-POL-DEC
"Chulsoo spoke(HON) to Soonhi "

b. Halapeci-kkeyse Swunhi-eykey malha-si-ess-ta : Subject Honorific
grandfather -NOM(HON) -DAT speak-SH-PST-DEC
"Grandfather (HON) spoke(HON) to Soonhi."

c. Chelswu-ka halapeci-kkey malssum-tuli-ess-ta :Object Honorific
-NOM grandfather-DAT(HON) speak-OH-PST-DEC
"Chulsoo spoke(HON) to grandfather (HON)."

The subject honorific suffix *-(u)si-* indicates the speaker's deference to the subject of the clause. The object honorific suffix *-tuli-* indicates the speaker's deference to the object of a predication. The morphemes *-(u)si-* and *-tuli-* are also called 'the reference-honorific' markers. As for the position of the honorific suffixes[86], the honorific suffix *-(u)si-* can be attached to the verb stem. Nothing except a passive or causative suffix can intervene between a verb stem and honorific suffix. For example,

[86]Object honorifics occur when the non-subject noun phrase of the sentence deserves honorification. Generally speaking, object honorifics can be expressed with verb stem + object honorific suffix. The object honorific suffix *-tuli-* occurs in the same position as subject honorific *-(u)si-*. Thus, I will mention only subject honorific suffix as a token of honorific suffix in this paper.

(3.26) a. halapeci-ka atul-eykey sinpal-lul sin-ki-(si)-ess-ta
grandfather-NOM son-DAT shoes-ACC put.on-CAU-(SH)-PST-DEC
"Grandfather made son put on shoes."

b. *halapeci-ka atul-eykey sinpal-lul sin-ki-ess-si-ta
grandfather-NOM son-DAT shoes-ACC put.on-CAU-PST-SH-DEC

c. *halapeci-ka atul-eykey sinpal-lul sin-ki-ilswu-si-ess-ta
grandfather-NOM son-DAT shoes-ACC put.on-CAU-ABLE-SH-PST-DEC

This suffix would be used if the referent in question (especially subject) is senior to the speaker in terms of age and/or higher in social status. Thus, many studies (cf. Kuno and Y.J. Kim 1985; C. Youn 1986, 1989) treat this honorific suffix as a test for subjecthood. In section 2.3.2.2, I suggested an alternative analysis in which the highest ranking argument with respect to the Actor-Undergoer Hierarchy controls subject honorification. That is, this suffix is the result of lexical or semantic phenomena. The idea that it is a lexically-based suffix like lexical passives/ causatives is supported by several kinds of evidence. First, the occurrence of the subject honorific suffix is optional unlike other inflectional morphemes such as tense, aspect, and modality. Second, this honorific marker does not have any syntactic restriction for its use in complex sentences, unlike tense, aspect, and modality (J.I. Kwon 1985:12) as shown in (3.27).

(3.27) a. apeci-kkeyse piano-lul chi-(si)-ko-iss-(usi)-ess-ta
father-NOM(HON) piano-ACC play-(SH)-CONN-CONT-(SH)-PST-DEC
"Father (HON) was playing (HON) the piano."

b. apeci-kkeyse piano-lul chi-(si)-ko nolay-lul pwulu-(si)-ess-ta
father-NOM(HON) piano-ACC play-SH-CONN song-ACC sing-SH-PST-DEC
"Father (HON) sang a song while playing the piano."/
"Father (HON) played the piano and then sang a song."

c. apeci-kkeyse piano-lul chi-(si)-ko
father-NOM(HON) piano-ACC play-(SH)-CONN

emeni-kkeyse nolay-lul pwulu-(si)-ess-ta
mother-NOM(HON) song-ACC sing-(SH)-PST-DEC
"Father (HON) played the piano, while mother (HON) sang a song."

At each level of a complex sentence (i.e. a nuclear juncture (3.27a), a core juncture (3.27b), and a clausal juncture (3.27c); see chapter 4 for the juncture types), the honorific suffix can occur in each constituent. That is, the suffix can occur at either the nuclear level, the core level, or the clause level, even though it is not obligatory. Third, the existence of special 'honorific verbs' in Korean is further evidence that the honorific morpheme is derivational rather than inflectional (Van Valin, p.c.). In Korean, some verbs have their own honorific form as well as a plain form. Examples of verbs with two forms are given in (3.28).

(3.28) Verb Forms

Honorific Verbs	Plain Verbs	English glosses
a. Subject Honorific		
cwumwu-si-ta	ca-ta	'sleep'
capswu-si-ta	mek-ta	'eat'
malsum-ha-si-ta	mal-ha-ta	'speak'
thansayng-ha-si-ta	thaye-na-ta	'be born'
kye-si-ta	iss-ta	'be'
tolaka-si-ta	cwuk-ta	'die'
tu-si-ta	mek-ta	'eat'
b. Object Honorific		
(ton-lul) tuli-ta	cwu-ta	'give (money)'
(pen-lul) pachi-ta	cwu-ta	'give (pen)'
(kyelcey-lul) oli-ta	ponay	'send (letters)'
(mwunan-lul) yeccup-ta	mus-ta	'inquire after (a person)'
(halapeci-lul) poyp-ta	po-ta	'see (grandfather)'

Honorific nouns should be matched with honorific verbs. That is, an honorific noun occurring as subject or object should be used with an honorific verb, not with an plain verb, as in (3.29) (cf. H.B. Lee 1989:58).

(3.29) a. halapenim-kkeyse cwumwusi-n-ta
grandfather(HON)-NOM(HON) sleep(HON)-PRES-DEC
"Grandfather (HON) sleeps (HON)."

(cf. ?? halapenim-kkeyse ca-n-ta
grandfather(HON)-NOM(HON) sleep-PRES-DEC)

b. nay-ka chongcangnim-kkey selyu-lul tuli-ess-ta
I-NOM president(HON)-DAT(HON) document-ACC give(HON)-PST-DEC
"I gave (HON) the documents to the president (HON)."

(cf. ??nay-ka chongcangnim-kkey selyu-lul cwu-ess-ta
I-NOM president(HON)-DAT(HON) document-ACC give-PST-DEC

If an honorific form of the verb does not exist, however, a plain verb is used with the honorific suffix *-(u)si-* or *-tuli* .

(3.30) a. halapenim-kkeyse hakkyo-ey ka-si-n-ta
grandfather(HON)-NOM(HON) school-to go-SH-PRES-DEC
"Grandfather (HON) goes (HON) to school."

b. nay-ka chongcangnim-kkey selyu-lul ponay-tuli-ess-ta
I-NOM president(HON)-NOM(HON) document-ACC send-OH-PST-DEC
"I sent (HON) the documents to the president (HON)."

In (3.30), the honorific marker *-(u)si-* or *tuli-* is obligatory. These phenomena support the idea that the honorific suffixes are derivational rather than inflectional. Thus, I will not be concerned with these honorifics as operators in this paper[87].

Korean has morphological marking for speech styles, as was mentioned in section 3.1.1. These speech styles[88] have been observed by many studies with different terms and levels. One of these speech style suffixes, the polite marker *-(u)p-*, downgrades the status of the speaker, showing politeness to the addressees. This suffix may occur immediately after a verb stem or a stem plus a voice suffix. It may be preceded by the honorific suffix *-(u)si-* and /or a tense suffix, except for the present tense suffix *-n-*/*nun*. For example,

(3.31) a. emeni-ka us-usi-ess-up-nita
mother-NOM smile-SH-PST-POL-DEC
"Mother smiled(HON)(POL)."

b. *emeni-ka us-up-usi-ess-nita
mother-NOM smile-POL-SH-PST-DEC

c. *emeni-ka us-usi-up-ess-nita
mother-NOM smile-SH-POL-PST-DEC

It can be uttered only when the speaker assumes that the addressee has a higher social status (age, hierarchical social rank), and it has the effect of lowering the status of the speaker with respect to the addressee. The social status of the subject referent does not affect the marking of *(u)p-*. That is, the occurrence of the honorific suffix *-si-* and the occurrence of the polite suffix *-(u)p-* are independent of each other. Both the honorific suffix *-(u)si-* and the polite suffix *-(u)p-* are employed to express the speaker's respect; however, they are different in that the honorific suffix directs the speaker's respect to the referent of the subject of a sentence, while *(u)p-* honorifies the addressee. For example,

(3.32) a. apeci-ka o-si-ess-ta
father-NOM come-SH-PST-DEC
"The father comes (HON)."
(Speaker: a child Hearer: the child's friend)

[87]Also these honorific suffixes can be handled with prgmatic phenomena (Dryer p.c.).

[88]In each speech style, four kinds of mood are distinguished by the final endings:(i) declarative, (ii) imperative, (iii) propositive, and (iv) interrogative.

b. phyenci-ka o-ass-up-nita
letter-NOM come-PST-POL-DEC
"The letter was delivered (POL)."
(Speaker: a child Hearer: honorable people to the child such as father)

(3.32a) can be used in the context of a child speaking to his friends, while (3.32a) could be used in the context where a child speaks to his teacher or his parents. It should be noted that the subject honorific suffix *-(u)si-* is optional while the polite suffix is obligatory, as illustrated in (3.33).

(3.33) a. apeci-ka o-ass-ta
father-NOM come-PST-DEC
"The father comes ."

b. *pyenci-ka o-ass-ta[89]
letter-NOM come-PST-DEC
"The letter was delivered."

(3.33a) is possible in the same context as (3.32a), but (3.33b) can not be used in the situation in which (3.32b) is used. It should also be noted that the honorified one is not the subject (i.e. *phyenci* 'letter') and that the polite suffix is followed by sentence ending markers such as declarative *-ta*, interrogative *-kka*, and is preceded by tense marker in (3.31).

The polite suffix is similar in function to the high and low formal speech style inflectional suffixes. They all are used to show the speaker's respect for the addressee. All of these speech style morphemes occur in the position of the polite morpheme *-up*[90]. From this perspective, the speech style morphemes are clausal operators where it occurs between TENSE and IF.

3.2.3. Aspect, Directional, Modality and Tense

The grammatical categories that have to do with temporal properties are tense and aspect. In general, it is assumed that tense relates the time of a situation to another point in time, whereas aspect is the internal temporal structure of a situation without reference to another point in time (Chung and Timberlake 1985:202, Comrie 1976:6; Foley and Van Valin 1984:209). This is a problem, however, in distinguishing between tense and aspect due to the deictic nature of tense, pointed out by Dahl (1985:25). He concludes that the distinction between tense and aspect is by no means clear.

Even though there is a vast literature which attempts to characterize the tense system of Korean (H.B. Choe 1989; H.B. Lee 1989; D.H. An 1980; W. Huh 1983; C.M.

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[89](3.33b) is appropriate only if the speaker is older or a higher ranked person than the hearer. When a child speaks (3.33b) to his/her teacher as in (3.32b), it is inappropriate.

[90]Some speech style has no its own morpheme, but the speech style co-occur with different illocutionary force as shown in (3.8).

Lee 1987; and H.S. Lee 1991, among others), there is no generally accepted analysis of the tense system[91]. I will follow H.B. Lee (1989) which describes four basic tense suffixes and one retrospective tense suffix. His tense suffix classification is as follows:

(3.34) (i) Basic Tense Suffixes

(a) Zero neutral and present tense
(b) *-n-/-nun* V/C-form, present tense
(c) *-ass/-ess* a/e-form, past tense
(d) *-keyss* future tense

(ii) Retrospective Tense Suffix

(e) *-ti/te*

He classifies the category of tense in Korean into two major subcategories; Direct Tense and Retrospective Tense. Retrospective tense always refers to an event that is in the past at the time of utterance. Direct tense refers to the actual time of the action or event denoted by verbs. Compound tenses are constructed with an auxiliary verb at the syntactic (phrase) level, while the simple tense is formed by suffixation. Both direct and retrospective tenses can be either simple or compound.

(3.35) Tense System in Korean (H.B. Lee 1989)

a. Direct Tense
(i) simple tense:
neutral tense -zero
Present tense *-(nu)n-*, zero
Past tense *-ass/-ess*
Future tense *-keyss*
Past Perfect Tense *-ass-ess/-ess-ess*
Past Presumptive Tense *-ass-keyss/-ess-keyss*
Past Perfect Presumptive Tense *-ass-ess-keyss/ess-ess-keyss*
(ii) Compound tense:
Present Progressive tense; *-ko-iss* + Present Tense
Past Progressive Tense ;*-ko-iss*+Past Tense
Future Progressive Tense ;*-ko-iss*+Future tense

[91]Some propose that there is no tense category in Korean. For example, H.S. Lee (1991) tries to propose a Korean temporal system using a category of temporal aspect, contrary to what is assumed in most of the literature (Martin 1954; H-B. Choe 1989; D-H. An 1980; C. M. Lee 1987; H.B. Lee 1989).

b. Retrospective Tense
(i) simple Retrospective tense
Present Retrospective Tense
Past Retrospective Tense
Future Retrospective Tense
Past Presumptive Retrospective Tense
(ii) Compound Retrospective Tense
Present Progressive Retrospective Tense
Future Progressive Retrospective Tense
Past Progressive Presumptive Retrospective Tense

I will treat only simple direct tense as a tense operator, which is a clausal operator. I will handle compound direct tenses with nuclear juncture (cf. section 4.3.3) and retrospective tense (either simple or compound) as an evidential operator (cf. section 3.2.5). In other words, the simple direct tenses, i.e. neutral, present, past, future, past perfect[92] compose the "tense" category. The other tenses can be explained as different operators (cf. section 3.2.5 for analysis of compound and simple retrospective tenses). It should be noted that these simple tenses are preceded by aspect and modality.

As I mentioned in section 2.1.2, Korean has two dominant aspectual categories: *ko-iss-* (continuous aspect) and *e-iss-* (perfective aspect) These aspectual forms occur next to the verb stem (e.g. (3.36a & b)). Only causative and/or passive morpheme as well as optional subject honorific morpheme can occur between the verb stem and the aspect morpheme. Directionals, which can occur next to the verb stem, can be expressed with *ka-ta* 'go' (away from the speaker) and *o-ta* 'come' (toward to the speaker), as shown in

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[92] Instead of analyzing past perfect tenses as a tense, as H.B. Lee (1989) does, we can analyze it as perfective aspect and past tense. Then, the past perfect tenses can be anayzed as follows:

(i) pap-lul mek-ko.iss-ess-ess-ta
dinner-ACC eat-CONT-PERF-PST-DEC
V-ASP-ASP- TNS-IF
"(I) had been eating the dinner."

In this case, (i) does not violate the RRG operator system since past tense is preceded by two aspect marker. However, a modal operator, *-ulswu.iss-* which is considered a core operator in RRG, can intervene between the two aspects as shown in (ii).

(ii) pap-lul mek-ko.iss-ulswu.iss-ess-ess-ta
dinner-ACC eat-CONT-ABLE-PERF-PST-DEC
V-ASP-MOD-ASP- TNS-IF
"(I) could have been eating the dinner."

In this thesis, I will treat the perfect past tense as a simple tense. That is, the perfective aspect is fused into tense in this analysis.

(3.36c) and (3.36d)[93]. Modality, considered to be a core operator in RRG, is expressed by *-(u)lswu-* 'able', *-(u)lswu-eps* 'unable', and *-keyss* 'obligation' (cf. footnote 28). The linear ordering between aspect, directionals, modality, and tense follows the RRG operator system. Examples are shown in (3.36).

(3.36) a. Chelswu-ka hakkyo-eyse kongpwuha-ko.iss-ulswu.eps-ess-ta
-NOM school- at study -be(CONT)-UNABLE-PST--DEC
" Chulsoo could not be studying at school."

b. Chelswu-ka cip-ey honca ka-a.iss-ulswu.iss-ess-ta
-NOM house-to by.himself go-be(PERF)-ABLE-PST-DEC
"Chulsoo could have went to the house by himself."

c. ai-ka ki-e.o-lswu.iss-ess-ta
baby-NOM crawl-DIR-ABLE-PST-DEC
"The baby could crawl (toward me)."

d. kay-ka ku sangca-lul twieneme-ka-lswu.eps-ess-ta[94]
dog-NOM the box-ACC jump -DIR-UNABLE-PST-DEC
"The dog could not jump over the box (away from me)."

---

[93]However, in this thesis (cf. section 4.3.3), I will propose a different analysis of aspect and directionals in Korean, using a nuclear juncture analysis. To express these aspects and directionals, auxiliary verbs are attached to the main verb with a connective *-e-/ -ko* or verb serialization. This approach is not unique in Korean. Hasegawa (1992) proposes that Japanese aspect can be expressed with nuclear juncture.

[94]It is interesting that aspect and directionals can occur together in Korean. In this case, the directional morpheme should be adjacent to verb stem and then the aspect morpheme occurs next to the directional morpheme as follows:

(i) a. ai-ka ki-e o-ko.iss-lswu.iss-ess-ta
baby-NOM crawl-CONN come-CONT-able-PST-DEC
"The baby could crawl and be coming."

d. kay-ka ku sangca-lul twienem-e ka-ko.iss-lswu.eps-ess-ta
dog-NOM the box-ACC jump-CONN go-CONT-unable-PST-DEC
"The dog could not jump the box and be going."

(i) could be a counter-example of RRG's operator projection since the linear ordering is Verb stem-directionals-aspect-modality-tense-IF. As English interpretation implies, however, (i) cannot get its directional meaning anymore, but *ka-ta* 'go' and *o-ta* ' come' work as a main verb, not operator. The juncture type of (i) (i.e. core juncture) is not the same with that of (3.36) (i.e. nuclear juncture) (cf. section 4.3.3). Thus, (i) cannot be a counterexample to the RRG's operator system.

The linear ordering of each examples of (3.36) is Verb Stem-ASPECT/DIRECTIONAL-MODALITY-TENSE-IF, which fully follows the RRG operator projection.

3.2.4. Two Types of Negation

There are two types of negative formation in Korean: one is pre-verbal (e.g. (3.37a)) and the other is post-verbal (e.g. (3.37b)).

(3.37) a. Chelswu-ka pap-lul manhi an - mek-ess-ta
-NOM dinner-ACC much NEG-eat-PST-DEC
"Chulsoo did not eat much dinner (But he ate a little)."

b. Chelswu-ka pap-lul manhi mek-ci.ahn-ess-ta
-NOM dinner-ACC much eat-NEG-PST-DEC
"It is not the case that Chulsoo ate much dinner ."
"Chulsoo did not eat much dinner ."

These two types of negation are given different names by many studies: 'Type I' and 'Type II' (C.K.Oh 1971; D.W. Yang 1976; Hyun-Oak A. Kim 1977), 'Type A' and 'Type B' (H.B. Lee 1970), 'Short' and 'Long' (I.S. Yang 1972), 'Preverbal' and 'Postverbal' (S.H. Park Kim 1967; J.M. Yoon 1990), and 'Simplex' and 'Complex' (S.C. Song 1988) among others (cf. S.C. Song 1988:131). These two types of negation follow Dryer's (1988) investigation of the position of negatives in SOV languages. Dryer (1988b) investigates 345 languages for a number of cross-linguistic generalizations about the word order position of negative morphemes. He finds that two of the four possible subtypes, Subject-Object-Negative-Verb and Subject-Object-Verb-Negative are common among SOV languages as shown in (3.38).

(3.38) Position of negatives in SOV languages, number of languages
(Number of families in parentheses) : borrowed from Dryer (1988b: Table 2)

NegSOV	8	(5)
SNegOV	6	(3)
SONegV	39	(15)
SOVNeg	64	(18)
Total	117	(23)

Many of the studies on the two negatives (S.C. Song 1988, J.M. Yoon 1990, among others) show that the difference between (3.37a) and (3.38b) lies in their scope. The scope of pre-verbal negation is restricted to the verb itself; however, the scope of post-verbal negation can range over the whole clause or VP, as the English translation in (3.37) suggests. That is, (3.37a) negates only the action of verb. (3.37b) can have a narrow (or internal, core) interpretation or a broad scope (or external, clause) reading. The scope distinction of negation between these two types can be accounted for different juncture level operators. The prefix *an-* negates only the verb. That is, the scope of negation of pre-verbal negation is within nucleus. Thus, the prefix *an-* should be

considered a nuclear operator[95]. The operator of nuclear level negation is not unique to Korean. Hasegawa (1992) claims that *nai-de* is the operator in nuclear level negation and *naku-te* and *-zu* are the operators in core level negation in Japanese. This claim is illustrated with the following example.

(3.39) a. zyoon wa ban-gohan o tabe-{nai-de/ *naku-te} iru.
TOP dinner ACC eat NEG-TE be-NPST
"Joan hasn't eaten dinner."

b. kodomo ga yasai o tabe- {nai-de/naku-te} komaru.
child NOM vegetable ACC eat NEG-TE be-in-trouble-NPST
"(I)'m in trouble because (my) child doesn't eat vegetables."
(Hasegawa 1992:44)

In a nuclear juncture illustrated by (3.39a), only nuclear level negation *-nai-de* is possible, while in a clausal juncture illustrated by (3.39b), both *-nai-de* and *naku-te* are allowed.

Unlike pre-verbal negation, which is a nuclear operator and allows no ambiguity of scope, post-verbal negation[96] can range over the argument and allows some interpretation of its scope. J.M. Yoon (1990) argues that the scope of post-verbal negation is the whole clause, while J. Suh (1990) claims that it isonly the core. H.S. Han (1987) shows that there are scope ambiguities associated with the post-verbal negation. The following example from H.S. Han (1987) shows the ambiguity of post-verbal negation.

(3.40) ta o-ci .an -ass-ta
all come -NEG-PST-DEC
"All didn't come."

(3.40) is ambiguous. There is one reading in which the quantifier *ta* 'all' has wide-scope than the negation. Thus, the meaning is 'No one came'. There is another reading where negation has wide scope over *ta* 'all', yielding the meaning 'It is not the case that everyone came, but someone came.' Since the scope of post-verbal negation is not the main interest of this paper, I will assume that Korean post-verbal negation has two scopes, following

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[95]The concept of 'Operator' in RRG can be used to explaine these two types of negation as the same phenomena. However, J.M. Yoon (1990) claims that only post-verbal negation is done in syntax, whereas pre-verbal negation is a lexical process, explaining Korean verbal morphology in GB syntax.

[96]These post-verbal negatives are three different forms: *-an(i)-*, *-mos-*, *-ma(l)-*. "*Aniha-* and *mosha-* are in complementary distribution with *mal-* in relation to the types of sentence; that is, *aniha-* and *mosha-* occur in declarative and interrogative sentences only, whereas *mal-* occurs in imperative and propositive sentences only. As an exception to the complementary distribution mentioned above, *mal-* may also occur in interrogative sentences if the subject noun is expressed by a first person pronoun."(H.B. Lee 1989:136-137) However, in this thesis, I will use *-ci-anh-* only for the representative of post-verbal negatives.

H.S. Han's (1987) judgment: a narrow reading with scope over CORE (i.e. J. Suh 1990) and a broad reading with scope over CLAUSE (i.e. J.M. Yoon 1990). These two interpretations support RRG's general assumption that there is a core operator (i.e. narrow scope negation) and a clausal operator (i.e. wide scope negation).

3.2.5. Evidentials

In section 3.2.3, I did not classify the presumptive and retrospective as tense. In this section, I will analyze these suffixes as evidential operators.[97] The grammatical system of coding the source of information is referred to as 'evidentials' (Jakobson 1971:135; Foley and Van Valin 1984:218; Chafe and Nichols 1986) or 'epistemological mode' (Chung and Timberlake 1985). The evidential expresses how the speaker obtains the information about the situation described. Foley and Van Valin (1984) show that Kewa evidentials possesses a simple binary distinction: seen and unseen. Chung and Timberlake (1985:244) list four sources for evidentials: (i) experiential; (ii) inferential (iii) quotative (or hearsay), "in which the event is reported from another source"; (iv) "the submode in which the event is a construct (thought, belief, fantasy) of the source". Jakobson (1971:135) recognizes the coding distinction between direct evidence and indirect evidence in some languages as reflective of hearsay evidence, relative evidence, presumptive evidence, and memory evidence.

In Korean, there is a non-terminal suffix which indicates that a proposition is based on the speaker's evaluative judgment, rather than factual knowledge. The presumptive suffix *-keyss-* indicates that the event or the proposition that is mentioned by speaker is a result of deductive reasoning or guessing. Therefore, it expresses a conjecture or prediction. An example is given below.

(3.41) cikumccum Swunhi-nun hakkyo-ey tochakhay-ss-keyss-ta
now.about -TOP school-LOC arrive-PST-PRESUM-DEC
"(I didn't see it, but I guess that) Soonhi arrived at school now."

---

[97]In this section, however, we should note that the presumptive suffix *-keyss-* should be different from future tense *-keyss* and modality (i.e. possibility, necessity, obligation etc.) *-keyss* as follows:

(i) a. nay-ka nayil hakkyo-ey ka-keyss-ta
I-NOM tomorrow school-to go-FUT-DEC
"I will go to school tomorrow."

b. na-nun nayil hakkyo-ey ka-(ya)-keyss-ta
I-TOP tomorrow school-to go-OBLIG-DEC
"I must go to school tomorrow."

H.S. Lee (1991:63) mentions that the (Deductive) Reasoning suffix *-keyss-* expresses conjecture, prediction, or the speaker's will or volition in future situations. I will treat speaker's will and volition as modality and/or future tense.

(3.42) ceneyn i kkos-i pwulk-ess-keyss-upni-ta
before this flower-NOM red-PST-PRESUM-POL-DEC
"(I didn't see this flower before, but I guess that) this flower was red before."

(3.43) apeci-kkeyse sinmwun-ul po-si-ess-keyss-upni-ta
father-NOM newspaper-ACC see-SH-PST-PRESUM-POL-DEC
"Maybe father has read the newspaper.(But I didn't see it)"

In (3.41), *-keyss* expresses the speaker's conjecture about whether Soonhi arrived at school. (3.42) implies that the speaker didn't see that the flower was red, but that he guessed that it was red. (3.43) implies that the speaker is guessing that the father read the newspaper from indirect evidence like the newspaper being torn and disorganized. The utterance is made based on evidence like time or the speaker's experience. It implies that the speaker is not completely sure of the proposition since he or she did not see the situation. With *-keyss-*, the speaker's belief is based on deductive reasoning through indirect evidence, not on factual knowledge (cf. H.S. Lee 1991:63).

The retrospective suffix *-te/ti*[98] is added to verbs inflected with a direct tense suffix. It signals that the activity reported in the proposition is experienced or seen by the speaker.

(3.44) hansikan-ceney Swunhi-nun hakkyo-ey tochakhay-ss-te-la
one.hour-before -TOP school-LOC arrive-PST-RETRO-DEC
"Soonhi arrived at school one hour ago [I saw/remember/recall it]."

(3.45) (ceneyn) i kkos-i pwulk-te-nya ?
before this flower-NOM red-RETRO-Q
"Was this flower red before ?[Did you see/recall it ?]."

(3.46) (opwuncen-ey) apeci-kkeyse sinmwun-ul po-si-te-i-ta
five.minutes.ago-LOC father-NOM newspaper-ACC see-SH-RETRO-POL-DEC
"Father(HON) read(HON) the newspaper (five minutes ago) [I saw/recall it]."

In (3.44), speaker saw in person Swunhi arriving at school one hour ago. In (3.45), the speaker asks the listener whether the listener saw that the flower was red. (3.46) is a kind of report that the speaker saw the father reading the newspaper five minutes ago.

There is also a hearsay suffix *-tate-* which can occur in the same position as retrospective suffix *-te*[99].

---

[98]The morpheme *-ti-* occurs only in the declarative and interrogative moods of the high formal speech style and *-te-* in the declarative and interrogative moods of the low plain speech style, as well as in adjectival and adverbial clauses.

[99]Hasegawa (1992:45-46) mentions a Japanese Evidential operator *-soo-* which is similar Korean hearsay *-tate-*, as shown in (i).

(3.47) hansikan-ceney Swunhi-nun hakkyo-ey tochakhay-ss-tate-la
one.hour-before -TOP school-LOC arrive-PST-Hearsay-DEC
"Soonhi arrived at school one hour ago [I heard it]."

(3.48) (ceneyn) i kkos-i pwulk-ess-tate-nya ?
before this flower-NOM red-PST-Hearsay-Q
"Was this flower red before ?[Did you hear it ?]."

(3.49) (opwuncen-ey) apeci-kkeyse sinmwun-ul po-si-ess-tate-i-ta
five.minutes.ago father-NOM newspaper-ACC see-SH-PST-Hearsay-POL-DEC
"Father(HON) read(HON) the newspaper (five minutes ago) [I heard it]."

(3.47)-(3.49) express the same propositions as (3.44)-(3.46). In the former group of sentences the speaker knows the proposition through hearing it from somebody, while the latter group of sentences the speaker knows the proposition through his experience..

The presumptive suffix *-keyss*, retrospective suffix *-te* , and hearsay suffix *-tate* have evidential status. They mark the proposition for the speaker's means of knowing the proposition; i.e. through conjecture, experience, hearsay, and so on. Also, as shown in above examples, these suffixes needs time adverbs like *cikumccum* 'now about' *icey* 'now', *ceneyn* 'before' etc. From the fact that these suffixes scope over tense, we can say that presumptive suffixes and the retrospectives are clausal operators. Since these suffixes occur after tense suffixes and before polite suffixes, the evidential operators are positioned between the tense operator and the style operator.

In section 3.2.3. I did not analyze complex tenses like the future retrospective tense, past perfect presumptive tense and retrospective tense. Now let's examine the complex tenses formed by adding presumptive and/or the retrospective tense suffix to verb stem with the simple tense suffix.

(3.50) a. Future Retrospective Tenses
pi-ka o-keyss-te-la
rain-NOM come-FUT-RETRO-DEC
V- TENSE- EVID- IF
"It will be to rain [I recall]." (H.B. Lee 1989: 95)

b. Past Perfect Presumptive Tense
i tali-ka ceneynun te kil-ess.ess-keyss-ta
this bridge-NOM before more long-PERF.PST-PRESUM-DEC
V- TENSE-EVID-IF
"This bridge might have been longer before." (H.B. Lee 1989:93)

(i) zyoon wa tomodati ni a-e-ta -soo-yo
TOP DAT meet-can-PST-EVID-IF
"(I heard that) Joan could meet her friend."

c. Past Presumptive Retrospective Tense
Chelswu-ka kuttay ton-i pwucokhay-ess-keyss-te-la
NOM at.that.time money-NOM be.short -PST-PRESUM-RETRO-DEC
V-TENSE-EVID-EVID-IF
"Chulsoo might have been short of money at that time[I thought]."

d. Present Progressive Retrospective Tense
ai-ka wul-ko.iss-te-la
baby-NOM cry-CONT-RETRO-DEC
V-ASP-EVID-IF
"The baby was crying [I recall]."

e. Past Progressive Presumptive Retrospective Tense
Swunhi-ka kuttay wul-ko.iss-ess-keyss-te-la.
-NOM at.that.time cry-CONT-PST-PRESUM-RETOR-DEC
V-ASP-TENSE-EVID-EVID-IF
"Soonhi might have been crying at that time."

As shown in (3.50), the linear ordering founded in the compound tense forms is: Verb Stem+ Aspect + Tense + Evidential (presumptive) + Evidential (retrospective) + Illocutionary Force (declarative, interrogative, etc.). This order complies with the RRG operator system. Thus, the RRG operator system analysis, considering resumptive, retrospective, and hearsay suffixes as Evidential, which is a clausal operator, can explain Korean compound tenses as well as simple tenses

3.2.6. Illocutionary Force

In English, sentence types can be distinguished by the intonation and the word order. Thus, IF, which marks three basic distinctions, is indicated by the postion of the tense marker: interrogative by core-initial tense, declarative by core-internal tense, and imperative by no tense (Van Valin 1993a: 11-12). In Korean, the sentence types can be distinguished by four types of clause (or sentence) ending markers: declarative/assertive (*-ta*, *-la*, *-ey*, *-so*), interrogative (*-kka*, *-nya*, *-a*), imperative (*-o*, *-ula*/*-la*), and propositive (*-ca*,*- ey*).

(3.51) a. Chelswu-ka hakkyo-ey ka-ss-ta : Declarative
-NOM school-to go-PST-DEC
"Chulsoo went to school."

b. Chelswu-ka hakkyo-ey ka-ss-nya ? : Question
-NOM school-to go-PST-Q
"Did Chulsoo go to school ?"

c. Chelswu-ya hakkyo-ey ka-ca : Propositive
-VOC school-to go-PROP
"Let's go to school, Chulsoo."

d. Chelswu-ya hakkyo-ey ka-la : Imperative
-VOC school-to go-IMP
" Go to school, Chulsoo."

These sentence final suffixes, which have been called 'mood' (Martin 1960), 'sentence ending marker' (H.B. Choi 1989), 'sentence types' (H.S. Lee 1991, H.B. Lee 1989), always appear as the final verb morpheme, thus occurring at the end of sentences. These sentence-terminal suffixes specify experiential and performative components of situations described by the proposition. That is, they are IFs. The analysis that the sentence final suffixes are IF in Korean will support RRG's operator system which analyzes IF as a outermost Clausal operator, taking the entire clause as well as the other clausal operators within its scope.

3.3. Summary : Korean Operator System.

In this chapter, I investigated Korean verb morphology with the RRG operator system. The fixed linear ordering of verb suffixes in Korean (including negative prefix *an-*) shows that relative ordering reflects the scope of the operator. Also, it fully follows the RRG operator system and supports RRG assumption that the ordering of the morphemes expressing operators with respect to the verb indicates their relative scopes.

From the above section, we can propose the following operator system in Korean.

(3.52) Korean Operators System

a. Nuclear Operator: Negation Pre-verbal negation *an-*
Aspect Continuous (*ko-iss*), Perfective (*e-iss*)
Directionals Toward speaker (-o-),
Away from speaker (*-ka-*)

b. Core operators: Modality (e.g. ability, permission, obligation)
- *(l)swu-iss-*, *-(l)swu-eps-*, *-ya-* (obligation)
Internal (narrow scope) negation *-ci-anh* (post-verbal)

c. Clausal operators: Staus (epistemic modals, external negation)
-ci-anh (post-verbal negation)
Tense present *-(u)n-* , past *-ess*, future *-keyss*,
Evidentials presumptive *-keyss*, retrospective *-te-*,
hearsay *-tate-*
Speech Style plain, formal, informal, familiar, intimate,
polite *-(u)p*, *-ni-*, *-e*,
Illocutionary Force [IF];Imperatives, propositives,
interrogatives, declaratives

With this proposed operator system, then, we can reanalyze examples of Korean verb inflection done by previous studies (cf. section 3.1.1) as follows:

(3.53) Martin (1960): cf. (3.2)

wus	-usi-	ess. ess-	keyss	-supni - ta
smile +	SH +	PST(PERF) + PRESUMP+	POL-	DEC
Verb Stem	-SH -	TENSE -	EVID -	STYLE - IF

"(He) (HON) might smile (HON)."

(3.54) H.B. Choi (1989): cf. (3.5)

tul-	li-	hi-	si-	ess-	keyss-	(up)te-	i-	ta[100]
hear-	CAU-	PAS-	SH-	PST-	GUESS-	RETRO -	POL -	DEC
Verb Sem-	CAU-	PAS-	SH-	TENSE-	EVID-	EVID-	STYLE-	IF

(3.55) H.B. Lee (1989): cf. (3.9)

cap	-hi-	si-	ess-	keyss-	saopni-	ta
catch-	PAS-	SH-	PST-	PRESUMP -	POL	-DEC
Verb Stem-	PAS-	SH-	TENSE-	EVID-	STYLE-	IF

"[He] may have been captured."

(3.56) shows the operator projection proposed for Korean.

---

[100]H.B. Choi (1989) analyzes the suffix *-up* as a polite suffix and *-i-ta* as an ending suffix, as shown in (3.5). In (3.54), I analyze *-i-* as a polite suffix because of the optionality of *-up-* and the obligatoriness of *-i-*.

(i) a.

tul-	ess-	keyss-	te-	i-	ta
hear-	PST-	GUESS-	RETRO-	POL-	DEC

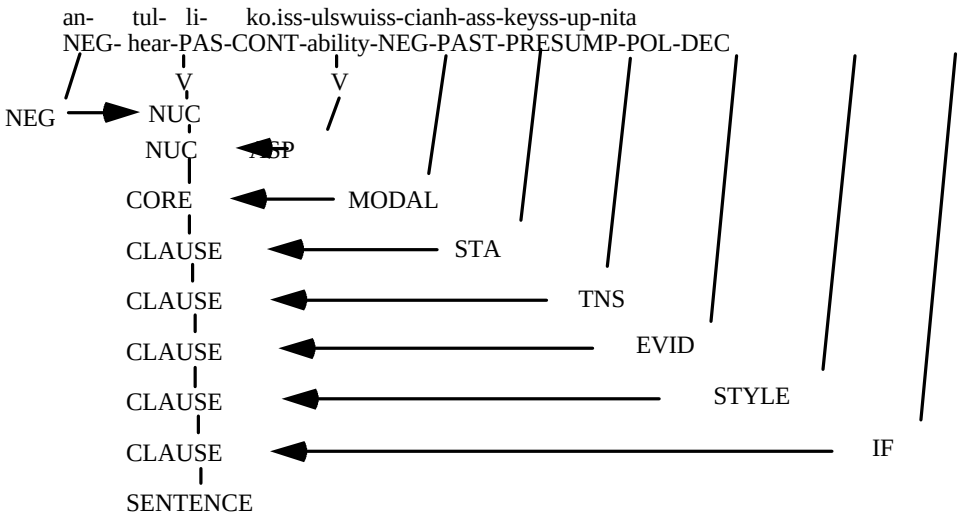
"(He) might hear (HON) (the sound) [I recall]."

b.

*tul-	ess-	keyss-	up-	te-	la
hear-	PST-	GUESS-	POL-	RETRO-	DEC

In (ia), the polite style can be expressed with *-i- ta* only. As shown in (ib), however, the suffix *-up-* can not occur by itself without *-i*. In this sense, the polite suffix is *-i-*, not *-up* in (3.54).

(3.56) Korean Operator Projection[101]



RRG's operator projection has several advantages in explaining Korean verb inflectional morphemes. First, lexical causatives and passives as well as subject honorifics are analyzed as derivational, not as inflectional. Second, the two types of negations need to be analyzed as three different operator types: nuclear (i.e. post-verbal negation), core (i.e. narrow scope of post-verbal negation), and clause (i.e. broad scope of post-verbal negation). Third, the presumptive suffix *-keyss*, retrospective *-te*, and hearsay *-tate* are analyzed as evidentials, an analysis that had not been proposed before. Fourth, sentence-ending suffixes such as *-ta* (declarative), *-nya* (interrogative), *-ca* (propositive) and *-la* (imperative) are analyzed as IF. Fifth, this Korean operator system analysis satisfies RRG's assumption that "the ordering of the morphemes expressing operators with respect to the verb indicates their relative scopes" (Van Valin 1993a:9).

[101]In this projection, post-verbal negation *-ci-anh* can be CORE operator, which is not mentioned in the diagram. Directionals cannot co-occur with aspect in Korean since aspect and directionals are expressed with nuclear juncture. Thus, directionals can be occur instead of aspect in the same postion as follows:

(i) an-tul-li-e.o-lswu.iss-ci.anh-ass-keyss-up-ni-ta
NEG-hear-PAS-DIR-MOD-STA-TNS-EVID-STYLE-IF.

To see the structure of aspect and directionals in details, refer to section 4.3.3.1.

Chapter 4
Clause Linkage and Interclausal Relations Hierarchy in Korean

4.0. Introduction

In Korean, complex clauses are possible with a connective (cf. section 3.0) such as *-e/-a* 'and', *-ko* 'and', *-kose* 'and after' , *-key* 'in order to, in a way that, so that'. These markers occur after the first junct's verbal inflectional morphemes (cf. section 3.2). Examples of complex clauses are illustrated in (4.1)- (4.3).

(4.1) Nuclear level juncture (Verb-CONN-Verb)

a. nay-ka pap-lul [mek]$_V$-ko-[iss]$_V$-ta
I-NOM dinner-ACC eat-CONN-be(CONT)-DEC
" I am eating the dinner."

b. ai-ka [kel]$_V$-e-[o]$_V$-n-ta
child-NOM walk-CONN-come-PRES-DEC
"The child walks (toward me)."

c. Kim-sensayngnim-i ku yeca-lul [coh]$_V$-a-[ha]$_V$-si-n-ta
-teacher(HON)-NOM the woman-ACC like-CONN-do-SH-PRES-DEC
"Teacher Kim(HON) likes (HON) the woman." (B.S. Park 1974: 52)

(4.2) Core level juncture (Core-CONN-Core)

a. Nominalization
[tal-i palk-ki]-ka nac-kwa kath-ta
moon-NOM bright-COMP-NOM day-like same-DEC
"The brightness of the moon was like that of the sun."
(H.B. Choi 1989: 830)

b. Simultaneous (*-ko* construction)
[pesu-ka menci-lul nay-]ko/myense talli-n-ta
bus-NOM dust-ACC stir.up -CONN run-PRES-DEC
'A bus is running, while stirring up the dust.' (K.S. Nahm 1978:7)

c. *e-* constructions
[ppang-lul kwu]-e [pethe-lul pal-a-noh]-ass-ta
bread-ACC toast-CONN butter-ACC put.on-CONN-put-PST-DEC
"[She] toasted the bread and put the butter on it."

(4.3) Clause level juncture (Clause-CONN-Clause)

a. Quotative Complements
Chelswu-ka [Swunhi-ka ttokttokhay-ess]$_{CL}$-tako sayngkakha-n-ta
-NOM -NOM smart- PST -CONN think-PRES-DEC
"Chulsoo thinks that Soonhi was smart."

b. Additive *-ko* constructions
[Swunhi-nun hakkyo-ey ka-ss-]ko [Chelswu-nun tosekwan-ey ka-ss-ta]
-TOP school-to go-PST-CONN -TOP library-to go-PST-DEC
"Swunhi went to school and Chulsoo went to the library."

c. Sequential *-ko* construction
[satto-(ka) ttu]-ko [naphal-(i) pwul]-ess-ta
province.governor-NOM arrive-CONN trumpet-NOM sound-PST-DEC
"(Lit.)The province governor arrived, and then the fanfare started."
"It is too late."

Traditionally, studies on complex sentences concentrated on examples like (4.2) and (4.3) (cf. H.B. Choi 1989, I.S. Yang 1972, K.S. Nahm 1978, 1979, C. Kang 1990, among others) and made no distinction between (4.2) and (4.3). There was no attempt to distinguish core level juncture from clausal level juncture for complex sentences in Korean, until J.J. Song (1988)[102]. Some studies (e.g. B.S. Park 1972, 1974; H.M. Sohn

[102]J.J. Song (1988) claims that the NOM-DAT-(ACC) periphrastic causative construction (ia) is a core coordination, the NOM-NOM-(ACC) complement causative construction (ib) is a core subordination, and the complex construction with a subordinate purposive clause (ic) is a clausal coordination.

(i) a. Chelswu-ka Yenghi-eykey kwail cup-lul masi-key hay-ss-ta
-NOM -DAT fruit juice-ACC drink-CONN do-PST-DEC
"Chulsoo caused Younghi to drink the fruit juice." (ibid.: 584)

b. Chelswu-ka Yenghi-eykey kwail cup-lul masi-key hay-ss-ta
-NOM -DAT fruit juice-ACC drink-CONN do-PST-DEC
"Chulsoo caused Younghi to drink the fruit juice." (ibid.: 585)

c. Chelswu-ka Yenghi-ka phathi-ey o-key
-NOM -NOM party-LOC come-CONN

kunye-uy cip-ey cenwha-lul kel-ess-ta
she -GEN home-at phone-ACC dial-PST-DEC
"Chulsoo called Younghi at home so that she could come to the party."
(ibid.: 584)

1973, 1976; I.S. Yang 1972, 1974, 1976) pay attention to verb serialization and complex predicates like those shown in (4.1).

In section 2.1.2.7, I mentioned that Korean has three kinds of causatives[103], The examples are repeated below.

(4.4) a. Phrasal Causative
Chelswu-ka Swunhi-ka/eykey/lul ttena-key hay-ss-ta
-NOM -NOM/DAT/ACC leave-CONN do-PST-DEC
"Chulsoo made Soonhi left."

b. Suffixal Causative
emeni-ka ai-eykey/lul os-ul ip-hi-ess-ta
mother-NOM baby-DAT/ACC clothes-ACC wear-CAU-PST-DEC
"Mother made the baby wear the clothes."

c. Lexical Causative
emeni-ka ai-lul hakkyo-ey ponay-ss-ta
mother-NOM child-ACC school-to send-PST-DEC
"Mother sent the child to school."

Phrasal causatives have been analyzed in many different theoretical frameworks, generally focusing on the three distinct patterns of case marking that appear in these constructions: e.g. Gerdts (1986, 1990) and E. Cho (1987) in RelG; O'Grady (1991) in CG,; J. Chang and D. Cho (1991) and Y.J. Kim (1990) in GB; and J.J. Song (1988) and K. Park (1993a) in RRG. However, no one fully accounts for the different degree of causation among the three distinct patterns of case-marking phrasal causatives, including lexical (i.e. (4.4c)) and suffixal (or morphological) causatives (i.e. (4.4b)).

The main purpose of this chapter is to investigate Korean clause linkage in complex sentences and the Interclausal Relations Hierarchy [IRH] in relation to the constituent and operator projections. This investigation has the following sub-purposes: i) to propose LSC for simple clauses in Korean, ii) to investigate the nine possible clause linkage types (cf. section 4.1.3) and propose a IRH for Korean, which confirms RRG's IRH as a universal paradigm, iii) to show that Korean complex verb constructions can be explained with the three nexus types in nuclear juncture, without transformational rules, and iv) to show that the proposed Korean IRH can account for the degree of causation among the different causative constructions given in (4.4). This study will support RRG's theory of clause linkage and the IRH as part of universal grammar.

With the proposed clause linkage types, he argues against RRG's Interclausal Relations Hierarchy (IRH; cf. section 4.1.3). However, in section 4.4, I will defend the IRH, showing that Korean clause linkage fully follows the IRH .

[103]K. Park (1993a) summarizes the different terminologies used for these three kinds of causatives (cf. section 2.1.2.7). I will follow Patterson's (1974) term for three types of causatives here.

Section 4.1. will present the RRG theory of clause constituents for simple sentences and clause linkage for complex sentences and IRH, with reference to Korean clause structures for simple sentences. Section 4.2. will examine previous studies on Korean complex sentences and connectives. Section 4.3. will be devoted to a detailed analysis of clause linkage in complex constructions in Korean, showing nine possible linkage types. Section 4.4. will propose the Korean IRH according to the nine clause linkage types proposed in section 4.3. and will show that the Korean IRH can account for verb complementation and the degree of causation among the causative constructions as in (4.4). Section 4.5 will be a summary of this chapter.

4.1. Clause Structure for Simple and Complex Sentences in RRG

RRG rejects the standard formats for representing clause structure, such as grammatical relations and X-bar syntax, because they do not have universal applicability. RRG uses a concept of the Layered Structure of the Clause [LSC]. LSC is different from the other syntactic approaches in that it is based on two fundamental contrasts: the contrast between the predicate and its arguments, and the contrast between arguments and non-arguments, not contrast between NP and VP. Most syntactic theories employ the traditional coordination-subordination dichotomy in complex sentences, but RRG proposes a trichotomy of coordination-subordination-cosubordination. This section will describe the RRG theory of LSC (section 4.1.1.), Korean clause structure (section 4.1.2) and RRG's treatment of complex sentences (section 4.1.3).

4.1.1. RRG Theory of Clause Structure of the Simple Clause (LSC)

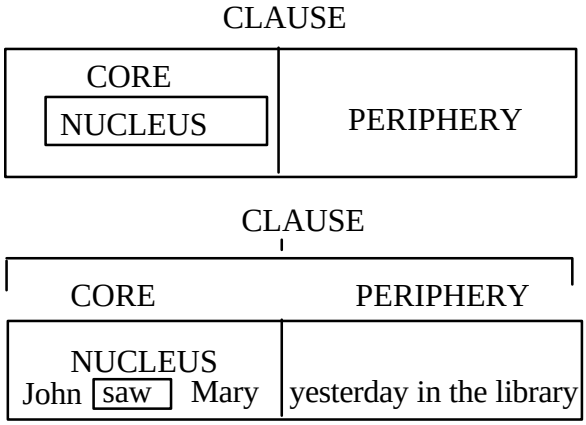
The RRG notion of the LSC is a semantically-based theory of syntactic structure. The fundamental units in the hierarchical organization of sentences and clauses are semantically motivated by the contrast between predicate and argument, on the one hand, and between arguments and non-arguments, on the other (Van Valin 1993a:7). These contrast are schematized in (4.5).

(4.5) Universal oppositions underlying clause structure

These contrasts are found in all languages, regardless of whether they are configurational or non-configurational, head-marking (e.g. Lakhota, Tzotzil) or dependent-marking(e.g. English, Japanese, Korean, and Icelandic) , free-word-order (e.g. Dyirbal) or fixed-word-order (e.g. English) (ibid.: 5). On this view, LSC is made up of the NUCLEUS, which contains the predicate(s), either a verb or adjective (in Korean), the CORE, which contains the nucleus and its arguments, and the PERIPHERY, which contains the adjunct temporal and locative modifiers of the core. These units (NUC, CORE, and PERIPHERY) are syntactic units, while the units predicate and argument are semantic. Instead of taking the

category of VP, which plays a central role in X-bar based syntax as in GB, RRG uses the notion CORE. These hierarchical units are different from X-bar based syntax in that these units are not dependent upon either immediate dominance or linear precedence relations as illustrated below (from Van Valin 1993a:5).

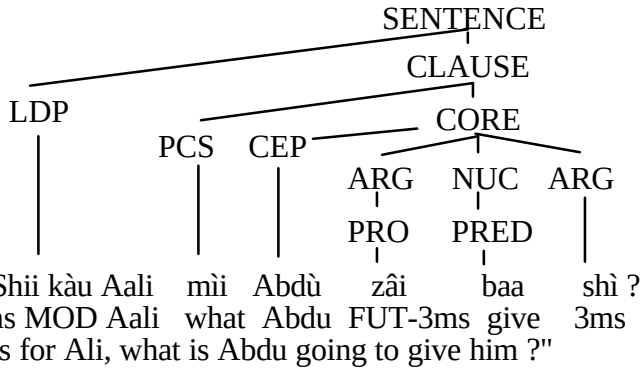
(4.6) LSC in RRG (Van Valin 1993a: Figure 1)



In a single-clause sentence, the LSC has two other elements; the core-external and clause-internal PRE-CORE SLOT [PCS]; and the clause-external, optional LEFT-DETACHED POSITION [LDP][104]. The PCS is the position in which question words appears when they do not occur in situ in languages like English, Italian, Zapotec[105]. LDP

[104]Abdoulaye (1992) proposes a core-external, clause-internal position referred as the CORE-EXTERNAL POSITION [CEP] in addition to PCS and LDP for head-marking languages such as Lakhota, Tzotzil, and Hausa; a Hausa sentence is represented in (i).

(i) LSC for Hausa Simple Sentence

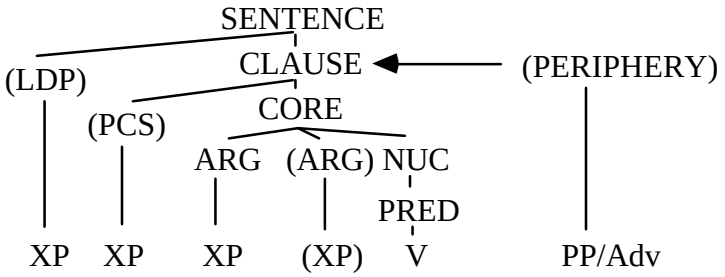


Abdoulaye (1992:46)

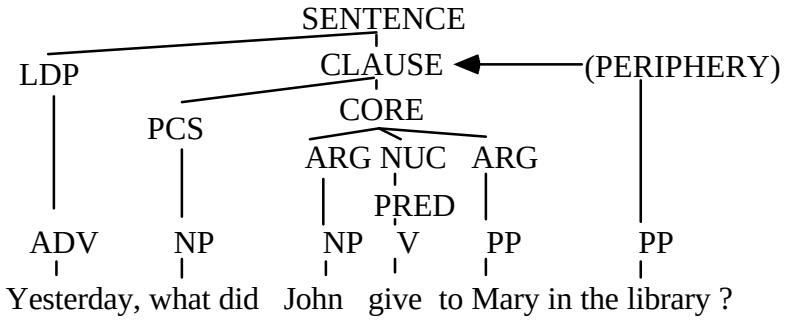
[105]Also, PCS is the position in which the fronted elements in a English sentence like ‘Bean soup I can’t stand’ appear (Van Valin 1993a:6) and the position of contrastive topic NPs and narrow focus NP-NOMs in Japanese (cf. Hasegawa 1992: section 2.3) and in Korean (cf. section 4.1.2).

is the position in which pre-clausal elements like topic and adverbials in left-dislocation constructions appear (ibid.: 6). These two positions for displaced elements are very important for distinguishing clause from sentence. The PCS is a clause-internal position, which is within the scope of the IF operator over the clause. The LDP is outside of the clause, and therefore is outside of the IF operator. The distinction between sentence and clause can be found in the contrast between PCS and LDP. The phenomena signal the distinction between these two constituents are different from language to language: in English IF scope differences between assertion, question, or negation; in Tzotzil direct morphosyntactic evidence marked both intonationally and morphologically; and in Icelandic syntactic evidence for the "V/2 constraint" (cf. Van Valin 1993a:12-16 for an example). The universal LSC can be represented as in (4.7) and an English sentence containing all of these elements is presented in (4.8).

(4.7) LSC for Simple Clause Sentence in RRG (from Van Valin 1993c: Figure 1).



(4.8) LSC for English Simple Sentence (from Van Valin 1993c: Figure 1).



4.1.2. Korean Layered Structure of the Clause in Simple Sentences

Korean is a typical SOV language. Its word order is not fixed like English word order, although it is not as free as Latin or Walpiri. The examples in (4.9) show the various possible word orders. however, word order is not fixed like English (e.g. 4.9). The case is expressed not by word order, but by case-markers which occur after argument NP: *-ka /-i* 'NOM', *-(l)ul* 'ACC' *-eykey* 'DAT', *-ey(se)* 'LOC', etc.

(4.9) a. S-O-PP-V
Swunhi-ka Chelswu-lul tosekwan-eyse manna-ss-ta
-NOM -ACC library-LOC meet-PST-DEC
"Soonhi met Chulsoo in the library."

b. O-S-PP-V
Chelswu-lul Swunhi-ka tosekwan-eyse manna-ss-ta
-ACC -NOM library-LOC meet-PST-DEC

c. S-PP-O-V
Swunhi-ka tosekwan-eyse Chelswu-lul manna-ss-ta
-NOM library-LOC -ACC meet-PST-DEC

d. PP-O-S-V
tosekwan-eyse Chelswu-lul Swunhi-ka manna-ss-ta
library-LOC -ACC -NOM meet-PST-DEC

If an argument can be inferred from the discourse, Korean allows zero anaphora (i.e. zero argument NP). (4.10) shows some examples of it.

(4.10) a. ney-ka Chelswu-lul tosekwan-eyse ettehkey hay-ss-ni ?
you-NOM -ACC library-LOC how do-PST-Q
"How did you do with Chulsoo in the library ?"

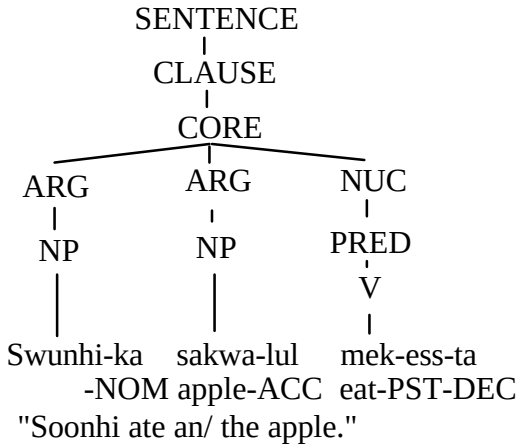
b. (nay-ka) (Chelswu-lul) (tosekwan-eyse) manna-ss-ta
I-NOM -ACC library-LOC meet-PST-DEC
"(I) met (Chulsoo) (in the library)."

We should note two differences from English in terms of the LSC. The PCS is the position for WH-words in questions in English, whereas WH-words occur in situ in Korean; Korean uses the sentence final suffixs *-kka*, *-nya*, *-ni*, etc. for questions (cf. section 3.2.6.). The LDP is the position of the pre-clausal elements such as topic or adverbials in left-dislocation constructions. Korean is both subject- and topic-oriented, like Japanese. Kuno (1973) argues that there are two uses of topic markers in Japanese: neutral (unstressed) topic *-wa* and contrastive (stressed) *-wa* [106]. He also argues that there are two uses of NOM *ga*: neutral description *-ga* (unstressed) and exhaustive listing (contrastive; stressed) *-ga*. Similarly, Korean has two uses of topic marker-*(n)un* and NOM marker *-ka*. The

[106]Shibatani (1990) gives strong arguments against Kuno's (1973) view that there are two uses of *wa* and *ga*. in Japanese. Section 5.1.2 will show that these two uses of wa/ga in Japanese and nun/ka in Korean can be explained with different pragmatic information structures. This will support Shibatani's idea that the neutral vs. contrastive meaning of the NP is not related to the particle *wa/ga perse se*, but it is a conversational implicature associated with a particular kind of sentence — one with a focus of new information. In this section, however, I will use Kuno (1973)'s terms to show Korean LSC.

usage is different according to the stress. Either NOM NP or ACC NP as well as PP can get topic marker *-nun*. (4.11) is the LSC of a regular ordered simple sentence, meaning 'Soonhi ate an/the apple.'

(4.11) LSC of Simple Sentence



Since the nominative marked NP (i.e. *Swunhi*) and the accusative marked NP (i.e. *sakwa* 'apple') can get topic particle *-nun*, there are four possible sentences to represent (4.11).

(4.12) a. Swunhi-nun sakwa-lul mek-ess-ta[107]
-TOP apple-ACC eat-PST-DEC
"(Lit) Soonhi, ate an/the apple."

b. Swunhi-nun sakwa-nun mek-ess-ta
-TOP apple-TOP eat-PST-DEC
"(Lit) Soonhi, an/the apple, ate."

c. sakwa-nun Swunhi-ka mek-ess-ta
-TOP -NOM eat-PST-DEC
"(Lit) An/The apple, Soonhi ate."

d. sakwa-nun Swunhi-nun mek-ess-ta
-TOP -TOP eat-PST-DEC
"(Lit) An/The apple, Soonhi, ate."

Theoretically each case particle can be stressed (i.e. contrastive) or not (i.e. neutral descriptive) in each example of (4.12). Considering the stress on either particle, the number of possible sentence combinations for each examples is four and then the total

[107]If we think the possiblities of scrambling between NP1 and NP2, the number of the possible sentences are eight. Here I will not consider the scrambling phenomena to make the arguement simple .

possible combinations are sixteen. In real context, however, only limited sentences are used. Among the four possible examples, NP1-*nun* + NP2-*ka/ lul* +VERB is most popular (cf. S. Y. Choi 1986, 1993). In NP1-*nun*+ NP2-*nun*+VERB, the particle *nun* is generally regarded as a topic marker for NP1 and contrastive for NP2 (cf. C.M Lee 1973; Cae Wan 1980). That is, contrastive NP1-*nun/-ka* + contrastive NP2-*nun/ka* +VERB and contrastive NP1-*nun/ka*+ neutral NP2-*nun/-ka*+ VERB constructions are rare. Among the sixteen possible sentences, nine constructions are used in real context, as in (4.13).

(4.13) a. Swunhi-nun sakwa-lul mek-ess-ta
-TOP apple-ACC eat-PST-DEC
"(Lit) Soonhi, ate an/the apple."

b. SWUNHI-NUN[108] sakwa-lul mek-ess-ta
-CTM apple-ACC eat-PST-DEC
"(Lit) SOONHI, ate an/the apple."

c. Swunhi-nun SAKWA-LUL mek-ess-ta
-TOP apple-ACC eat-PST-DEC
"(Lit) Soonhi, ate AN/THE APPLE."

d. SWUNHI-NUN SAKWA-LUL mek-ess-ta
-CTM apple-ACC eat-PST-DEC
"(Lit) SOONHI, ate AN/THE APPLE."

e. Swunhi-nun SAKWA-NUN mek-ess-ta
-TOP apple- CTM eat-PST-DEC
"(Lit) Soonhi, AN/THE APPLE, ate."

f. SAKWA-NUN Swunhi-ka mek-ess-ta
apple -CTM -NOM eat-PST-DEC
"(Lit) AN/THE APPLE, Soonhi ate."

g. sakwa-nun Swunhi-ka mek-ess-ta
apple -TOP -NOM eat-PST-DEC
"(Lit) An/The apple, Soonhi ate."

e. sakwa-nun SWUNHI-KA mek-ess-ta
apple -TOP -CFM eat-PST-DEC
"(Lit) An/The apple, SOONHI ate."

[108]cf. section 2.3.2.3 for contrastive topic *-(n)un* (i.e. CTM) and contrastive focus *-ka*.(i.e. CFM).

h. sakwa-nun SWUNHI-NUN mek-ess-ta
-TOP -CTM eat-PST-DEC
"(Lit) An/The apple, SOONHI, ate."

The fact that only nine cases are possible in real context can be explained with LSC (I will mention it below). Hasegawa (1992) associates Japanese topic NP-*wa* with LDP and contrastive NP-*wa* as well as contrastive NP-*ga* with the PCS. Her analysis can be used for two uses of Korean NP-*(n)un* / *-ka*. Neutral topic NP-*(n)un* can be associated with LDP and contrastive NP-*(n)un* /*-ka* with PCS. In other words, the contrastive NPs are in a clause-internal position (i.e. PCS) and therefore within the scope of the IF operator. The neutral topic NP is outside of the clause (i.e. LDP) and therefore outside of the scope of IF operator. The clause-internalness of the contrastive NPs and the clause-externalness of the neutral topic-NP can be taken from the scope of question, IF operator.

(4.14) a. Swunhi-nun SAKWA-NUN mek-ess-ni ? (cf. 4.13a)
-TOP apple- CTM eat-PST-Q
"Soonhi, did she eat AN/THE APPLE ?"

b. kulay, (*Swunhi-nun) SAKWA-NUN mek-ess-ta
yes -TOP apple- CTM eat-PST-DEC
"Yes, she ate AN/THE APPLE."

(4.15) a. sakwa-nun SWUNHI-KA mek-ess-ni ? (cf. 4.13f)
apple -TOP -CFM eat-PST- Q
"An/The apple, did SOONHI eat it ?"

b. kulay, (*sakwa-nun) SWUNHI-KA mek-ess-ta
yes apple -TOP -CFM eat-PST-DEC
"Yes, SOONHI ate it."

In (4.14), the question (4.14a) asks whether sombody ate the apple (not the orange): the topic *Swunhi* is outside the scope of question. The appropriate answer (4.14b) should be without the *Swunhi*. (4.15) is a question-answer whether Soonhi (not John) ate something. The topic *sakwa* 'apple' is outside the scope of question. Thus, the answer, which includes the topic *sakwa* 'apple' is not an appropriate answer. Furthermore, the second NP can be replaced with the WH-word *mwues* 'what' and *nwukwu* 'who,' but the first topic NP can not be replaced with the WH-words. These can be illustrated in (4.16)- (4.17).

(4.16) a. Swunhi-nun MWUES-NUN mek-ess-ni ?
-TOP what- CTM eat-PST-Q
"Soonhi, what did she eat ?"

b. *nwukwu-nun SAKWA-NUN mek-ess-ni ?
-TOP apple- CTM eat-PST-Q
"*Whom, did he/she eat AN/THE APPLE ?"

(4.17) a. sakwa-nun NWUKWU-KA mek-ess-ni ?

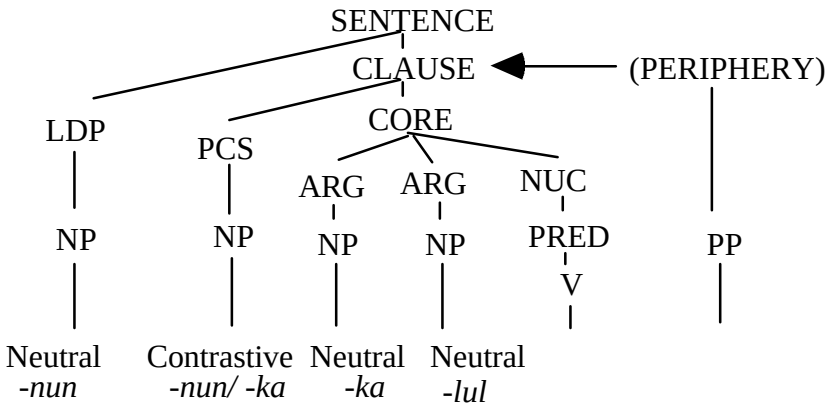
apple -TOP who -CFM eat-PST-Q
"An/The apple, who ate it ?"

b. *mwues-nun SWUNHI-KA mek-ess-ni ?
what-TOP -CFM eat-PST- Q
"*What, did SOONHI eat ?"

This explains that the nuetral topic NP is under LDP, which is outside of the scope of question, and that contrastive NPs are under PCS, which is inside of the scope of the question.

From these facts, we can suggest the following LSC for Korean simple sentence.

(4.18) LSC for Korean Simple Sentence



The LSC (4.18) can suggest an explanation for double topic and double nominative constructions as well as NP1-*nun* +NP2-*ka* constructions. Above (cf. 4.13) I mentioned that in real context only nine combinations are possible among sixteen NP1-*nun/-ka* +NP2-*ka/-lul* +VERB constructions. The appropriateness of nine combinations and inappropriateness of six combinations can be explained with the assignment of the LDP, the PCS, ARG1, and ARG2, as follows:

(4.19)

LDP (Neutral -nun)	PCS (Contrastive -nun/-ka)	ARG 1 (Neutral -ka)	ARG 2 (NP-lul)	e.g.
Swunhi-nun			sakwa-lul	(4.13a)
	SWUNHI-nun		sakwa-lul	(4.13b)
	SWUNHI-nun		SAKWA-lul	(4.13d)
Swunhi-nun			SAKWA-lul	(4.13c)
Swunhi-nun	sakwa-nun			NO
SWUNHI-nun	sakwa-nun			NO
SWUNHI-nun	SAKWA-nun			NO
Swunhi-nun	SAKWA-nun			(4.13e)

sakwa-nun		Swunhi-ka	(4.13g)
	SAKWA-nun	Swunhi-ka	(4.13f)
	SAKWA-nun	SWUNHI-ka	NO
sakwa-nun	SWUNHI-ka		(4.13h)
sakwa-nun	Swunhi-nun		NO
SAKWA-nun	Swunhi-nun		NO
SAKWA-nun	SWUNHI-nun		NO
sakwa-nun	SWUNHI-nun		(4.13i)

In the above table, the squared NP represents the inappropriately assigned one. The LDP is for an unstressed neutral topic NP-*nun*, the PCS is for an stressed contrastive NP-*nun*/-*ka*, and ARG1 is for an unstressed exhaustive listing -*ka*. The inappropriate cases are not satisfied this condition. They cannot be used in real context.

C. Youn (1989) in RelG and O'Grady (1991) in CG study the so-called 'focus double nominative constructions' (4.20) and 'NOM-NOM stative psych-verb constructions' (4.21) (cf. section 2.3.2.3).

(4.20) a. CHELSWU-ka apeci-ka hakkyo-ey o-si-ess-ta
-CFM father-NOM school-to come-SH-PST-DEC
"Chulsoo's father [not Soonhi's father] came to school."
(C. Youn 1989:104; material between brackets is mine)

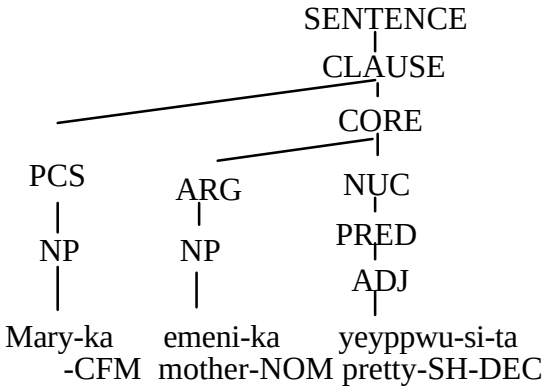
b. MARY-ka emeni-ka yeyppwu-si-ta
-CFM mother-NOM pretty-SH-DEC
"It's Mary [not John] whose mother is pretty."
(O'Grady 1991; material between brackets is mine)

(4.21) a. SWUNHI-ka emeni-ka kuliwe-ss-ta
-CFM mother-NOM miss-PST-DEC
"SWUNHI missed (her) mother."

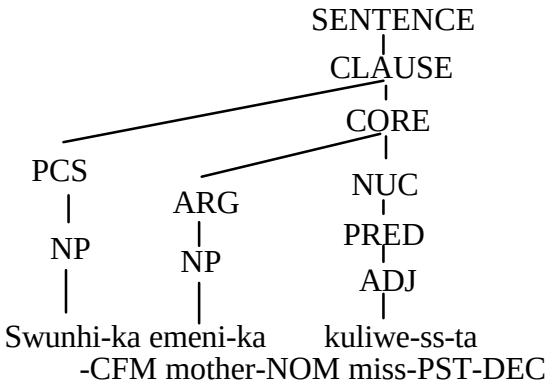
b. SWUNHI-ka kay-ka mwusewe-ss-ta
-CFM dog-NOM be.afraid-PST-DEC
"SWUNHI feared the dog."

In (4.20), a focus construction, the first NP -*ka* has not only the contrastive meaning but also the narrow focus meaning as the English glossing suggests. In (4.21), a stative psych-verb construction, the first NP, is an experiencer and is an stressed contrastive NP. In the stative psych-verb constructions, DAT-NOM case pattern or TOP-NOM pattern is used for neutral descriptive meaning, not contrastive meaning (cf. section 2.3.2.3). Thus the first NP is assigned with pragmatically-motivated CFM instead of the semantically-motivated NOM marker. The first CFM-marked NP is under PCS and the second NOM-marked NP is under CORE, according to (4.18). The two NOM-marked NPs can be explained with the following LSCs.

(4.22) Focus Construction (4.20b)[109]



(4.23) Double nominative stative psych-verb construction (4.21a)



In double nominative constructions, the second NP marked with NOM is a direct core argument, while the first NP marked with pragmatic CFM is in the position of the PCS. This LSC analysis can account the syntactic and semantic differences between exhaustive listing *-ka* and neutral description *-ka* in Korean.

4.1.3. RRG Theory of Linkage for Complex Sentences

The taxonomy of clause linkage in RRG is based on two concepts, juncture and nexus. Linkage is possible at any layer of the clause. The juncture types are classified by the grammatical level of the linked units: clausal, core, and nuclear. RRG also posits three nexus relations between clauses in complex sentences – coordination, subordination, and cosubordination[110] – rather than the traditional dichotomy – coordination and subordination (Van Valin 1993a:106) .

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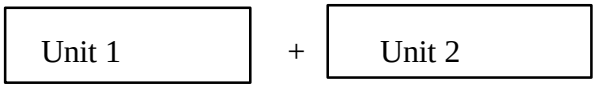
[109]In section 5.1.2, I will show the difference between contrastive topic *-(n)un* and contrastive focus *-ka* with different information structures.

[110]The term ‘cosubordination’ was originally used in Olson (1981).

(4.24) Three Types of Nexus Relations (Van Valin 1993a: Figure 26)

a. Coordination



b. Subordination

c. Cosubordination

RRG defines this trichotomy in terms of two primary features, [± embedded] and [±dependent], which was recognized for the traditional 'coordination-subordination' distinction. Embedding involves the hierarchical dominance of the constituents, and dependency involves the distributional restriction of a constituent by another. According to Van Valin (1993a:118), "Operators are not directly relevant to the determination of subordination, since the crucial defining feature of subordination is embedding": even though operators are not relevant, the IF can never be independently specified in a subordinate clause.[111] Thus, Van Valin (1993a) proposes [± embedded] as the feature making the most fundamental distinction. The distinction between subordination and the other non-embedded nexus can be represented with constituent projection and operator projection. However, the distinction between coordination and cosubordiantion, which have basically similar constituent projections, can be represented with operator projection: in terms of the dependence of relevant layer operators. Cosubordination can be described as a kind of "dependent coordinatio," characterized more precisely as a relation in which "the linked units are dependent upon the matrix unit for expression of one or more of the operators for the level." (Van Valin 1993a: 112) Thus, RRG proposes the following feature tree for the trichotomy[112].

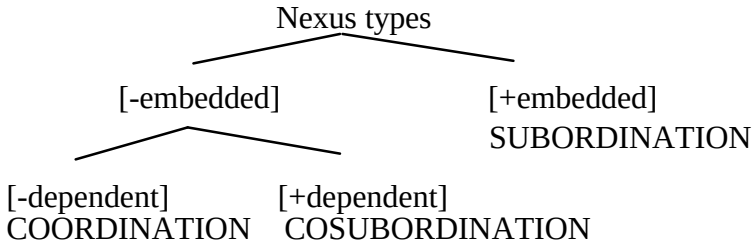
---

[111]However, it is possible for some subordinate clauses to be within the scope of the IF operator. Both structural and lexical factors determine the possibility of the subordinate clause within the IF. Thus, RRG adopts the following structural constraint governing the Potential Focus Domain [PFD] in complex sentences (Van Valin 1993a: 121).

(i) A subordinate clause may be within the PFD if and only if it is a direct daughter of (a direct daughter of) the clause node which is modified by the IF operator.

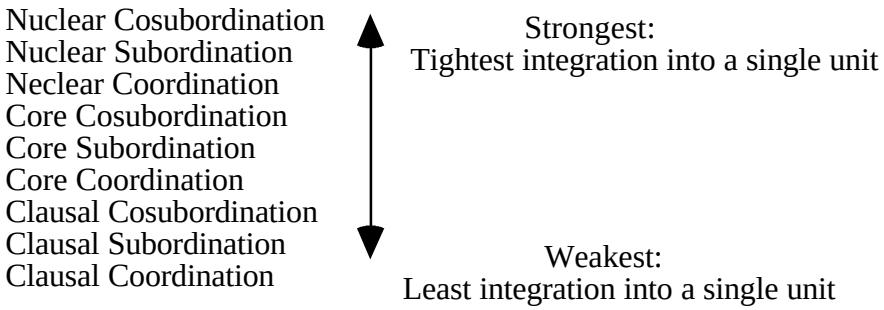
[112]In Korean, H.B. Choi (1929, reprinted 1989) classifies complex sentences into three constructions: *kacinwel* 'embedded sentence', *pelinwel* 'coordinated sentence', and *iunwel* 'connected sentences'. This classification is similar to the RRG trichotomy (cf. section 4.2.1).

(4.25) Features defining nexus types in RRG



The 'units' in the diagrams in (4.24) represent the nexus relations such as Nuclear, Core, and Clause. For example, if the units are Clauses, and the clauses are linked as in (4.24 c), it is described as Clausal Cosubordination; if the units are Core, then it is Core Cosubordination, and so on. There are three possible levels of juncture (i.e. Clausal, Core, and Nuclear), and three possible nexus relations among the units (i.e. Coordination, Subordination, and Cosubordination), resulting nine possible juncture-nexus types in universal grammar. These nine juncture-nexus types can be ranked in terms of the tightness of the syntactic bond involved in the linkage as represented in (4.26)

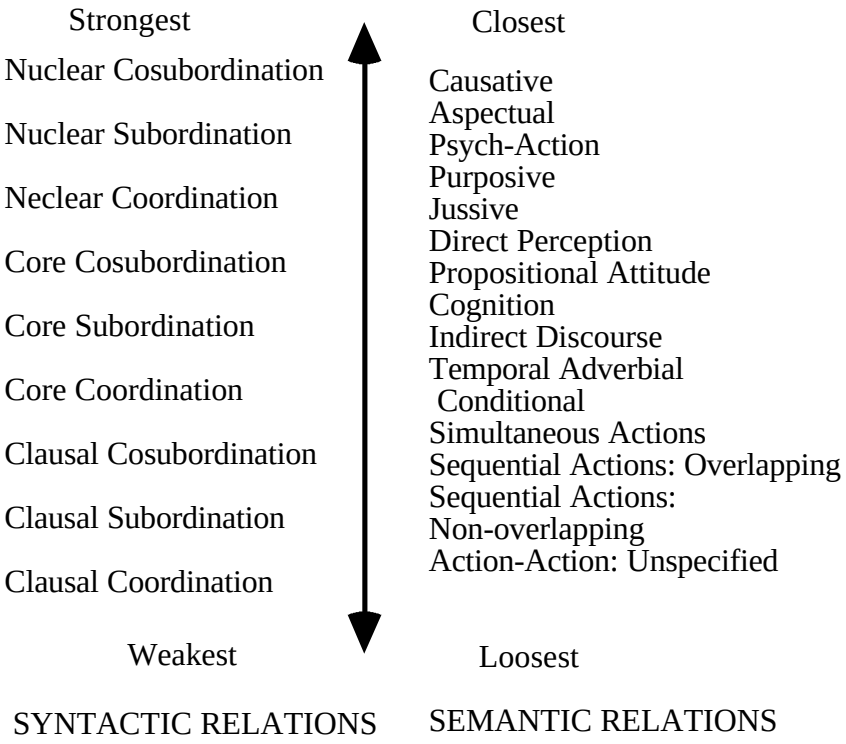
(4.26) The tightness of the syntactic in juncture-nexus linkage
(Van Valin 1993a: Figure 29a)



It should be noted that languages do not have all nine linkage categories. These nine juncture-nexus types are the maximum possible number a language could have (Van Valin 1993a:111).

These nine purely syntactic juncture-nexus types express certain semantic relations such as causative, purposive, and sequential meaning. These semantic relations form a continuum expressing the degree of semantic cohesion between the linked units (Van Valin 1993a:111). There are interrelationships between the syntactic linkage relations ranked hierarchically in terms of the strength of the syntactic bond between the units and semantic relations ranked in terms of how closely related the propositions in the linkage are. The relationship, called the "Interclausal Relations Hierarchy (IRH)," is represented as in (4.27).

(4.24) The Interclausal Relations Hierarchy (Van Valin 1993a: Figure 29c)



However, we should note that the relationship between the syntactic and semantic relations is not one-to-one. The semantic relations at the top end of the hierarchy are often lexicalized and not realized by complex syntactic constructions (e.g. lexical or morphological causality as in Japanese, Turkish, or Korean)[113].

4.2. Korean Complex Sentences and Connectives

In Korean, there are two kinds of verbs:*uttum uwmcikssi* 'main verbs' and *towumwumcikssi* 'auxiliary verbs'(H.B. Choi 1989). They are also referred to as 'full verbs' and 'auxiliary verbs' (H.B. Lee 1989), or *calip tongsa* 'independent verb' and *uycontongsa* 'dependent verb' (J.I. Kown 1985). A main verb can function by itself as a predicate, but an the auxiliary verb[114] cannot function as a predicate without a main verb.

[113]In section 2.1.2.7, I described three types of causatives in Korean: phrasal (or syntactic), suffixal, and lexical. The closest semantic relation 'causative' is realized not only in the lexical causative or the suffixal causative, but also in the complex syntactic linkage. In section 4.4., I will show that Korean causatives fully follow the IRH, and the IRH accounts for the degree of causation among the causative types.

[114]For the list of auxiliary verbs representing aspect and directionals, refer to H.B. Lee (1989:46) and section 4.3.3.1.

Some auxiliaries are homophonous with main verbs. Some examples are given in (4.28)-(4.29).

(4.28) a. Chelswu-ka chayk-lul po-ass-ta
-NOM book-ACC see-PST-DEC
"Chulsoo saw the book."

b. Chelswu-ka chayk-lul ilk-e-po-ass-ta
-NOM book-ACC read-CONN-try(AUX)-PST-DEC
"Chulsoo tried to read the book."

(4.29) a. Swunhi-ka panana-lul peli-ess-ta
-NOM banana-ACC dump-PST-DEC
"Soonhi dumped the banana."

b. Swunhi-ka panana-lul mek-e-peli-ess-ta
-NOM banana-ACC eat-CONN-PERF-PST-DEC
"Soonhi had eaten the banana completely."

The forms *po-ta* 'see' and *peli-ta* 'dump' function as main verbs in (4.28a) and (4.29a) respectively, while they function as auxiliary verbs in (4.28b) and (4.29b). In this use as auxiliaries, they have no predicate function but rather represent add aspectual meaning like 'continuous' or 'completion'.

In RRG, the nexus relations can apply not only at the clause level but also at the core and nuclear levels. We can define a sentence as a complex sentence if it contains more than one verb (either main verb or auxiliary verb). In other words, in addition to sentences consisting of two clauses, which are traditionally considered complex sentences, sentences consisting of a main verb and an auxiliary verb will also be considered complex sentences (cf. section 4.3.3). Between the linked verbal complexes or clauses, a verbal suffix called a 'connective' (H.S. Lee 1991:79) should occur. It is noticeable that there is a connective between the main verb and the auxiliary verb, which shows that it is a complex verb, not a single verb consisting verb stem + inflectional morpheme (cf. section 4.3.3.1). Each connective is very important for the classification of complex sentences. In following section, I will introduce the traditional typological classification of complex sentences together with the types of connectives.

4.2.1. Types of Complex Sentences

In a classic study of Korean, H.B. Choi (1929; reprinted in 1989) classifies complex sentences into three types: *kacinwel* (*phoyumwun*) 'embedded sentences', *pelinwel* (*pyenglyelmwun*) 'coordinated sentences', and *iunwel* (*yenhapmwun*) 'conjoined sentences'. His classification is based on the idea that if there is a complex sentence in which two clauses are connected, the relationship between the clauses either *pelim* (*pyenglyel kwankye*) 'coordination relation', *ewulum* (*hapil kwankye*) 'conjoined relation', or *kenulim* (*cwucong kwankye*) 'embedded relation'. He exemplifies four kinds of

embedded complex sentences ; *eccimati* ‘adverbials’, *maykimmati* ‘relative clauses’, *ilummati* ‘complements’ or *phwulimati* ‘complex predicate’. These are shown in (4.30).

(4.30) Embedded Complex Sentences

a. Adverbials
ku salam-i, [nach-i ttuttusha-key], kulensoli-lul hay-ss-eyo.
the man-NOM face-NOM disgraceful-CONN the talk-ACC do-PST-DEC
“(I) Being shameful, he spoke the (bad) talk.” (H.B. Choi 1989:829)

b. Relative Clauses
na-nun [nwun-i o-nun] nal-lul ceyil cohaha-o
I-TOP snow-NOM come-REL day-ACC best like-DEC
“I like days when it snows.” (ibid.: 830)

c. Nominalized Complements
[ku ilum-lul molu-m]-i kacang ywukam-i-ta
the name-ACC not.know-COMP-NOM very.much sorry-be-DEC
“(I) am really sorry that (I) don’t know the name.” (ibid.: 830)

d. Complex Predicates
pwucilenhan haksayng-i [sengcek-i cohu-nila]
diligent student-NOM grade-NOM good-DEC
“It is the diligent student that has a good grade.” (ibid.: 830)

The coordination relations are exemplified as in (4.31).

(4.31) Coordination

a. kyewul-un cwup-ko yelum-un tep-ta
winter-TOP cold-CONN summer-TOP hot-DEC
“Winter is cold, and summer is hot.” (ibid.: 833)

b. chengnyen-un insayng-uy pom-i-yo, nonyen-un insayng-uy kaul-i-ta
youth-TOP human-’s spring-be-CONN old age-TOP human-’s fall-be-DEC
“Youth is human’s spring, and old age is human’s fall.” (ibid.: 833)

Conjoined sentences show nine semantic relations between the two conjoined clauses, including conditional, cause-result, comparison. For example,

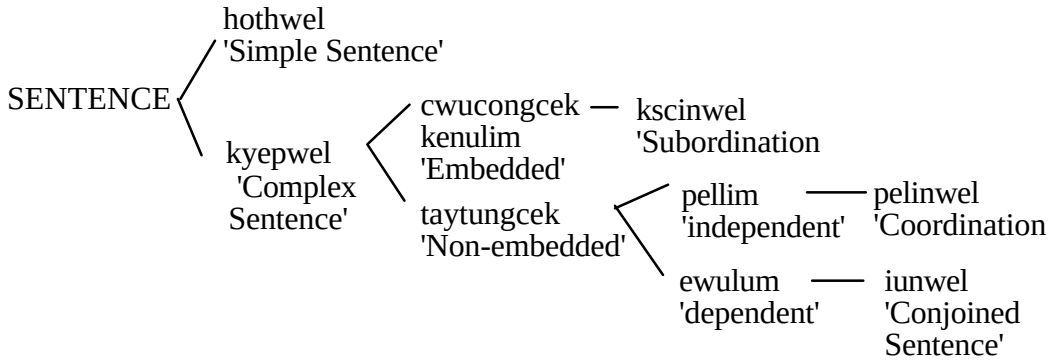
(4.32) a. enni-nun pwucilenha-cimanun, awu-nun keyulu-ta
older.sister-TOP diligent -though younger.sister-TOP lazy-DEC
“Though older sister is diligent, younger sister is lazy.” (ibid.: 835)

b. pom-i o-myen, kkos-i pin-ta
spring-NOM come-if flower-NOM bloom-DEC
"When spring comes, the flowers bloom." (ibid.: 836)

c. hay-ka ci-ca, na-nun cip-ulo tol-a-wa-ss-ta
sun-NOM disappear-since I-TOP home-to turn-CONN-come-PST-DEC
"Since it is dark, I came back home." (ibid.: 836)

C.B. Choi (1989:842) proposes the following sentence types according to their embeddedness and independence.

(4. 33) Korean Sentence Types (H.B. Choi 1989: 842)

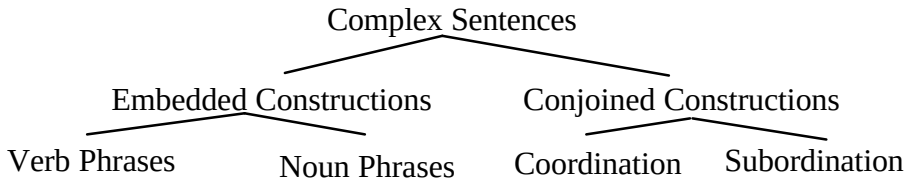


In that H.B. Choi's 'conjoined relation' is a dependent relation and 'coordination relation' is independent, his trichotomy corresponds with RRG's subordination (= embedded), coordination (= non-embedded, independent), and cosubordination (= non-embedded, dependent). Although his classification of complex sentences is similar to RRG's trichotomy, it only applies on the clause/core level, without considering the nuclear level, and it has no clear distinction between core and clause juncture[115].

Defining a complex sentence as a sentence consisting of two or more predicates (either dependent or independent), J.I. Kown (1985) classifies the types of Korean complex sentences into embedded constructions and conjoined constructions. The embedded constructions can be divided into two sub-types: VP-embedded and NP-embedded constructions. The conjoined constructions can be sub-divided into coordination and subordination. This classification is schematized in (4.34).

[115]For example, relative clauses (4.30b) and nominalized complements (4.30c) should be considered as core junctures since an argument is shared by two different clauses, while adverbials (4.30a) is a clause juncture since it does not share any arguemtns. H.B. Choi (1989) does not distinguish these two juncture types in his classification.

(4.34) Types of Korean Complex Sentences



J.I. Kwon's (1985) classification is similar to that in H.B. Choi (1929), except that embedded constructions are divided into two sub-groups. He classifies auxiliary verb constructions (4.35) and the quotative constructions (4.36) as the VP-embedded constructions, and nominalized constructions and adnominal constructions as NP-embedded construction.

(4.35) a. Swunhi-nun hankwukmal-ul paywu-ko-iss-ta
-TOP Korean -ACC learn -CONN-be(CONT)-DEC
"Soonhi is learning Korean."

b. na-nun hakkyo-ey ka-a-iss-ta
I-TOP school-to go-CONN-be(PERF)-DEC
"I have been to school." (J.I. Kown 1985:20)

(4.36) a. Toli-nun [ku yeca-ka alumtap-ta]-ko sayngkakha-n-ta
-TOP the woman-NOM pretty-DEC-CONN think -PRES-DEC
'Toli thinks that the woman is pretty." (H.K. Yang 1990)

b. na-nun [Chelswu-ka hakkyo-ey ka-n-ta]-ko malhay-ss-ta
I-TOP -NOM school-to go-PRES-DEC-CONN tell -PST-DEC
"I told that Chulsoo went to school." (J.I. Kown 1985:20)

On the basis of the meaning relations between the two conjuncts, J.I. Kown distinguishes linking and contrast as types of coordination. Cause-result, conditional, purposive, decision, resultative, and emphasis are types of a subordination. J.I. Kown proposes three types of complex sentences, but he does not include anything analogous to RRG's juncture types in his analysis.

4.2.2. Complex Sentence Suffixes

As I mentioned in section 1.3., grammatical functions are expressed with verbal suffixes in Korean. The suffixes can be divided into two groups: grammatical suffixes which are the forms that convey the grammatical function of the operator, and connective suffixes that connect the two or more elements in complex constructions. I treated the grammatical suffixes as inflectional morphemes and analyzed with the RRG operators in chapter 3. The second types of suffixes are known by different names in different studies according to studies; e.g. 'complements', 'nominalized suffixes', 'particles' (H.B. Lee 1989), 'clause-terminal suffixes' (H.S. Lee 1991), 'complex sentence suffixes' (J.I. Kown 1985).

As shown in the previous section, the connective suffixes occurring at the end of first constituent's verb signal a complex construction with the other constituent. H.B. Choi (1929) proposes fourteen *iumpep* 'connected forms' which can be connected by sixty-seven connectives. H.B. Lee (1989) classifies non-final clause endings into three types according to their syntactic functions: nominal clause endings like *-um* and *-ki;* adjectival clause endings like the relative marker; and adverbial clause endings such as *-ko* 'and', *-kose* 'after', *-myense* 'while', and *-lyeko* 'in order to'. Two or more verbs can be serialized with the connectives *-e/-a* and *-ko*. The connective does not stand alone and are attached to a verb stem or adjective, making its grammatical dependents part of a complex construction. H.S. Lee (1991) divides Korean clause-terminal suffixes into 'attributive suffixes,' such as the relative marker *-(u)n , -(u)l*, and 'connectives' that link two verbal complexes or clauses. Connectives are further divided into 'grammatical' connectives, such as *-e/a-* and *-ko* "that can be best characterized as being used in particular grammatical constructions such as the 'Resultant State' construction, the 'Progressive' construction, the serial verb construction, complements, etc."(H.S. Lee 1991:80) and 'relational' connectives *-myense* 'simultaneity', *-umyen* 'condition', *-ese* 'temporal or logical precedence', *-taka* (shift of an action to another), *-lyeko* (purpose), *-ni-kka* (reason), among others. The connectives "express temporal and logical relationships between clauses such as temporal sequences, conditions, background circumstances, concessions, and logical corelations (reasons, causes, motivations, etc.)" (ibid.: 80). In the sense that not only attributive suffixes but also connectives connect two complex constituents, I will call the clause-terminal suffixes 'connectives'.

Among the complex sentences linked with the connectives, I will study the complex sentences with auxiliary verb suffixes *-e/-a*, *-ko*, the quotative verb suffix *-(ta/ la)ko*, the nominalized suffix *-um/ -ki*, the coordination suffix *-ko(se)*, and resultative or causative *-key* in the discussion of clause linkage in next section.

4.3. Clause Linkage for Complex Sentences in Korean

RRG assumes nine possible juncture-nexus types which are derived from the combination of three possible levels of juncture (i.e. clausal, core, and nuclear), with three possible nexus relations (i.e. coordination, subordination, and cosubordination). In this section, I will analyze the nine possible juncture-nexus types and investigate their semantic relations. I will start with clause-level juncture.

4.3.1. Clause Juncture

In clausal juncture all three nexus types are commonly observed in the world's languages. In clause-level juncture, two grammatical units with independent clauses, cores, and nuclei are joined. Thus, it is the loosest type of juncture, but exhibits the richest inventory of grammatical and semantic distinctions. As I mentioned in section 4.2.1, H.B. Choi (1929) classifies Korean complex sentences into three nexus types: *kacinwel* (*phoyumwun*) 'embedded sentences', *pelinwel* (*pyenglyelmwun*) 'coordinated sentences', and *iunwel* (*yenhapmwun*) 'conjoined sentences'. His classification for complex sentences is based on notions analogous to [±embedded] and [± dependent] proposed in RRG. Thus, for Korean clause juncture, I will follow his classification.

4.3.1.1. Clausal Subordination

In clausal subordination, a clause with independent clause, cores, and nuclei is embedded into another clause. Some examples of clausal subordination from several languages are given in (4.37).

(4.37) a. Because John kissed her, Mary burst into tears. (Foley and Van Valin 1984:249)

b. John told Mary that he will arrive at the party late. (Van Valin 1993a:119)

c. Sáá pú-lupa-gá píra- lepaa-pe.
1dual go-1dualPRES-because sit- 2pl/IMP-IMM
"Because we two are going , you all sit down now."
(Kewa; Foley and Van Valin 1984:250)

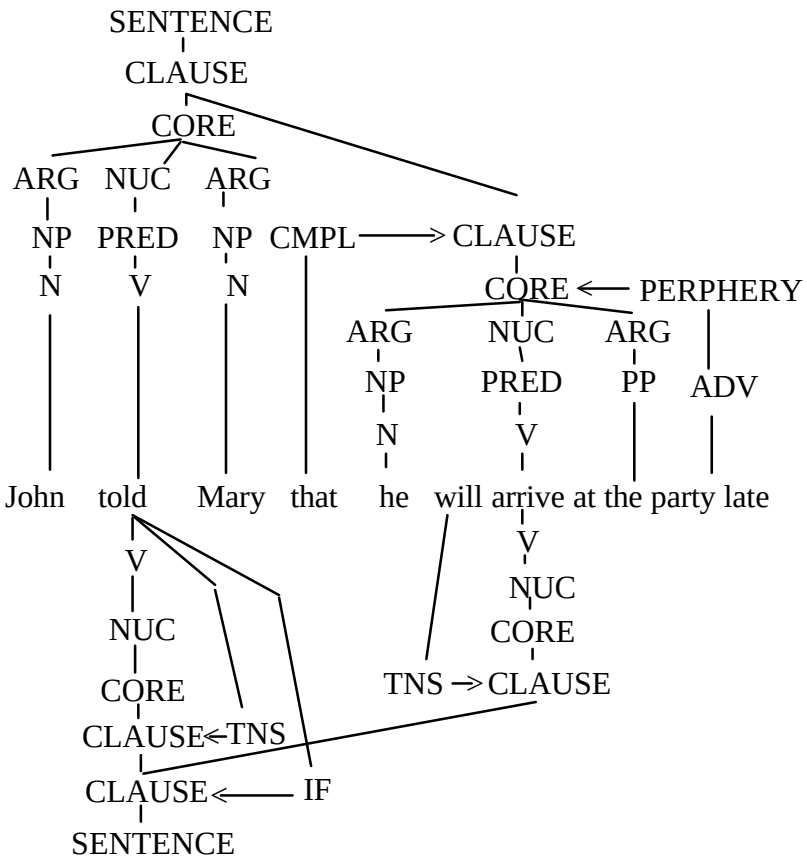
d. Ben cevab-i bil-meden önce o (cevab-i) bil-iyor-du
I answer-ACC know-mEdEn before PRO know-PROG-PT
"Before I knew the answer, he knew (the answer)."
(Turkish; Watters 1993:543)

e. zyoon wa tookyo de miki ni at- ta to it-ta
TOP LOC DAT meet-PST CMPL say-PST
"Joan said that (she) met Miki in Tokyo."
(Japanese; Hasegawa 1992:48)

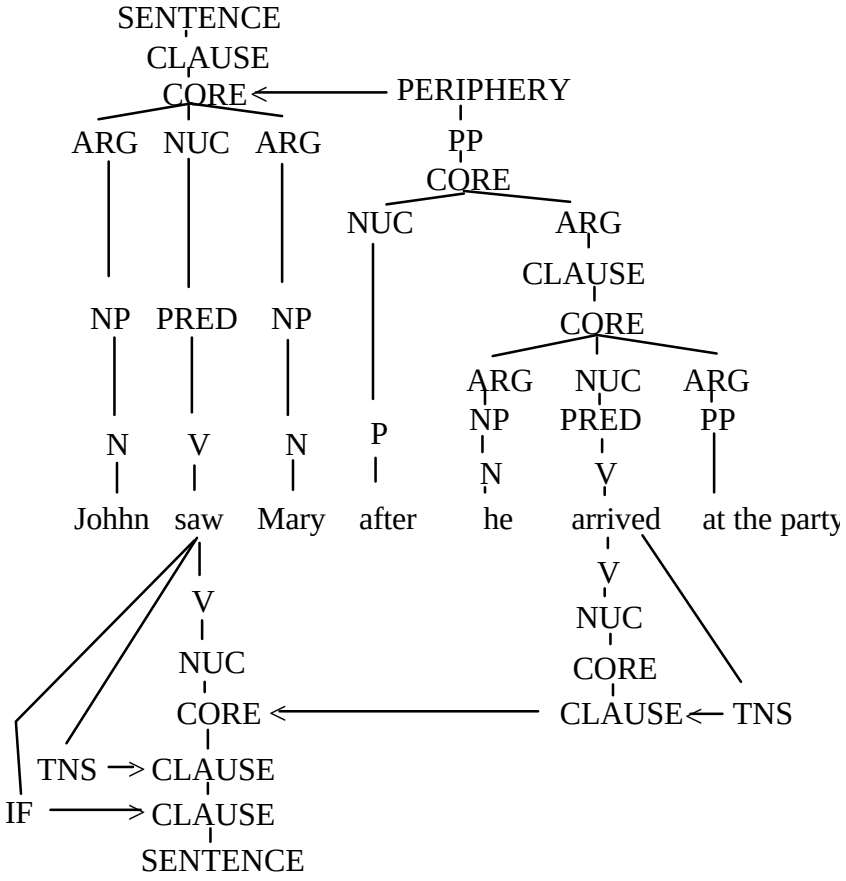
f. zyoon wa tomodati ga ki-ta node yorokon-da
TOP friend NOM come-PST because get delighted-PST
"Joan was delighted because (her) friend came (to her house)."
(Japanese; Hasegawa 1992:49)

The most typical examples of clausal subordination in (4.37) are complements and adverbials. The following are English examples of clausal subordination.

(4.38) Clausal Subordination (Complement construction) in English (Van Valin 1993a: 119)



(4.39) Clausal Subordination in English (Adverbial) (Van Valin 1993a:120)



The subordination in English is indicated by the subordinating conjunctions *because, after, if* and the complementizer *that*. It should be noted that the subordinate clause may not be independently specified for IF.

Among the four kinds subordination described in H.B. Choi (1929:829-832 reprint in 1989), *eccimati* 'adverbials' are equivalent to clausal subordination as are J.I. Kwon's (1985) 'quotative constructions' and J.J. Song's (1988) purposive clause (referred to as 'purposive adverbials' here)[116].

[116]Also, nominalized constructions can be clausal subordination if they have their own tense. For some nominalized constructions, which will be classified with core subordination, the tenses are not allowed. (cf. section 4.3.2.1)

(4.40) Purposive Adverbials

a. [atul-i nol-key]$_{CL}$ emeni-ka nolay-lul pwul-ess-ta
son-NOM play-COMP mother-NOM song-ACC sing-PST-DEC
"The mother sang a song so that the son could play."
(Revised version of J.J. Song 1988: (29))

b. kun mwulmeli-ka, [salam-i kyenti-cimos-hakey]$_{CL}$, milye-wa-ss-ta[117]
big wave-NOM people-NOM handle-NEG- COMP push-come-PST-DEC
" The people not being handled, a big waves approached (to the people)."
(H.B. Choi 1989:829)

(4.41) (Indicative) Quotative Complements

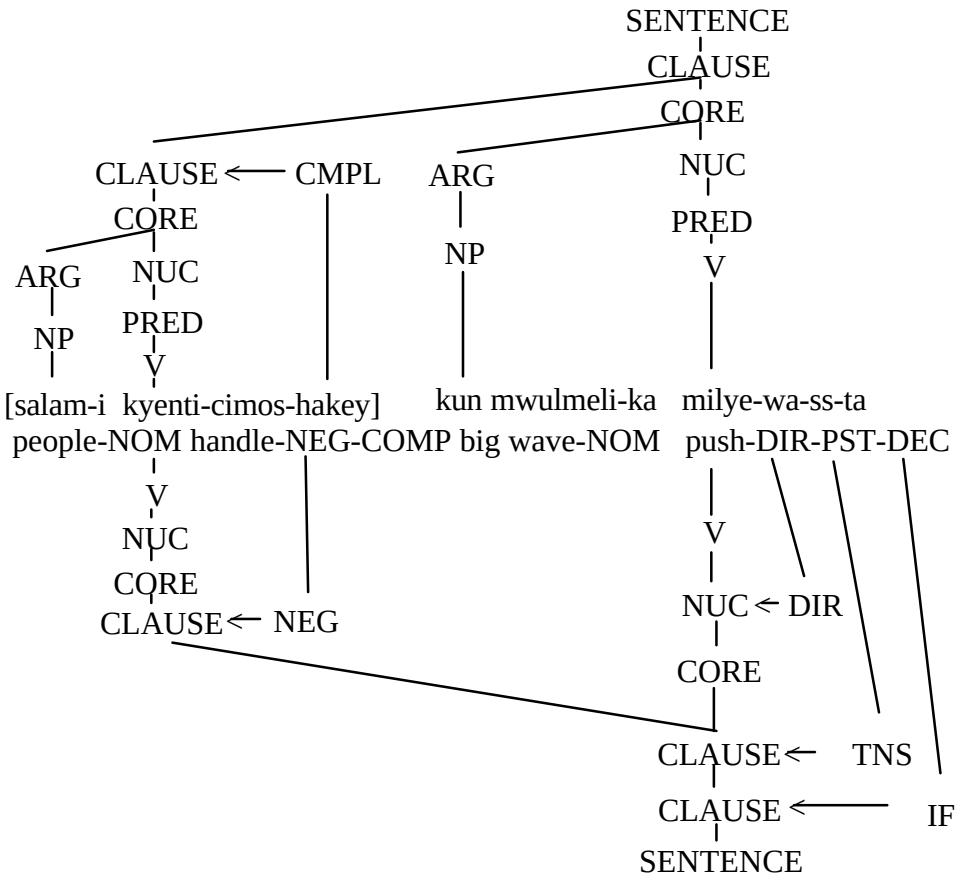
a. Chelswu-ka [Swunhi-ka ttokttokhay-ess]$_{CL}$-tako sayngkakha-n-ta
-NOM -NOM smart- PST -COMP think-PRES-DEC
"Chulsoo thinks that Soonhi was smart.

b. Chelswu-nun [Swunhi-ka acikto ttena-cianh-ass]$_{CL}$-nyako mwul-ess-ta
-TOP -NOM still leave-NEG-PST-COMP ask-PST-DEC
"Chulsoo asked (me) whether Soonhi left or not."

Purposive adverbials (i.e. 4.40) use purposive connectives like *-key* 'so that' and *-lyeko* 'in order to'. The verb of the purposive adverbials does not carry tense or IF markers, but the verb in the second (i.e. main) clause does. In quotative complements (4.41), the clauses are connected with the so-called 'sentential complementizer' *-ko* (cf. I.S. Yang 1972, I.H. Lee 1980, and H.J. Yoon 1991). In this type of clausal subordination, subordinate clauses are embedded in the higher clause as adjunct, rather than as direct core argumentsof (cf. section 4.3.2.1 for subordinate sentential complement of direct core argument). The non-core argument of the subordinate clause is valid in that the subordinate clause itself does not have a case-marker. Generally speaking, the core argument can get its own case-marker in Korean Even though the indicative quotative complement clause has its own tense marker, it is a subordination because of its embeddedness, which is the most fundamental distinction in RRG for classifying nexus typs (cf. section 4.1.3 and Van Valin 1993a: 118). (4.40) and (4.41) satisfy the conditions on clausal subordination. The embeddedness and non-arguments in clausal subordination can be shown in the LSC and operator projection, given in (4.42).

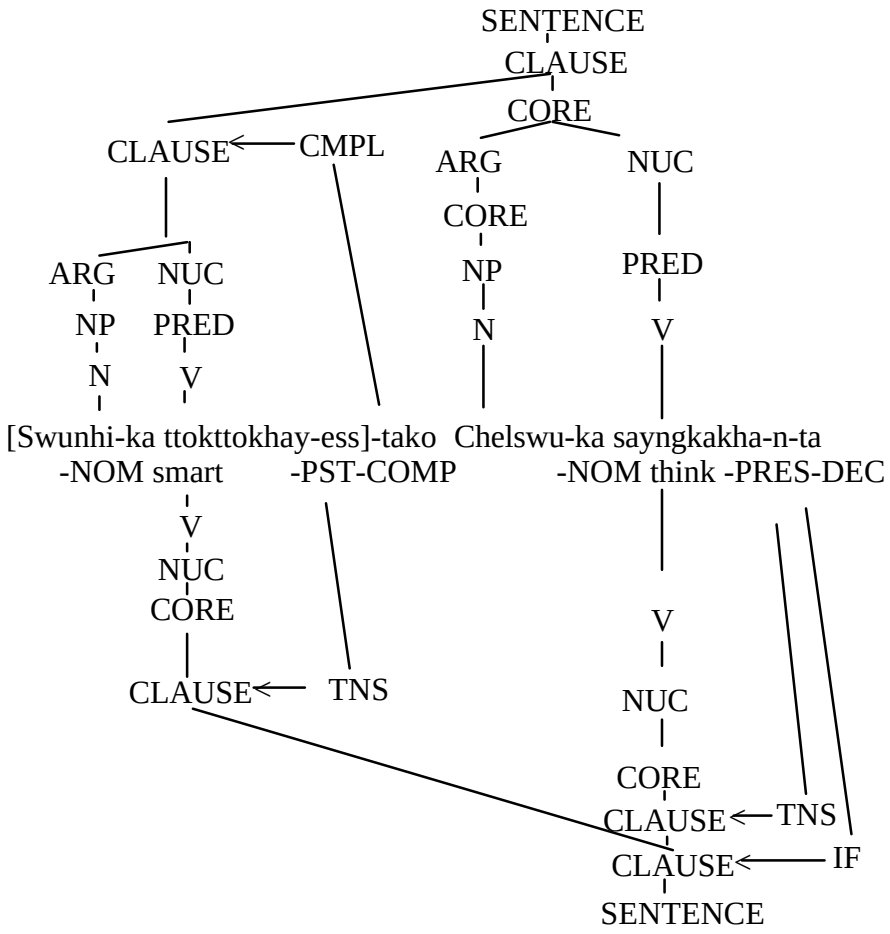
[117]In this sentence, the predicate can be analyzed as complex nuclear juncture representing directionals (cf. section 4.3.3.1). I will ignore this kind of nuclear juncture until section 4.3.3.

(4.42) Clausal Subordination of Purposive Adverbials (revised 4.40b)



"The people not being handled, a big wave approached (to the people)."

(4.43) Clausal Subordination of Indicative Quotative Complements
(Revised version of (4.41a))



"Chulsoo thinks that Soonhi was smart."

Clausal subordination is the second weakest syntactic relation according to the IRH. The subordinate clause can be displaced and postposed[118]. This is illustrated in (4.44).

(4.44) (cf. 4.40a)

a. emeni-ka [atul-i nol-key] nolay-lul pwul-ess-ta
mother-NOM son-NOM play-COMP song-ACC sing-PST-DEC

b. emeni-ka nolay-lul pwul-ess-ta, [atul-i nol-key]
mother-NOM song-ACC sing-PST-DEC son-NOM play-COMP

[118]Subordinate clauses can usually be postposed, while cosubordinate clauses typically cannot be (Van Valin p.c.). This is the evidence that these are example of subordination, not cosubordination.

c. emeni-ka nolay-lul [atul-i nol-key] pwul-ess-ta
mother-NOM song-ACC son-NOM play-COMP sing-PST-DEC

(4.45) (cf. 4.41a)

a. [Swunhi-ka ttokttokhay-ess]$_{CL}$-tako Chelswu-ka sayngkakha-n-ta
-NOM smart- PST -COMP -NOM think-PRES-DEC

b. Chelswu-ka sayngkakha-n-ta, [Swunhi-ka ttokttokhay-ess]$_{CL}$-tako
-NOM think-PRES-DEC -NOM smart- PST -COMP

(4.44)-(4.45) shows that clausal subordination is a weak syntactic relation. Typical semantic relations of clausal subordination are (indicative) quotative complements[119] and purposive adverbials in Korean.

4.3.1.2. Clausal Coordination

Clausal coordination is most commonly found in all languages. The two clauses are independent in coordination, so each clause has its own clausal operators for tense, status, and IF. It is the weakest syntactic relation among the nine possible types of linkages. A typical semantic relation in clausal coordination is two unspecified actions. Examples of clausal coordination from several languages are given below.

(4.46) a. Make yourself at home, and I will fix us a snack.
(Foley and Van Valin 1984:244)

b. A keke-i ro fu be va-e
2sg arrive-PST CONJ 3sg Q go-PST
"You arrived, but did he go ?"
(Barai; Foley and Van Valin 1984:245)

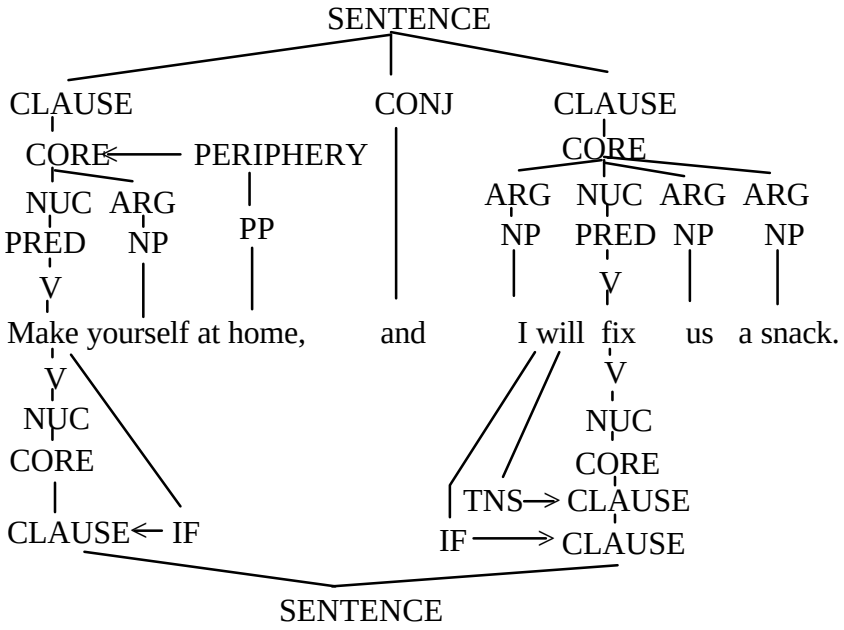
[119]Jacobsen (1993: 255) also proposes the indicative quotative, which is used for indirect quotation, is clausal subordination in Nootka, which is spoken along the central west coast of Vancouver Island, which is off the coast of southern British Columbia, Canada. (Jacobsen 1993:238). The indicative (indirect) quotative complement, which has only one IF (cf. section 3.2.6), is clausal subordination, whereas the direct quotation can get two separate IFs in Korean.

c. konban uti de paa[t]ii ga arimas-u ga,
tonight house LOC party NOM be(POL)-NPST CONJ

irassyaimase-n-ka
come(POL)-NEG-NPST-Q
"There is a party at my home tonight, and won't you come ?"
(Japanese; Hasegawa 1992:51)

In each case, the two clauses have different tenses and IFs. Thus, the LSC and operator projection will be the following.

(4.47) English Clausal Coordination (4.46a)[120]



Korean has the clausal coordination, too. H.B. Choi's (1989) *pelinwel* (*pyenglyelmwun*) 'coordinated sentences' is the same as clausal coordination in that the two clauses are independent of each other. The*ko*-constructions can also be an example of clausal coordination[121]. The semantic relations between the linked clauses in *ko*-constructions are so diverse that no single one can be considered central, even though many studies (K.K. Lee 1976; Y. Sohn 1981; C. Kang 1990; N.-S. Nahm 1978,1979; C.S. Suh 1982; H.S. Kim 1977 among others) have tried to propose the semantic relations. For

[120]As I mentioned in section 3.2.6, English IF is signalled by the position of tense (cf. Van Valin 1993a: 11-12).

[121]Sometimes they are core if two clauses share one core argument together (cf. section 4.3.2.3).

example, after reviewing the previous studies on *ko*-constructions[122], C. Kang (1990) proposes six relations between the linked clauses: Additive, Simultaneous, Active, Resultative, Contrastive, and Causal. C. Kang (1990: chapter 4) distinguishes the first four basic relations (i.e. Additive, Simultaneous, Active, and Resultative) with regard to temporalness (temporal vs. non-temporal) , sequentiality (sequential vs. simultaneous), perfectivity (perfective vs. non-terminative), reversibility (reversible vs. non-reversible), and restrictiveness (restrictive vs. non-restrictive). Also, he defines Contrastiveness as "a semantic relation between the clauses linked, where the meaning of contrast is shown" and Causality as "a relation of two clauses as cause and effect, that is, the first clause triggering the second clause to come out" (ibid.: 66-67). Thus he uses seven semantic notions to explain the semantic relations of *ko*-constructions as follows:

(4.48) The semantic relations of *ko*-constructions

a. ADDITIVE: non-temporal, reversible, non-restrictive
b. SIMULTANEOUS: temporal, simultaneous, reversible, non-restrictive
c. ACTIVE: temporal, sequential, perfective, non-reversible, non-restrictive
d. RESULTATIVE: temporal, sequential, non-terminative, non-reversible, restrictive

Among these six relations, Additive (i.e. 4.49) and Contrastive (4.50) can be clausal coordination since each clause in these constructions has its own tense and IF.

(4.49) Additive

a. yelum-un tep-ko kyewul-un cwup-nya ?[123]
summer-TOP hot-CONN winter-TOP cold-Q
(i) "Summer is hot, and is winter cold ?"
(ii) Is it that summer is hot and winter is cold ?"

b. hyeng-un uysa-ka toy-ess-ko
older.brother-TOP doctor-NOM become-PST-CONN

awu-nun mwues-i toy-ess-ya ?
younger.brother-TOP what-NOM become-PST-Q
"The older brother became a doctor, and what did the younger brother become ?"

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[122]He did nice review previous studies on semantic functions of *ko*-constructions such as Ramstedt (1939; reprint 1968), H.B. Choi (1929; reprint 1989), K.K. Lee (1976), K.-S. Nahm (1978, 1982), and Y. Sohn (1981).

[123]This sentence has two meanings according to the scope of IF, as the English interpretations suggest. The first interpretation is in case each conjoined clause has its own IF and the second interpretation is in case one IF scopes over both clauses.

(4.50) Contrastive

a. Chelswu-nun khi-ka khu-ko Swunhi-nun ette ha-nya ?
-TOP height-NOM tall-CONN -TOP how is-Q
"Chulsoo is tall in height and how about Soonhi in height ?"

b. son-un ttattushay-ss-ko pal-un ette hay-ss -nya ?
hand-TOP warm-PST-CONN foot-TOP how.about do-PST- Q
"Hands were warm, and how were feet ?"

In (4.49) and (4.50), each clause has its own tense (either overtly or not) and IF; the first clause is declarative, and the second clause is interrogative. If each clause does not have its own tense, while each clause has its own IF, it is unacceptable. This can be illustrated in the following.

(4.51) a. *hyeng-un uysa-ka toy-ko
older.brother-TOP doctor-NOM become-CONN

awu-nun mwues-i toy-ess-ya ?
younger.brother-TOP what-NOM become-PST-Q
"The older brother became a doctor, and what did the younger brother become ?"

b. *son-un ttattusha-ko pal-un ette hay-ss -nya ?
hand-TOP warm-CONN foot-TOP how.about do-PST- Q
"Hands were warm, and how were feet ?"

Some simultaneous *ko*-constructions can also be case of clausal coordination when each clause describes separate situations or actions, not simultaneous ones. For example,

(4.52) a. Chelswu-nun piano-lul chi-ko Swunhi-nun nolay-lul pwulu-ess-ta.
-TOP piano-ACC play-CONN -TOP song-ACC sing-PST-DEC
"Chulsoo played the piano and Soonhi sang a song."
"Soonhi sang a song while Chulsoo was playing the piano."

b. apeci-nun sinmwun-ul ilk-usi-ko
father-TOP newspaper-ACC read-SH-CONN

emeni-un selkesi-lul ha-si-ess-ta
mother-TOP dishes-ACC do-SH-PST-DEC
"Father read the newspapers and mother did the dishes."
"Mother did the dishes, while father was reading the newspapers."

Two interpretations are possible because of ambiguity in the scope of the tense and of the IF operator in each sentence of (4.52): an additive reading in which the two actions are understood/ portrayed as being separate and distinct; and a simultaneous reading in which the two actions are understood to be taking place at the same time. If the two actions

happen simultaneously, it is a case of clausal cosubordination (cf. 4.3.2.3.) and the tense of the first clause is understood to be the same as the second clause. If it describes two separate actions, i.e. additive meaning, then each linked clause can get its own tense and IF. In this case, it is a case of clausal coordination. This can be illustrated from the following example.

(4.53) a. Chelswu-nun piano-lul chi-ess-ko Swunhi-nun mwues-lul hay-ess-ni ?.
-TOP piano-ACC play-PST-CONN -TOP what-ACC do-PST-Q
"Chulsoo played the piano, and what did Soonhi do ?"

b. apeci-nun sinmwun-ul ilk-usi-ess-ko
father-TOP newspaper-ACC read-SH-PST-CONN

emeni-un mwues-lul ha-si-ess-nya ?
mother-TOP what-ACC do-SH-PST- Q
"Father read the newspapers, and what did mother do ?"

In contrast to (4.52), which is ambiguous as either simultaneous or additive, (4.53) has only one reading: a description of two separate actions, i.e. clausal coordination. Furthermore, the examples in (4.53) can be reversed without a resulting change in meaning or any syntactic restriction, as shown in (5.54). This is in keeping with the IRH, which suggests that clausal coordination is the weakest syntactic link.

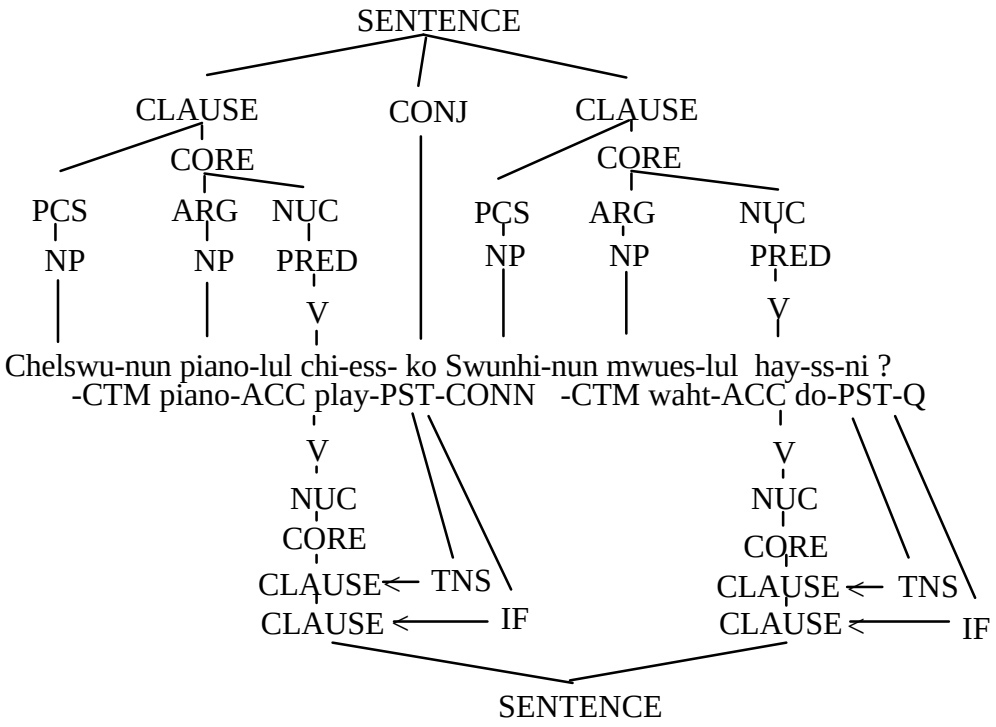
(4.54) a. Swunhi-nun nolay-lul pwulu-ess-ko Chelswu-nun piano-lul chi-ess-ta .
-TOP song-ACC sing-PST-CONN -TOP piano-ACC play-PST-DEC
"Chulsoo played the piano and Soonhi sang a song."

b. emeni-un selkesi-lul ha-si-ess-ko
mother-TOP dishes-ACC do-SH-PST-CONN

apeci-nun sinmwun-ul ilk-usi-ess-ta
father-TOP newspaper-ACC read-SH-PST-DEC
"Father read the newspapers and mother did the dishes."

Clausal coordination is represented with the following LSC and operator projection, each of whose clauses has its own tense and IF.

(4.55) Clausal Coordination in Korean (cf. (4.53a))



"Chulsoo played the piano, and what did Soonhi do ?"

According to the IRH, clausal coordination links two separate and unrelated events or action, such as additive and contrastive *ko*-constructions in Korean

4.3.1.3. Clausal Cosubordination

In clausal cosubordination[124], one cluase is dependent on the other with regard to at least one clausal operator, e.g. IF, evidentials, tense, or status, but neither clause is embedded. That is, clausal cosubordination does not need to exhibit dependency in all relevant clausal operators. The non-embeddedness distinguishes cosubordination from subordination, and the operator dependency between the clauses distinguishes cosubordination from coordination. Clausal cosubordination is illustrated by the clause-chaining and switch-reference phenomena found in Papuan and American Indian languages (cf. Foley and Van Valin 1984; Kewa, Tonkawa, Washo, Chickasaw, and Barai), conjunction with zero anaphora in English and German (cf. Foley and Van Valin 1984), *-ince*, *-ken*, *-Eli*, and *-mEklE* constructions in Turkish (cf. Watters 1993), and *TE*-constructions (Hasegawa 1992) and *BA*-constructions (Ohori 1992) in Japanese . Examples from different languages are provided in (4.56)-(4.59)

(4.56) a. Max went to the store and bought some beer.

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[124] It is not traditionally recognized and the term is introduced by Olson (1981) for analyzing Barai clause chains.

b. Fred has already left Santa Fe and should arrive in New Orleans tomorrow.
(Foley and Van Valin 1984:259)

c. What did Mary go to the store and buy ? (Hasegawa 1992:53)

(4.57) a. Ní réka-no ágaa lá-a.
1sg stand-DIFF.SmP talk say-3sgPST
"He is coming but I am not afraid."

b. Nipú táá-ma pámua-la.
3sg hit-SAME.SmP walk-3sgPRES
"He is hitting it while walking." (Kewa; Foley and Van Valin 1984:257)

(4.58) a. Ahmet ev-e gel-ince Hasan yat-ma-ya git-ti.
Ahmet home-DAT come-ince Hasan sleep-VN-DAT go-PT
"When Ahmet came home, Hasan went to sleep."
(Turkish; Watters 1993:544)

b. Ben oda-da otur-ur-ken, on-lar disari-da konus-uyor-lar-di.
I room-LOC sit-AOR-ken, PRO-PL outside-LOC talk-IMPF-PL-PT
"While I was sitting in the room, they were talking outside." (ibid.: 546)

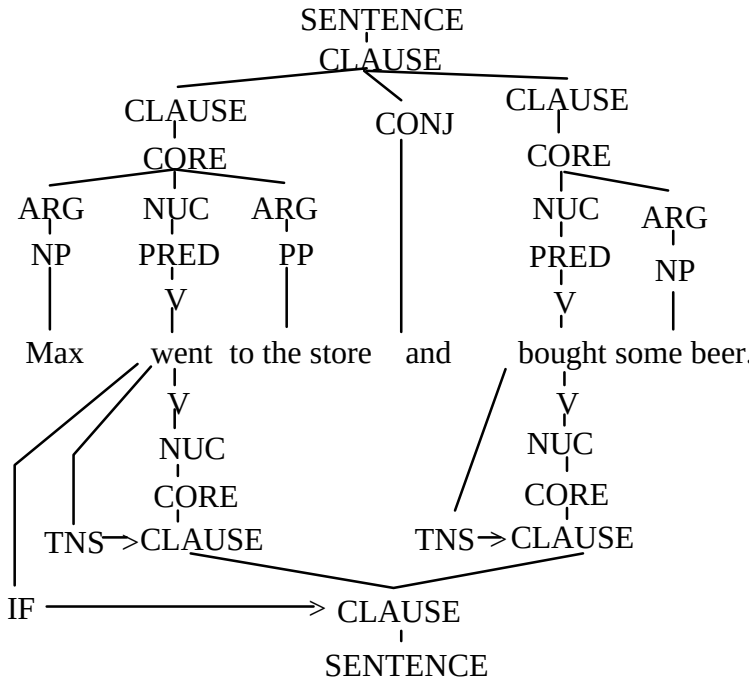
(4.59) a. hayaku sigoto o sumase-te uti ni kaeri-nasai.
quickly work ACC finish-TE home LOC return-IMP
"Finish (your) work quickly, and go home!"(Hasegawa 1992:193)

b. Ame-ga hure-be siai-wa tyuusi-dat-ta
rain-NOM fall-BA game-TOP suspended-PRED-PST
"If it has rained, the game would have been suspended." (Ohori 1992: 35)

(4.56) and (4.59a) are clausal cosubordination since the two clauses must share IF. In (4.57), only the final verb is inflected for the person and number of the actor and for tense. In (4.58) and (4.59b), there is no shared core argument and the tense of the main clauses has scope over the dependent clauses.

English clausal cosubordination is analyzed as having the following LSC and operator projections.

(4.60) English Clausal Cosubordination (cf. 4.56a)



In Korean, H.B. Choi's (1989) *iunwel* (*yenhapmwun*) 'conjoined sentences' is equivalent to clausal coordination in that two non-embedded clauses are conjoined together. He described nine semantic relations between the two conjoined clauses, including addition, sequential, conditional, cause-result, and comparative. From this perspective, some *ko*-constructions are cases of clausal cosubordination. Among the six relations of *ko*-constructions, additives and contrastives can have their own tense and IFs as shown in previous section. However, in *ko*-constructions with the semantic relations simultaneous, sequential, resultative, and causal, the tense and the IF of the first clause are dependent on those of the second clause. Cosubordination in simultaneous, sequential, and causal*ko*-constructions is illustrated with the following examples.

(4.61) SIMULTANEOUS

a. [Chelswu-nun piano-lul chi]-ko [Swunhi-nun nolay-lul pwule]-ss-ni ?.
-TOP piano-ACC play-CONN -TOP song-ACC sing-PST-Q
"Did Soonhi sing a song while Chulsoo played the piano ?"

b. [pi-ka o-ko] palam-i pwul-ess-keyss-ta
rain-NOM fall-CONN wind-NOM blow-PST-PRESUM-DEC
" (I guess that) it was raining while the wind was blowing."

(4.62) ACTIVE (Sequential)

a. [pi-ka kuchi]-ko(nase) [hay-ka na]-ss-ta (K.K. Lee 1976:3)
rain-NOM stop -CONN sun-NOM shine-PST-DEC

"Rain stopped, and then sun shined."

b. [Chelswu-ka ttena]-ko(nase) [Swunhi-ka wa]-ss-ta.
-NOM leave-CONN -NOM go-PST-DEC
"Chulsoo left, and then Soonhi came."

c. [satto-(ka) ttu]-ko [naphal-(i) pwul]-ess-ta
province.governor-NOM arrive-CONN trumpet-NOM sound-PST-DEC
"(Lit.)The province governor arrived, and then the fanfare started."
"It is too late."

d. [so-(lul) ilh]-ko [oyyangkan-(lul) kochi]-ess-ta
cow-ACC steal-CONN cow.house-ACC fix -PST-DEC
"(I) closed the barn door after the horse was stolen."

(4.63) CAUSAL

a . [sekywu kaps-i olu]-ko/ca [motun mwulka-ka twi]-te-la
gas price-NOM go.up-CONN all price-NOM jump.up-RETRO-DEC
"(I remembered that)the gas price had gone up and all price jumped up."
not "The gas price had gone up and (I remembered that) all price jumped up."

b. [kempwuthe-ka kocangna]-ko/-se [na-nun swukcey-lul ha-lswu.eps]-ess-ta
computer-NOM broken-CONN I-TOP homework-ACC do-not.able-PST-DEC
" I could not do (my) homework since the computer was broken."

In all of the above sentences, the first clause does not share any arguments with second clause and does not have its own clausal operators of tense, evidentiality, or IF. That is, the first clause is dependent on the second for expression of its tense and mood. This dependence might be construed as evidence of subordination. However, the first clause does not have the form of a subordinate clause since the verb is not marked for tense and the first clause does not play any role in the second clause. Thus, we can claim that the simultaneous, sequential, and causal *ko*-constructions are examples of clausal cosubordination. This is a stronger syntactic relation than the other clausal junctures we have discussed. Thus, some clausal cosubordinations, such as sequential and causal relations, are not reversible. If they are reversed, the meaning is changed.

(4.64) a. [hay-ka na]-ko(nase) [pi-ka kuchi]-ess-ta (cf. 4.62a)
sun-NOM shine -CONN rain-NOM stop -PST-DEC
"The un shined and then the rain stopped."

b.*[na-nun swukcey-lul ha-lswu.eps]-ko/-se [kempwuthe-ka kocangna]-ess-ta
I-TOP homework-ACC do-not.able-CONN computer-NOM broken-PST-DEC
" The computer was broken since I could not do (my) homework."

In contrast to clausal coordination and subordination, which can be reversed without meaning change, clausal cosubordination cannot be reversed. In (4.64a) the sequence of two events is different from that of (4.62a). That is, in (4.62a), the rain stopped first, and then the sun shined. (4.64a) suggests that the sun was shining while it was raining, and then the rain stopped. (4.64b) is impossible because of a semantic clash. The sentence suggests that my inability to do the homework caused the computer to break down, reversing the more usual causation relation, i.e. the computer was broken down, so I could not do my homework. These show us that clausal cosubordination is a much stronger syntactic relation than clausal coordination, as the IRH suggests in RRG. It should be noticed that (4.61)-(4.63) can also be understood as additive relations (i.e. two separate actions or situations) when the first clause has its own tense, as I proposed in section 4.3.1.2). From this fact, we can say one generalization in *ko*-constructions; temporalness is expressed in coordination, and non-temporalness and sequentials are expressed in cosubordination.

Conditionals can also be analyzed as clausal cosubordination because the first clause is dependent on the clausal operators of the second clause even though it is not embedded in the other clause. If the first clause has its own tense, it is ungrammatical. This can be illustrated in the following.

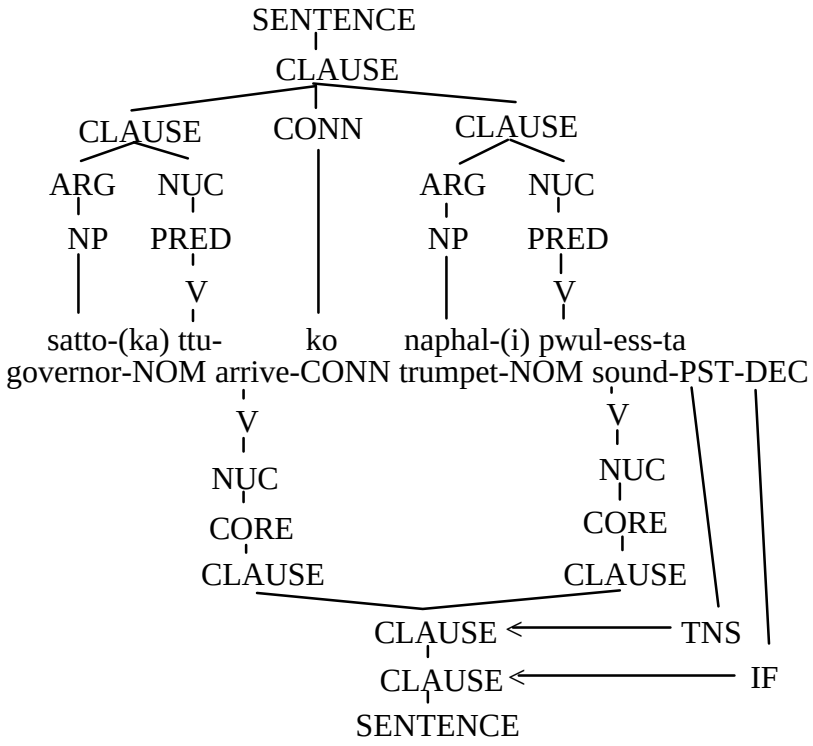
(4.65) a. maynyen 4 wel-i toy-(*-ess)-ko, kkos-i phi-ess-ta
every.year April-NOM become-(*PST)-if flower-NOM blossom-PST-DEC
"If it is April, the flowers blossomed every year."

b. palam-i pwul-(*-ess)-myen, phi-ka o-ass-ta
wind-NOM blow- (*PST)-if rain-NOM fall-PST-DEC
"If the wind blows, then it rained."

Also, this conditional relation is not reversible, just as sequential actions, and causal relations cannot be reversed.

The LSC and operator projection for Korean cosubordination is illustrated in (4.66).

(4.66) Korean Clausal Cosubordination (4.62c)



"(lit) The governor arrived, and then the fanfare started."

In section 4.3.1, I examined clause-level junctures in Korean. I found that there are three nexus types at the clausal level: Subordination, Coordination, and Cosubordination. Typical Clausal Subordinations are indicative quotative complements and purposive adverbials. Clausal Coordinations, which are the weakest syntactic relations, have semantic relations like additives and two separate action relations, just as contrastives do. Clausal Cosubordination, which is the strongest syntactic relation among clausal junctures, includes conditionals, simultaneous actions, sequential actions, and causal-effect relations. Also, I showed that Clausal Coordination and Subordination are reversible, but it is difficult to reverse clauses linked through clausal cosubordination. These syntactic and semantic relations among clausal nexus-juncture types follow the IRH in RRG.

4.3.2. Core Juncture

In a core juncture there are two nuclei, each with its own set of core arguments, constituting two distinct but overlapping cores (Van Valin 1993a: 107). In core junctures, the linked units share one core argument, while clausal junctures with their own nucleus and core do not expect this one shared core argument. A typical examples of core juncture in English is the accusative plus infinitive construction, the so-called subject-to-object raising constructions.

(4.67) a. John forced Bill to leave the party. (Van Valin 1993a:107)
b. John could tell Bill to wash the car. (Hasegawa 1992:56)

Bill is a shared argument of the verbs *force* and *leave* in (4.67a) and of the verbs*tell* and *wash* in (4.67b). However, the other arguments are coded as arguments of particular nuclei. In (4.67a)*John* is an argument, syntactically and semantically, of *force*, while *the party* is an argument of the verb *leave*. In (4.67b) *John* is an argument of *tell*, but *the car* is an argument of the verb *wash*. These distinct and overlapping core arguments constitute a core juncture.

In Korean, subject ellipsis is very common if the second core has the same subject argument of first core, in contrast to English. In Korean, even though subjects may be missing, some predicates have their own tense markers, as shown in (4.68).

(4.68) na$_i$-nun hakkyo-lul ka-ss-ko e$_i$ Swunhi-lul manna-ss-ta
I-TOP school-ACC go-PST-CONN -ACC meet-PST-DEC
"I went to school and met Soonhi."

Even though there is a missing subject in the second clause in (4.68), (4.68) involves a clausal coordination, not core juncture, since each clause has its own tense, which is a clausal operator. And we should notice that Korean allows many instances of zero anaphora which can be treated as core argument. In some complex constructions in Korean, missing argument should be the same as the argument of the other clause and the tense should be shared between the two clauses. In this case, the sentence is unacceptable when the missing argument is expressed overtly in both clauses and/or each clause has its own tense. For examplesl,

(4.69) a. -*koca* constructions

na-ka kongpwu-lul ha-(*ss)-koca, (*na-nun) hakkyo-ey ka-ss-ta.
I-NOM study-ACC do-PST-for I-TOP school-to go-PST-DEC
"I went to school to study." (J.I. Kwon 1985:109)

b. -*le* constructions

Swunhi-ka kongpwu-lul ha-(*ss)-le, (*Swunhi-ka) hakkyo-ey ka-ss-ta.
-NOM study-ACC do-(PST)-for -NOM school-to go-PST-DEC
"Soonhi went to school in order to study."

c. -[+animate] *myense* constructions[125]

kileki-ka wul-(*ess)-myense, (*kileki-ka) nalaka-ss-ta
wild.goose-NOM cry- (PST)-CONN fly.away-PST-DEC
"While crying, a wild goose flies away." (J.I. Kwon 1985:109)

Therefore, we can define core junctures as complex sentences whose two cores should obligatorily share a core argument. They also share all clausal operators such as tense and IFs. Thus, the relevant operator to dicide the nexus types is modality, not the clausal operators, in core junctures.

4.3.2.1. Core Subordination

In Core Subordination, the embedded core as a whole acts as an argument of the matrix core. There is no argument shared by the cores per se, but they do overlap in that a core as a whole is embedded into the main core. English gerunds are a typical example of core subordination. Some examples of Core Subordinations from several languages are given as in (4.70).

(4.70) a. John's winning the race surprised everyone.
b. For John to win the race would be the surprise of the year
. English (Van Valin 1993a: 110)

c. Juare ij-ia a ni [mave n-one sak-a-mo] g-a-ne.
garden DEF-L 2sg IMP pig 1sg-POSS bite-2sgU-PRES/HAB look-3sgU-IMP
"In the garden look for [it]:my pig bites!"
Barai (Foley and Van Valin 1984:250)

d. Kitap oku-ma-n-i ist-iyor.
book read-VN-2sg-ACC want-PROG
"S/he wants you to read a book."
Turkish (Watters 1993:554)

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[125]As J.I. Kown (1985) points out, there is a restriction (i.e. [+animate] for *-myense* constructions. If the subject is [-animate], then the second clause can get its own subject as in (i).

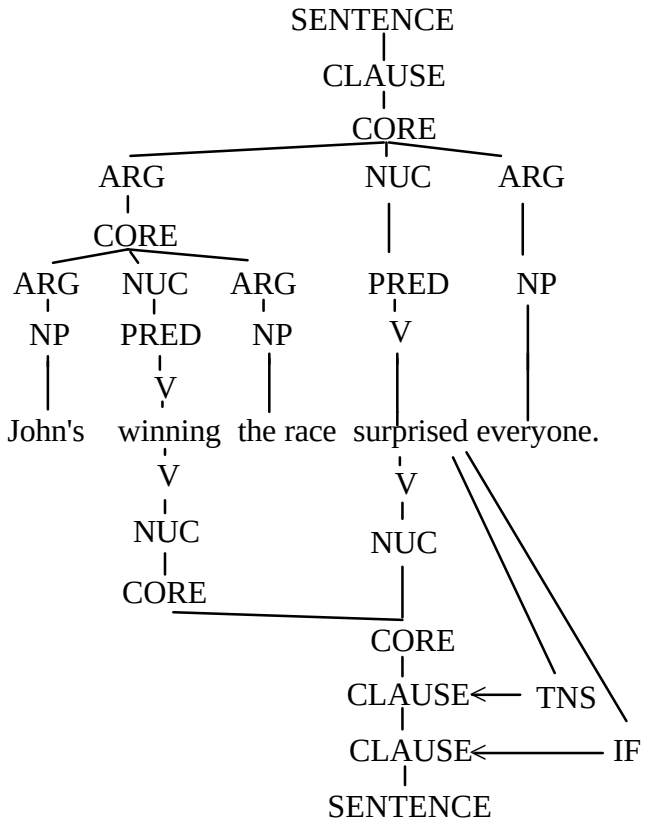
(i) pi- ka o-myense, palam-i pwun-ta.
rain-NOM fall-while wind-NOM blow-DEC
"While it is raining, it is windy."

Thus, [-animate] *-myense* construction shows Clausal Cosubordination, while [+animate] *-myense* constructions are Core junctures

In all of (4.70), the embedded unit plays a role as a core argument of the nucleus in the main clause. In (4.70a & b), the English gerunds are clauses without clausal operators and function as arguments of the main clause, as do the clause (*mave n-one sak-a-mo*) of the Barai example (4.70c) and *kitap oku-ma-n-i* of Turkish (4.70d). Thus they are core subordination.

The embeddedness of English core subordination is expressed with the LSC and operator projection as follows:

(4.71) English Core Subordination (cf. 4.70a)



In Korean, there are English gerund-like constructions, which have been called 'nominal clauses' (H.B. Lee 1989), *ilum mati* (*imca mati*) 'nominalized clauses' (H.B. Choi 1929), 'sentential complements' (H.J. Yoon 1991), and 'nominalized constructions' (J.I. Kwon 1985). These nominalized clauses non-final clauses and are suffixed with one of the nominal clause endings, either *-(u)m* or *-ki*[126]. The nominalized clause can also

[126] H.J. Yoon (1991:138) proposes the following selectional properties between verbs and sentential complementizers.

(i) as objects

a. *-ki*: optative verbs
pala 'hope' wuenha 'want' pil 'pray, beg'

function as an argument of the main clause and, thus, can get its own case marking like a regular noun phrase. It is illustrated in (4.72)-(4.73).

(4.72) a. [tal-i palk-ki]-ka nac-kwa kath-ta
moon-NOM bright-COMP-NOM day-like same-DEC
"The moon's being bright is like day's." (H.B. Choi 1929:830)

b. [nal-i palk-ki]-lul kitali-ca
day-NOM break-COMP-ACC wait-PROP
"Let's wait for the dawn to break." (H.B. Lee 1989:172)

c. na-nun [Chelswu-ka hakkyo-ey ka-ki]-lul tanpwuhay-ss-ta
I-TOP -NOM school-to go-COMP-ACC ask -PST-DEC
"I asked for Chulsoo to go to school." (J.I. Kown 1985:66)

(4.73) a. [sonyen-i hakkyo-ey ka-m]-ul po-ass-ni ?
boy-NOM school-to go-COMP-ACC see-PST-Q
"Did you see a boy going to school ?" (H.B. Lee 1989:172)

b. na-nun [Chelswu-ka hakkyo-ey ka-m]-lul yokwuha-ss-ta
I-TOP -NOM school-to go-COMP-ACC request-PST-DEC
"I requested for Chulsoo to go to school." (J.I. Kwon 1985:66).

In all of the sentences of (4.72)-(4.73), the embedded clause functions as an argument of the main clause. Based on the grammatical function of the nominalized argument in the main clause, it has NOM (4.72a) or ACC case (4.72b, c, & 4.73a & b).[127] The embeddedness of the nominalized clauses shows that they are subordinate nexus types, and the fact that these clauses function as core arguments of the main verb shows that it is

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kitayha 'expect' huymangha 'hope' kalmangha 'desire'

b. *-um*: 'factive' verbs
al 'know' molu 'not know' hwuhoyha 'regret' ic 'forget'
sulpheha 'feel sorry' mwusiha 'ignore'

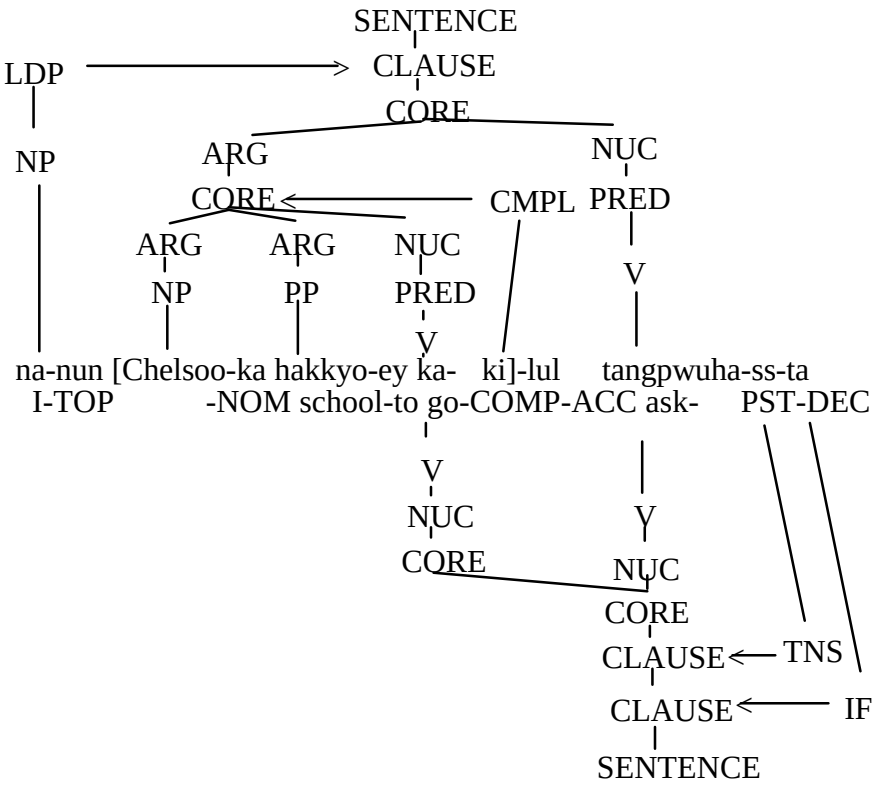
(ii) as subject
a. *-ki:* swip 'be likely' elyep 'be difficult' konlanha 'feel difficulties'
b. *-um*: hwaksilha 'be certain' isangha 'be strange' tangyenha 'be natural'

[127]Jacobsen (1993: 256) shows that the nominalization attested by the article -?i… of clause cores is core subordination in Nootka as in (i).

(i) hini…?as?as?aÒ n!!!a…c&uk?i
go outside-FIN-3 look for-ART
"the one who was looking for him went outside." (Jacobson 1993: 256)

core juncture. Core Subordination can be illustrated with the LSC and operator projection as follows:

(4.74) Korean Core Subordination of Nominalized Construction (cf. 4.72c)



J.J. Song (1988) proposes that the following NOM-NOM-(ACC) phrasal causative[128] ('complement causative construction' in his terms) is core subordination.

(4.75) a. emeni-ka [atul-i nol-key] ha-yess-ta
mother-NOM son-NOM play-COMP do-PST-DEC
"The mother made the son to play." (J.J. Song 1988: 601)

b. John-i [Sue-ka chayk-lul ilk-key] hay-ss-ta
-NOM -NOM book-ACC read-COMP do-PST-DEC
"John made Sue read the book." (O'Grady 1991:171)

In (4.75), causative *ha-ta* 'do' takes *emeni* 'mother' (i.e. 4.75a) and *John* (i.e. 4.75b) as the actor and the embedded clauses as the theme (cf. O'Grady 1991:173). In the

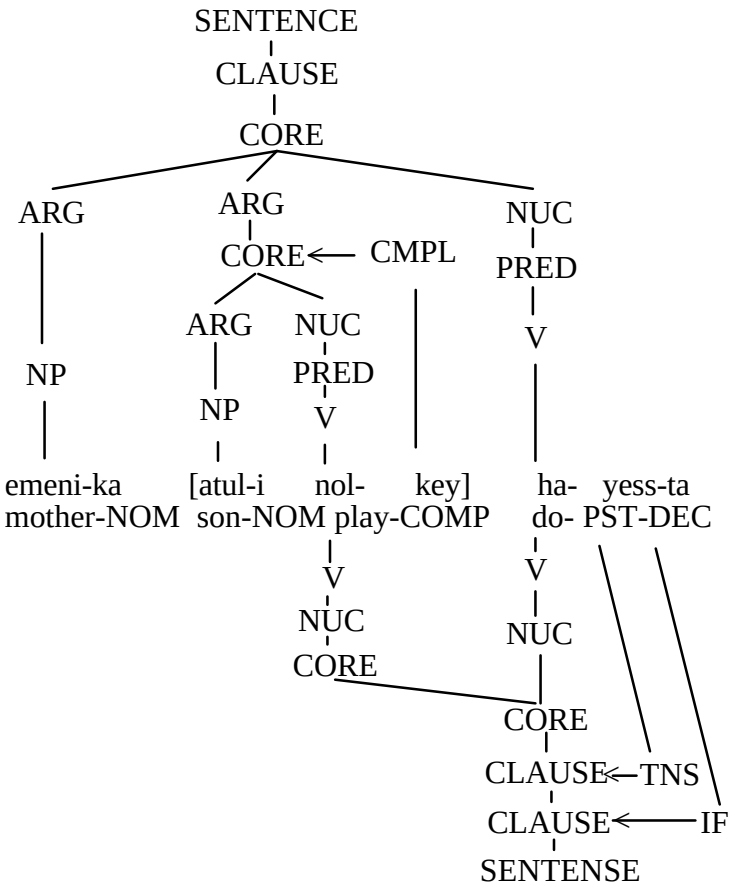
[128]Cf. section 2.1.2.7. and section 4.0. for three patterns of case marking of phrasal (syntactic) causatives. It is well documented in O'Grady (1991); NOM-NOM-(ACC), NOM-ACC-(ACC), and NOM-DAT-(ACC). He accounts for these three case marking patterns in Categorial Grammar. K. Park (1993a) analyzes them in RRG.

embedded clauses,*atul* ‘son’ is actor of *nol* ‘play’ in (4.75a), and *Sue* is the actor and *chayk* ‘book’ is the theme for the embedded nucleii*lk*- ‘read’ in (4.75b)[129]. The fact that the embedded clause behaves as a theme argument of the main clause and that the construction as a whole does not display biclausal characteristics supports the idea that the embedded clause is a core, not a clause. Other theories such as RelG (cf. Gerdts 1986, 1990) and CG (cf. O’Grady 1991) do not posit the core. Even though the NOM-NOM-(ACC) phrasal causative patterns have the form of a morphologically causative, its main semantic meaning is permission with very weak causation, as K. Park (1993a) argues. J.J. Song’s (1988: 602) informal pilot study shows that many Korean native speakers use the phrasal causatives rather than causative meaning to express a purposive meaning. Thus the NOM-NOM-(ACC) phrasal causatives (complement causatives) which is core subordination is primarily permission, or purposive, not causation.

The core and embeddedness of phrasal causatives can be schematized as follows.

[129]The fact that each nucleus has its own argument can be demonstrated with case-marking, honorific agreement, and reflexive pronoun (cf. O’Grady 1991). However, Gerdts (1986) notes that there are three problems for the biclausal analysis for the NOM-NOM-(ACC) phrasal causative constructions: clausemates of the two nuclei, plain topicalization, and PRO-replacement.

(4.76) Core Subordination of NOM-NOM-(ACC) phrasal causatives



The argumenthood of the embedded core is shown by its carrying case, even though it is optional (cf. J.J. Song 1988: (35a))[130].

4.3.2.2. Core Coordination

Core Coordination is not as common as Clausal Coordination. If there are two independent cores, each with its own core constituents and core operators (which includes its own nuclei and nuclear operators), it is core coordination. As is characteristic of all

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[130]For example,

(i) a. emeni-ka [atul-i nol-key]-(lul) ha-yess-ta
mother-NOM son-NOM play-COMP-ACC do-PST-DEC
"The mother made the son to play."

b. John-i [Sue-ka chayk-lul ilk-key]-(lul) hay-ss-ta
-NOM -NOM book-ACC read-COMP-ACC do-PST-DEC
"John made Sue read the book."

In (i), embedded clause can get ACC.

core junctures, the two cores always involve obligatory sharing of a core argument. A clear example of Core Coordination is from Barai (Olson 1981). It is also found in English in the so-called 'accusative plus infinitive construction' (cf. Foley and Van Valin 1984), in the Turkish *-ErEk* and 'want' constructions (cf. Watters 1993), and in the Japanese *-TE* constructions (cf. Hasegawa 1992). The examples of Core Coordination from various languages are illustrated in (4.77).

(4.77) a. John should tell Bill to wash the car. (Van Valin 1993a: 115)

b. John forced Bill to leave the party. (ibid.: 107)

c. Na e ije k-ia bu-me va-e
1sg person DEF say-3plU 3pl-CAS go-PST
"I spoke to the people, [and] they just went."

d. Na-ka e ije k-ia bu va-e
1sg-INTENS person DEF say-3plU 3pl go-PST
"I really spoke to the people, [and] they went."
Barai (Foley and Van Valin 1984:246, originated from Olson (1981))

e. Müzik dinle-yerek uyu-yabil-ir-im.
music listen-ErEk sleep-ABIL-AOR-1sg
"I can sleep listening to music." Turkish (Watters 1993:552)

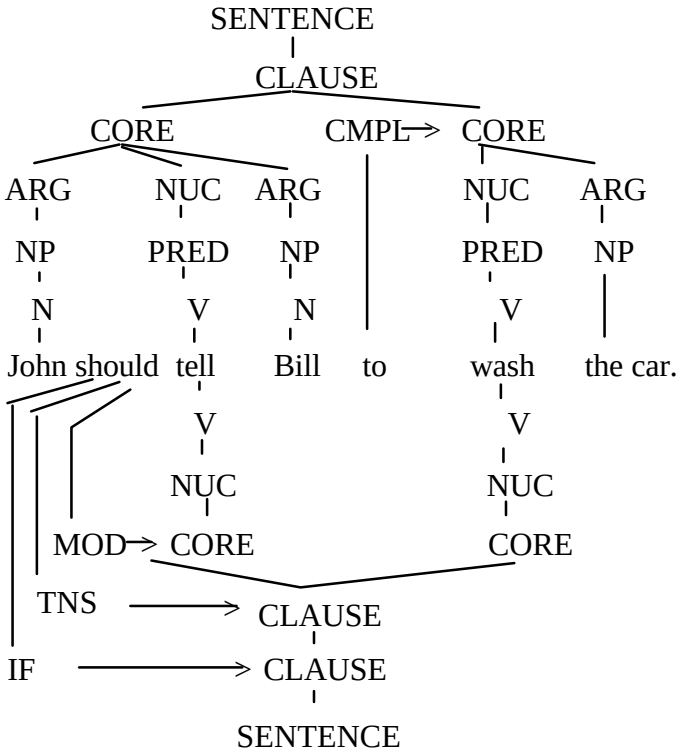
f. Çalis-abil-mek ist-iyor-um.
work-ABIL-INF want-PROG-1sg
"I want to be able to work." Turkish (Watters 1993:553)

g. zyoon wa repooto o yoma-zu ni kaigi ni ki-ta
TOP report ACC read-NEG CMPL meeting LOC come-PST
"Joan came to the meeting without reading the reports."
Japanese (Hasegawa 1992:57)

In (4.77a & b), the non-embeddedness of English infinitival complements to the finite predicate can be demonstrated with passivization and clefting (Foley and Van Valin 1984:247-248). In Barai (4.77c & d), each core has its own a mode particle (i.e. *-me* 'causal' in (4.77c) and *-ke* 'intensive' in (4.77d)), which is a main core-level operator, and both juncts are under the scope of the clausal operators of tense and IF. If each junct has its own tense, of course, it is ungrammatical (cf. Foley and Van Valin 1984:246 for the examples). In Turkish (4.77 e & f), both cores should share the same subject and tense even though each core has its own core operator of modality. In (4.77g), the narrow negation, which is a core operator, have scope over only the first core, but tense, a clausal operator, has scope over the both cores. Here, the subject and topic can be shared by both clauses.

The independence of core level operators and the sharing of clause level operators is illustrated with the following structure for an example of Core Coordination in English.

(4.78) English Core Coordination (cf. 4.77a)



In (4.78) the core operator of modality scopes over the first core junct while the clausal operators of tense and IF scope over both juncts. *Bill* is an argument shared by the first core junct (i.e. undergoer of nuclei *tell*) and the second core junct (i.e. actor of nuclei *wash*).

J.J. Song (1988) shows that NOM-ACC/DAT-(ACC) causative constructions like (4.79), which are similar to English accusative plus infinitive constructions, are Core Coordination with three pieces of core evidence and two pieces of coordination evidence.

(4.79) a. emeni-ka atul-eykey/-ul [nol-key] hay-ss-ta
mother-NOM son-DAT/ACC play-COMP do-PST-DEC
"The mother made the son play." (J.J. Song 1988: 593)

b. John-i Sue-eykey/-lul [chayk-lul ilk-key] hay-ss-ta
-NOM -DAT/-ACC book-ACC read-COMP do-PST-DEC
"John made Sue read the book." (cf. O'Grady 1991:176)

The first piece of evidence for core juncture in (4.79) is the argument sharing of DAT/ACC causee between the first nuclei and the second nuclei. *Atul* 'son' in (4.79a) and *Sue* of (4.79b) are logical core arguments (i.e. actor) of the first nuclei *nol* 'play' and *ilk* 'read'. At the same time, both of them are core arguments (i.e. undergoer) of the second nuclei *ha-* 'do'. The second piece of evidence is that (4.79) can not be clefted,

which would be possible if it were a subordinate clause[131]. The third piece of evidence is that the DAT/ACC marked causee can be fronted for pragmatic reasons, as any regular undergoers can.

The evidence that NOM-DAT/ACC-(ACC) phrasal causative constructions are cases of coordination comes from the scope of modals and adverbials, as J.J. Song (1988) proposes. He proves the coordination of (4.79) with [-dependent] of modality *swu.iss* 'able' and *swu.eps* 'unable' to each core and with the fact that manner adverbials like *cosimsulepkkey* 'carefully' can never modify the actors and the verbs of both higher and lower clauses at the same time. The independence of core operators is illustrated in (4.80).

(4.80) a. emeni-ka atul-eykey/-ul [nol-swu.iss-key] ha-lswu.eps-ess-ta
mother-NOM son-DAT/ACC play-ABLE-COMP do-UNABLE-PST-DEC
"The mother could not make the son be able to play."

b. John-i Sue-eykey/-lul [chayk-ul ilk-ulswu.eps-key] ha-lswu.iss-ss-ta
-NOM -DAT/-ACC book-ACC read-UNABLE-COMP do-ABLE-PST-DEC
"John could make Sue be unable to read the book."

c. John-i Sue-eykey/-lul [chayk-ul ilk-ci.mos-key] ha-lswu.iss-ss-ta
-NOM -DAT/-ACC book-ACC read-NEG -COMP do-ABLE-PST-DEC
"John could make Sue not read the book."

In (4.80a & b), each deontic modality only has scope over the core in which it is included. Thus two contradictory modals are possible in (4.80a & b). In addition, narrow negation, a core operator, can only negate the core that it is attached*chayk-ul ilk-ta* 'read the book', not the whole sentence. The independence of each core juncts can also be illustrated with scrambling between two core juncts, which is limited to the NOM-DAT-(ACC) pattern[132], as in (4.81).

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[131]This can be illustrated as in (i).

(i) a.* [emeni-ka hay-ess-ten]-kes -un atul-eykey/-ul [nol-key] i-ta
mother-NOM do-PST-REL-thing-TOP son-DAT/ACC play-COMP is-DEC
"*It is the son to play that the mother caused."
(J.J. Song 1988:(22); cf. 4.79a)

b. [John-i hay-ten]-kes-un Sue-eykey/-lul [chayk-lul ilk-key] i -ta
-NOM do -REL-thing-TOP -DAT/-ACC book-ACC read-COMP is-DEC
"*It is Sue to read the book that John caused." (cf. 4.79b)

Refer to Foley and Van Valin (1984: 247) for an analogous phenomena in English.

[132]I will show the difference between NOM-DAT-(ACC) and NOM-ACC-(ACC) pattern right after this.

(4.81) a. emeni-nun [nol-swu.iss-key] [atul-eykey ha-lswu.eps]-ess-ta
mother-TOP play-ABLE-COMP son-DAT/ACC do-UNABLE-PST-DEC
"The mother could not make the son to be able to play."

b. John-un [chayk-ul ilk-ulswu.eps-key] [Sue-eykey ha-lswu.iss]-ss-ta
- TOP book-ACC read-UNABLE-COMP -DAT do-ABLE-PST-DEC
"John could make Sue to be unable to read the book."

c. John-un [chayk-ul ilk-ci.mos-key] [Sue-eykey ha-lswu.iss]-ss-ta
-TOP book-ACC read-NEG -COMP -DAT do-ABLE-PST-DEC
"John could make Sue not to read the book."

(4.81) shows that each core junct can be scrambled without any difficulty. This scrambling supports an analysis of Core Coordination in NOM-DAT-(ACC) pattern. From the independence of core operators, we can conclude that the NOM-DAT-(ACC) causative forms are core coordination.[133] The Core Coordination of NOM-DAT-(ACC) pattern of phrasal causative construction can be schematized with the following LSC and operator projection.

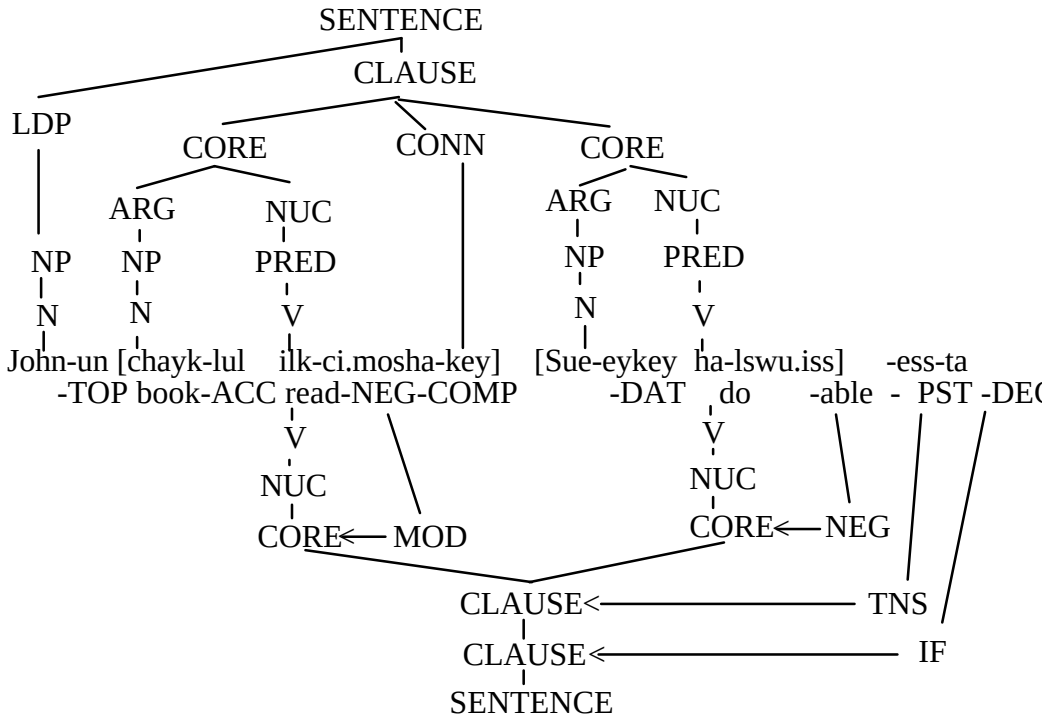
[133]Some *ko*-constructions which require same subjects are instancesof core coordination as in (i).

(i) a. [[pesu-ka menci-lul nay-]ko [talli]]-n-ta
bus-NOM dust-ACC stir.up -CONN run-PRES-DEC
"A bus is running, while stirring up the dust." (K.S. Nahm 1978:7)

b. [[Chelswu-ka nwun-lul kam]-ko [uyca-ey anca-iss]]-ess-ta
-NOM eye-ACC close-CONN chair-at sit -be -PST-DEC
"Chulsoo stayed on the chair while closing (his) eyes."

In these cases, the semantic relation is simultaneous or sequential (cf. section 4.3.2.3).

(4.82) Core Coordination of NOM-DAT-(ACC) Phrasal Causatives (4.81c)



Note that I mention only the NOM-DAT-(ACC) pattern as an example of Core Coordination. Scrambling breaks the two nuclei into two separate cores, and it is possible with NOM-DAT-(ACC) pattern only. J.J. Song (1988) misses two important facts in handling NOM-DAT/ACC-(ACC) causative forms: (i) these causative constructions (especially NOM-DAT-(ACC) pattern) can have two semantic interpretations: permission and causatives; and (ii) there is a the syntactic difference between NOM-DAT-(ACC) and NOM-ACC-(ACC) pattern. Patterson (1974), S.C. Song (1988), and K. Park (1993a), among others have pointed out that phrasal causatives are ambiguous between permission and causation. K. Park (1993a) shows that (4.80) does not have causative meaning anymore, but it can only mean permission. To maintain the causative meaning, nothing but a connective can intervene between the two nuclei. In other word, J.J Song's (1988) analysis of Core Coordination is appropriate for the permission reading of NOM-DAT/ACC-(ACC) causative forms, but not for causation (cf. section 4.3.2.3 and section 4.3.3.3 for causation reading).

Before we proceed to analyze the causation expressed in these two patterns, however, we should notice the differences in syntactic linking between the NOM-DAT-(ACC) and the NOM-ACC-(ACC) patterns: they involve different juncture types. As I mentioned above (4.81), the DAT-marked NP can intervene between the two nuclei, and the whole core can be scrambled in NOM-DAT-(ACC) pattern. Such behavior is impossible in NOM-ACC-(ACC) pattern. The situation is the same in sentences without any operator morphemes between the nuclei. These sentences have a causative reading rather than as permission reading. This can be illustrated as follows:

(4.83) a. emeni-nun [nol-key] [atul-eykey/-*ul] hay-ss-ta

mother-TOP play-COMP son-DAT/ *ACC do-PST-DEC
"The mother made the son play."

b. John-un [chayk-lul ilk-key] [Sue-eykey/-*lul hay]-ss-ta
- TOP book-ACC read-COMP -DAT/-*ACC do-PST-DEC
"John made Sue read the book."

(4.84) a. emeni-nun atul-eykey/-*ul hay-ss-ta, [nol-key ...]
mother-TOP son-DAT/-*ACC do-PST-DEC play-COMP
"The mother made the son play."

b. John-un Sue-eykey/-*lul hay-ss-ta, [chayk-lul ilk-key ...]
-TOP -DAT/-*ACC do-PST-DEC book-ACC read-COMP
"John made Sue read the book."

This difference shows that there are different syntactic linkings in the two causative constructions; the NOM-DAT-(ACC) form involves a much weaker syntactic relation than the NOM-ACC-(ACC) one. In the other words, the former is core juncture and the latter is nuclear juncture. I will investigate the Core juncture of NOM-DAT-(ACC) for the expression of causation in the next section. Nuclear juncture in NOM-ACC-(ACC) will be discussed in section 4.3.3.

4.3.2.3. Core Cosubordination

Cosubordination, initially described as a kind of "dependent coordination," is defined more precisely by Van Valin (1993a: 112) : "in a cosubordination linkage at a given level of juncture, the linked units are dependent upon the matrix unit for expression of one or more of the operators for that level." If the verbs obligatorily share a core argument, at least one core operator and all clause-level operators and constituents, it is core cosubordination. That is, core cosubordination is the same as core coordination except for the scope of the core operators; in core cosubordination, the scope of at least one core operator covers all linked cores, which is not the case in core coordination. A typical English example of core cosubordination is stance verbs followed by a non-finite verb ending in *-ing*. Some verb serializations found in diverse language (e.g. Yoruba, Thai, Twi, Yoruba, etc.; cf. Foley and Van Valin 1984) can also qualify as a core cosubordination.

(4.85) a. Paul can sit playing his guitar for hours. (Foley and Van Valin 1984:262)

b. John should want to try to wash the car. (Van Valin 1993a: 114)

c. Olú lo aso náà gbó.
Olu use dress the wear.out
"Olu wore out the dress."

d. Mo mú ìwé wá ilé.
1sg take book come home
"I brought a book home." Yoruba (Foley and Van Valin 1984:261)

e. Ara-yip bul-ma-di.
seek-Ip find-NEG-PST
"X didn't seek and find."

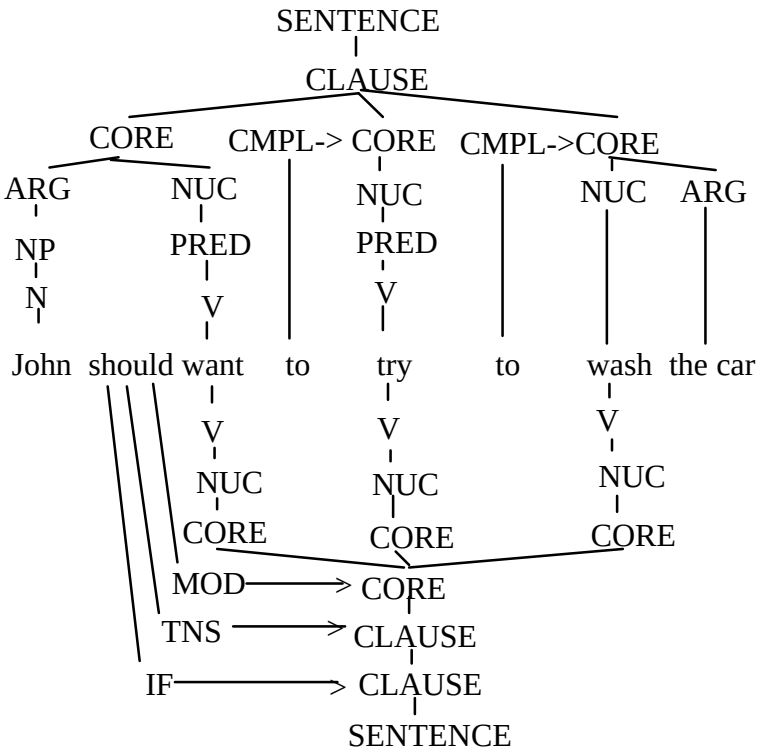
f. Gid-ip gör-meli-yiz.
go-Ip see-OBLIG-1PL
"We ought to go and see." Turkish (Watters 1993:556)

g. zyoon wa hon o kari ni tosyokan ni ika-nakat-ta
TOP book ACC borrow CMPL library LOC go-NEG-PST
"Joan didn't go the library to borrow some books."
Japanese (Hasegawa 1992:58)

In (4.85a & b), both tense and modals have scope over both predicates. The Yoruba examples share a core argument and core operators in (4.85 c & d) (cf. Foley and Van Valin 1984: chapter 5 for argument). In Turkish core verb serialization, the negative (4.85e) and modality (4.85f) scope over both clauses. In the Japanese example in (4.85g), both clauses also share the negative and past tense. These examples are dependent with a core and all clausal operators, even though the cores are not embedded at the clause layer. Thus, they are core cosubordination.

The English core cosubordination can be illustrated as in (4.86).

(4.86) English Core Cosubordination (Van Valin 1993a: 114)



In (4.86), the modality *should* does not express John's weak obligation to want, but rather his obligation to want to try to wash the car. Thus it has scope over all three cores. When we compare (4.86), an English core cosubordination with (4.78), an English core coordination, we note an important difference between these two constructions in the operator projections. Although their constituent projections are basically the same, in (4.86) the core nodes are dominated by a superordinate core node, while in (4.78) the core nodes are dominated by a clausal node. "This reflects the fact that in core cosubordination a core operator such as modality *should* 'weak obligation' is shared by all cores, whereas it is not shared in core coordination." (Van Valin 1993a: 115-116). This shows that the crucial contrast between coordination and cosubordination is a feature of the operator rather than constituent projection.

Foley and Van Valin (1984) argue that there are two basic types of serial verb constructions: those formed by nuclear junctures and those from core junctures. In core-layer juncture, the core arguments of each verb are selected independently and are core arguments only of their specific verbs, although the two nuclei must share a core argument. Nuclear juncture requires a single core for the composite nucleus (Foley and Van Valin 1984:189-191).

The two types of serial verb constructions can be found in Korean. H.M. Sohn (1976) argues that there are two kinds of verb serialization, both of which are marked by a connective *-e*/*-a*. In one a sequence of two or more verbs connected with *-e/-a*, which occur without any pauses between the verbs, which "are perceived or conceptualized as occurring coextensively as if they were one action". He calls these 'compound verbs'. In the other one occurs with pauses between the verbs, and they are perceived as separate

actions. These are called non-compound verbs. H.B. Lee (1989:122-147) argues that the verbal phrase has two immediate constituents, 'expansion' and 'head' and, the head can be further analyzed into 'nucleus',[134] a full verb, and 'satellite', an auxiliary verb. Verb serialization can consist of two or more nuclei, or of one or more nuclei plus one or more satellites (i.e. auxiliary verbs). Verb serialization consisting of nuclei only is the same as H.M. Sohn's (1976) 'non-compound verbs', and the verb serialization consisting of a nucleus and a satellite is the same as his 'compound verbs'.

Consider some examples.

(4.87) a. sicheng-lul chi-e-tul-e-ka-ss-ta
city.hall-ACC hit-CONN-enter-CONN-go-PST-DEC
"(They) invaded the City Hall."

b. Swunhi-ka na-lul chac-a-o-ss-ta
-NOM I-ACC find-CONN-come-PST-DEC
"Soonhi visited me."

c. i ppang-lul mek-e-peli-kka ?
this bread-ACC eat-CONN-throw.away-Q
"Shall (we) eat up this bread ?"

d. Chelswu-ka cha-lul kilka-ey seywu-e-noh-ta
-NOM car-ACC sidewalk-at stop-CONN-put-DEC
"Chulsoo parked the car at the sidewalk."

e. ppang-lul mek-e-po-ca
bread-ACC eat-CONN-see-PROP
"Let's try to eat"

(4.88) a. pem-ul cap-a ka-n-ta
tiger-ACC catch-CONN go-PRES-DEC
"[They] are taking the tiger with them."
(lit." they have caught the tiger and are going away.')

b. ki-e o-n-ta
crawl-CONN come-PRES-DEC
"[He] comes crawling."

c. anc-a swi-l-kka ?
sit-CONN rest-FUT-Q
"Shall [we] sit down to rest ?"

d. ppang-lul kwu-e mek-ess-ta
bread-ACC toast-CONN eat-PST-DEC

[134]His term 'nucleus' is not the same as the term used in RRG.

"(We) ate the bread, toasting it."

Even though all of the complex verbs in (4.87) and (4.88) consist of two nuclei, there is an important difference. In (4.87), the two nuclei are combined and work like a single nucleus; i.e. as a kind of nuclear juncture (cf. section 4.3.3.1). In (4.88) each nuclei maintains its own meaning and function as a predicate. Thus, I will analyze (4.88) as core junctures here and (4.87) later under the discussion of nuclear juncture.

The core juncture analysis of (4.88) is validated by the following examples. In each of the examples, the nuclei have their own core arguments and the subjects are shared with both of nuclei.

(4.89) a. pem-ul cap-a hakkyo-lo ka-n-ta
tiger-ACC catch-CONN school-to go-PRES-DEC
"[They] went to school taking the tiger with them."

b. ai-ka ki-e na-eykey o-n-ta
baby -NOM crawl-CONN I- to come-PRES-DEC
" Baby comes to me crawling'

c. uycha-ey anc-a tali-lul swi-l-kka ?
sit-CONN rest-CONN leg-ACC rest-FUT-Q
"Shall [we] sit down on the chair to rest (our) legs ?"

d. ppang-lul kwu-e pethe-lul pal-a-mek-ass-ta
bread-ACC toast-CONN butter-ACC put.on-CONN-eat-PST-DEC
"[She] ate the bread, toasting and putting butter on it."

Neither nucleus, which each has its own argument, is embedded in the other core, which shows that it is not core subordination. The dependency with core operators shows that it is core cosubordination. The dependency of core operators can be seen in the following examples.

(4.90) a. pem-ul cap-(*ulswu)-a ka-lswu.iss-ta
tiger-ACC catch-(*ABLE)-CONN go-ABLE-DEC
"[They] can go taking the tiger with them."

b. ki-(*lswu.eps)-e o-lswu.eps-ta
crawl-(*UNABLE)-CONN come-UNABLE-DEC
"[He] can not come crawling (to me), (but he can fly away)."

c. anc-(*ci.anh)-a swi-ci.mal-kka ?
sit-(*NEG)-CONN rest-NEG-PROP
" Let's not rest sitting down, (but let's work more)."

d. ppang-lul kwu-(*ci.ahn)-e mek-ci.anh-ass-ta
bread-ACC toast-(*NEG)-CONN eat-NEG-PST-DEC
"(We) did not eat toasting the bread, (but we ate it steaming.)"

In (4.90a & b), the core operator modal marker *-(u)lswu.iss* 'able' and *(u)lswu.eps* 'unable' (cf. section 3.2.3.) cannot occur with the first nuclei, while they can occur with the second nuclei. As the English interpretation suggests, the scope of the modality is over both cores. (4.90a) does not suggest that they are only able to go, but they are able to catch and go. In (4.90b), the missing subject cannot crawling but also cannot coming. By the same token, narrow scope negation, another core operator (cf. section 3.2.4), cannot occur with the first nuclei, but only with the second nuclei in (4.90c & d). The scope of the negation is both cores. That is, the first core is dependent on the second core, which is a characteristic of cosubordination.

To express the ability or negation of the first core only, *ko*-verb serialization, which is core coordination, is used instead of *e*-verb serialization.

(4.91) a. ne-nun, pem-ul cap-ulswu.eps-ko ka-lswu.(nun)iss-ta
you-TOP tiger-ACC catch-UNABLE-CONN go-ABLE-DEC
"[You] cannot catch the tiger, but can go."

b. ki-lswu.iss-ko o-lswu.eps-ta
crawl-ABLE-CONN come-UNABLE-DEC
"[He] can crawl, but cannot come (to me)."

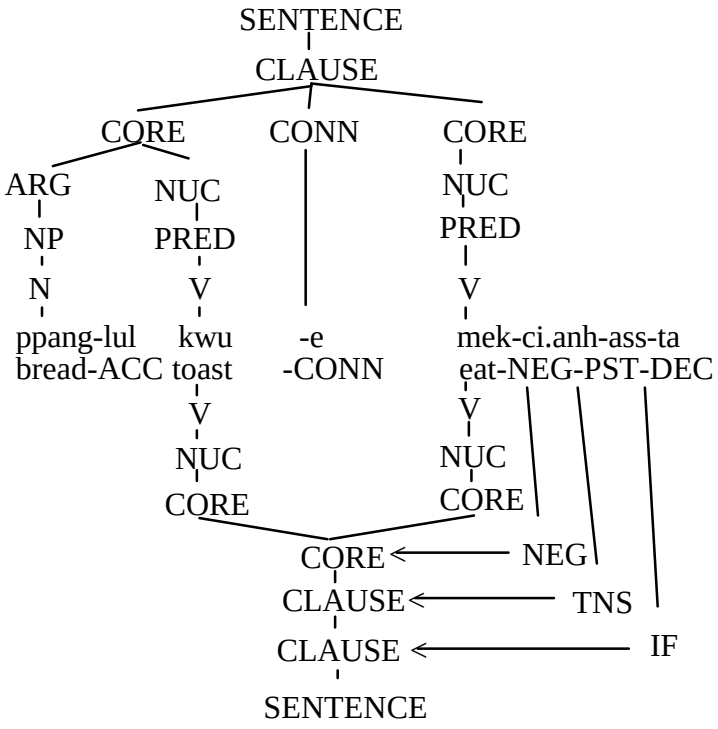
c. anc- ci.mal-ko swi-ca
sit- NEG-CONN rest-NEG-PROP
" Let's take a rest, without sitting down, (Let's take a rest while standing)."

d. ppang-lul kwu-ci.anh-ko mek-ci.anh-ass-ta
bread-ACC toast-NEG-CONN eat-NEG-PST-DEC
"(We) did not toast the bread, and did not eat it."

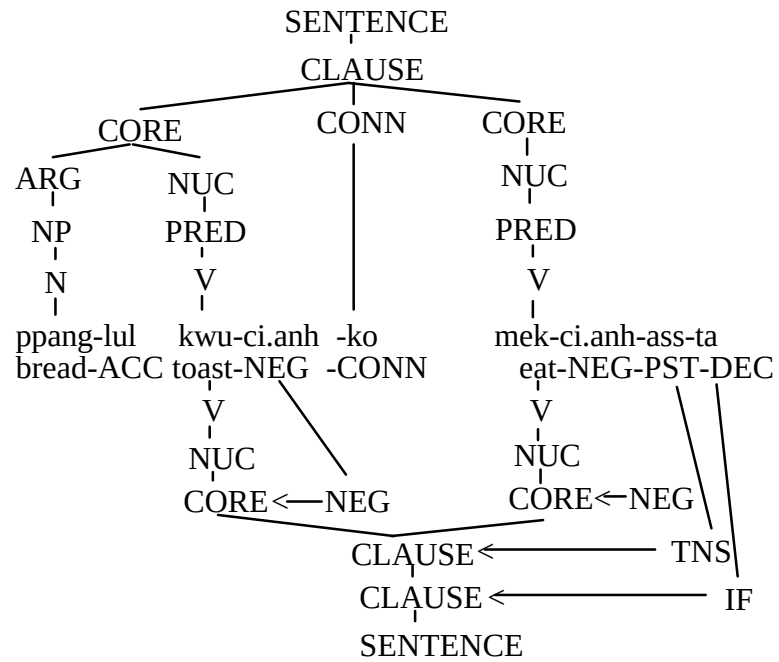
While in *e*-verb serialization, the first core junct cannot take its own modality or negation, in *ko*-verb serialization each core constituent can get its own modality (4.91a & b) and negation (4.91c & d). Except for the independence of the core operator, there is no difference between *e*- and *ko*- verb serialization. From these facts, we can propose that *e/a*- verb serializations are core cosubordination while *ko*-verb serializations are core coordination.

The LSC and operator projections for the Core Cosubordination of *e/a*- verb serialization are illustrated as in (4.92), while the Core Coordination of *ko*-verb serialization as in (4.93).

(4.92) Core Cosubordination of *e/a-* Verb Serialization (cf. 4.90d)



(4.93) Core Coordination of *ko*-verb Serialization (cf. 4.91d)



These different clause linkage in the two types serialization explains several facts. Van Valin (1993a: 114-117) shows the similarity of constituent projection and the difference of operator projection in English and Turkish core coordination and cosubordination (cf.

(4.81) for English core coordination and (4.86) for core cosubordination). The constituent projections of *e-/a-* and *ko*-verb serial constructions are basically the same, but there is a significant difference in their operator projections: the core nodes are dominated by a superordinate core node in the *e-/a-* constructions (4.92), but not in *ko*-construction (4.93). This reflects the fact that in core cosubordination a core operator such as modality or narrow scope negation is shared by all cores, whereas it is not shared in core coordination (cf. Van Valin 1993a: 115-116). These two Korean serialized verb constructions support that claim that "the crucial contrast is a feature of the operator rather than the constituent projection. It should be noted that in many languages there are no obligatory nuclear or core operators, unlike the obligatory IF clausal operator. Therefore these structural differences in the operator projection will be manifested in nuclear and core cosubordination, even if there is no overt operator at the relevant level in a particular sentence (Van Valin 1993a: 116)." These different nexus types explain several phenomena in *ko-* and *e-/a-* verb serialization. The *ko*-construction, which is a core coordination, is a weaker syntactic relation than teh *e-/a-* construction, which is a core cosubordination. Nothing except the connective *-e/-a* or an arguments of the second nuclei can intervene between the two nuclei in the *e/-a* constructions, whereas core operator morphemes can occur between the nuclei in the *ko*-constructions. Semantically *ko*-constructions can be interpreted as two overlapping actions, either simultaneous or sequential. Thus one of the two actions can be negated as shown above in *ko*-constructions. In *e-/a-* constructions, the action can only be interpreted as a one single event. This is illustrated in (4.94) and (4.95).

(4.94) a. pem-ul cap-a ka-n-ta
tiger-ACC catch-CONN go-PRES-DEC
"[They] are taking the tiger with them."
(lit." they have caught the tiger and are going away.')

b. ppang-lul kwu-e mek-ess-ta
bread-ACC toast-CONN eat-PST-DEC
"(We) ate the bread, toasting it."

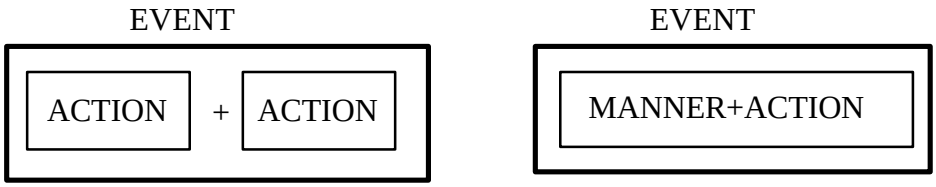
(4.95) a. pem-ul cap-ko ka-n-ta
tiger-ACC catch-CONN go-PRES-DEC
"[They] catch the tiger, and then go."
" [They] go (somewhere) while holding the tiger."

b. ppang-lul kwu-ko mek-ess-ta
bread-ACC toast-CONN eat-PST-DEC
"(We) toasted, and then ate the bread."
" (Some of us) toasted the bread, while (the others) eating it."

The examples (4.94) describe single events. In (4.94a), the event includes going with carrying the tiger that has been caught, and (4.94b) suggests a way of eating the bread. In contrast, (4.95) describes two related overlapping actions, catching the tiger and going (e.g. 4.95a), and toasting and then eating the bread (e.g. 4.95b). The *ko*-verb serialization is simultaneous actions, while the *e-/a-* serialization conflates an action with a manner. In

other words, semantically the *ko*-verb serialization is much more like Clausal Cosubordination, whereas the*e-/a-* serialization is much more like Nuclear Juncture. The semantic difference can be schematized as follows:

(4.96) a. *ko*-verb Serialization b. *e-/a-* verb Serialization



These syntactic and semantic relations between *ko*-serialization and *e-/a*-serialization follows RRG's IRH since core cosubordination, which involves stronger syntactic bondedness than core coordination, and closer semantic integration than core coordination.

In section 4.3.2.2., I mentioned that the NOM-DAT-(ACC) patterns with causative meaning is not core coordination. The examples are repeated below for discussion.

(4.97) a. emeni-ka atul-eykey [nol-key] hay-ss-ta[135]
mother-NOM son-DAT play-CAU do-PST-DEC
"The mother made the son to play." (J.J. Song 1988: 593)

b. John-i Sue-eykey [chayk-lul ilk-key] hay-ss-ta
-NOM -DAT book-ACC read-CAU do-PST-DEC
"John made Sue read the book." (cf. O'Grady 1991:176)

As I mentioned in previous section, each nuclei has its own set of core arguments, but the linked nuclei share one core argument: the DAT marked NP. This is a characteristic of Core Juncture. I have already shown that the cores can be scrambled and that neither one is embedded in the other. Thus, there are two possible nexus types for (4.97): coordination or cosubordination. The nexus type is usually identified by considering the the dependency of core operators such as negation or modality. K. Park (1993a) notices, however, that no modality morphemes can intervene between the nuclei. Thus we should examine the scope of modality in (4.98).

(4.98) a. emeni-ka atul-eykey [nol-key] ha-lswu.iss-ess-ta
mother-NOM son-DAT play-CAU do-ABLE-PST-DEC
"The mother could make the son play."

[135]To differentiate non-causation permission COMP *-key* from causative form *-key*, I will use the gloss CAU(sative) for *-key* from now on.

b. John-i Sue-eykey [chayk-lul ilk-key] ha-lswu.eps-ess-ta
-NOM -DAT book-ACC read-CAU do-UNABLE-PST-DEC
"John could not make Sue read the book."

(4.98a) implies not only the mother's ability to make the son play but also the son's ability to play. Consider a situation in which a mother takes her son to a playground to let him play on a swing. Suppose in addition that the son does not want to ride on the swing because it scares him. In this situation, we cannot use (4.98) since the son could not play. It is the same with (4.98b). The modality of the first nucleus is dependent on that of the second nucleus, and this is a characteristic of cosubordination.

To examine the semantic relation of the NOM-DAT-(ACC) causative constructions, it is informative to note Hansell's (1993: 228-229) comments on verb serialization in Chinese. He shows that there are differences in Chinese causatives expressed through verb serialization. Direct causation, which he defines as the situation "where the Causer brings about the result through direct action," is expressed with Nuclear Cosubordination. Directive causation, which he defines as "the situation where the Causer directs the Causee to do something (referred to as "Jussive" in Foley and Van Valin 1984), is expressed with Core Juncture (cf. section 4.3.3.3). According to Hansell's (1993) definition, the NOM-DAT-(ACC) pattern causatives, which are analyzed as core cosubordination, express directive causality, which is semantically tighter than permissive jussive and purposive, but looser than psych-action[136]. This directive causality of core cosubordination follows the IRH. In fact, many studies (H.M. Sohn 1973, Patterson 1974, J.J. Song 1988, S.C. Song 1988, O'Grady 1991 among others) have noticed that the NOM-DAT-(ACC) pattern is semantically closer and syntactically stronger than the NOM-NOM-(ACC) pattern.[137] Also the analysis of Core Cosubordination as the linkage in the NOM-DAT-(ACC) pattern explain the reason why this pattern expresses a greater degree of causation than the NOM-NOM-(ACC) pattern, a weaker syntactic relation, i.e. core subordination, as J.J. Song (1988) argues[138].

In section 4.3.2., I investigated Korean core junctures and found that there are three nexus relations among the core junctures in Korean. I proposed that the NOM-DAT-(ACC) phrasal causatives with the permissive jussive reading is core coordination.

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[136]In section 4.3.3.3., I will investigate direct causality as a case of a Nuclear Cosubordination in Korean.

[137]J.J. Song (1988) argues against RRG's IRH because of a discrepancy between syntactic and semantic relations in the NOM-NOM-(ACC) and the NOM-ACC-(ACC) phrasal causatives. However, J.J. Song (1988) does not examine true causative structures, but rather he examines the purposive/permissive NOM-NOM-(ACC) and jussive NOM-DAT-(ACC). If we consider purposive NOM-NOM-(ACC) and the directive causality of NOM-DAT-(ACC), which is a closer semantic relation than the purposive, however, his argument should be reconsidered. Refer to section 4.4 for the Korean IRH in detail.

[138]J.J. Song (1988) introduces his pilot study, showing that 87.5 % of his interviewees claim that the NOM-DAT-(ACC) is implicative for causation, but only 50 % indicate the NOM-NOM-(ACC) is implicative.

Likewise *ko*-verb serialization expressing overlapping simultaneous action is core coordination. The NOM-NOM-(ACC) phrasal causative construction expressing purposive meaning, is core subordination. The *e-/ a-* verb serializations with manner-action reading and the directive causation reading of the NOM-DAT-(ACC) causative pattern are examples of core cosubordination. These syntactic and semantic relations follow fully RRG's IRH.

4.3.3. Nuclear Juncture

In a Nuclear Juncture, two or more nuclei are linked to form a single, complex nucleus which takes a single set of core arguments. In a Nuclear Juncture, actor and undergoer can be contributed by different verbs, in contrast to the compound verbs. The verbs occur adjacent to each other because of their strong syntactic bondedness. There are several clear examples of Nuclear Juncture in English, French, Barai, Jacaltec (Van Valin 1993a:108-109), the Mandarin Chinese (Hansell 1993), and the Japanese *te*-construction (Hasegawa 1992). Nuclear Coordination, which involves two nuclei with independent aspectual or directional marking, is found in Alamblak and Barai (Foley and Van Valin 1984: 248). The most common type of nexus at the nuclear level is cosubordination, in which nuclei share aspectual or directional inflection (ibid.: 262). It can be found in French, Jacaltec (Van Valin 1993), Mandarin (Hansell 1993), and Japanese (Hasegawa 1992). Hasegawa (1992) shows that Nuclear Subordination can be used to express aspect in Japanese.

In this section, I will investigate nuclear-layer complex verb constructions in Korean: the activity psych-verb constructions, aspectual and directional constructions, and NOM-ACC-(ACC) phrasal causative constructions in particular. I will examine the nexus type of these nuclear-level junctures, and investigate whether their syntactic and semantic relations follow RRG's IRH. In Korean, it is very hard to find nuclear operators expressed with inflectional morphemes (cf. section 3.2). Many aspectual distinctions are expressed through Nuclear Juncture instead of through verbal inflectional morphology (section 4.3.3.1). In Korean, there is a pre-verbal negative marker *an-*, which is a nuclear operator (section 3.2.4). To see dependency in Nuclear Junctures, I will use the complex aspect and pre-verbal negation *an-*.

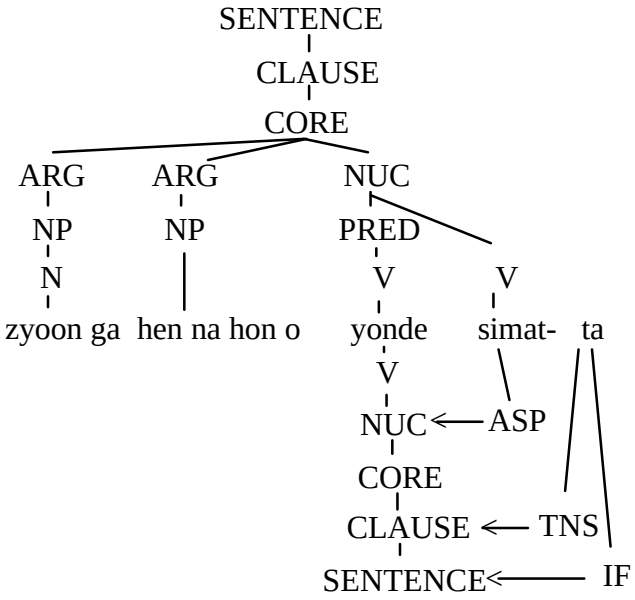
4.3.3.1. Nuclear Subordination

Nuclear subordination is very rare but possible theoretically if a nucleus modifies another nucleus. Hasegawa (1992) argues that the subordinate predicates function as ASPECT operators in the Japanese *TE*-construction and are examples of nuclear subordination even though the subordinate predicates are not operators morphologically. She proposes the following dual functions of the subordinate predicate in Japanese Nuclear Subordination: as non-predicating verb in the constituent projection and aspect operator in operator projection.

(4.99) Japanese Nuclear Subordination

a. zyoon ga hen na hon o yonde simatta
NOM obscene book ACC read-TE put-PST
"Joan has read an obscene book." (Hasegawa 1992: 73)

b. LSC and Operator Projection of Nuclear Subordination (ibid.: 74; Figure 1)



In the above structure, the second subordinate nucleus *simaw*- 'put' modifies some property of the first nucleus *yonde* 'read' indicating completion. This is parallel to adverbial subordination on the clause level in which the subordinate clause modifies the matrix clause in various ways. There is no predicate-node dominating the subordinate nucleus -*simaw* since it is not predicative of any core argument. It simply modifies the matrix nuclei (Hasegawa 1992: 73). The subordinate nuclei itself can not be considered a nuclear operator just as adverbials of time in nonfinite clauses cannot be considered clausal operators of tense. Although they are not morphologically represented operators, the subordinate nuclei function as an operator. This dual characterization of morphological non-predicate and functional aspect can be captured in RRG with two different projections: constituent projection and operator projection, as shown in (4.99b) (Hasegawa 1992: 74).

In section 3.2.3, I suggested that aspect and directionals are expressed though Nuclear Juncture in Korean, instead of morphologically expressed verb inflections. Korean uses complex verb constructions to express aspectual meaning just as Japanese does. This can be illustrated in (4.100) -(4.103).

(4.100) a. Chelswu-ka achim-lul mek-ess-ta
-NOM breakfast-ACC eat-PST-DEC
"Chulsoo ate breakfast."

b. Chelswu-ka achim-lul mek-ko-iss-ess-ta : Continuous
-NOM breakfast-ACC eat-CONN-be(CONT)-PST-DEC
"Chulsoo was eating breakfast."

(4.101) a. Chelswu-nun hakkyo-ey (*imi) wa-ss-ta
-TOP school-at (*already) come-PST-DEC
"Chulsoo came to school."

b. Chelswu-nun hakkyo-ey imi wa-a-iss-ess-ta : Perfective
-TOP school-at already come-CONN-be-PST-DEC
"Chulsoo has been to school already."

(4.102) a. cwi-ka ssal han-mal-lul (?ta) mek-ess-ta
mouse-NOM rice one-CL-ACC all eat-PST-DEC
"The mice ate one pack of rice."

b. cwi-ka ssal han-mal-lul ta mek-e-peli-ess-ta : Completion
mouse-NOM rice one-CL-ACC all eat-CONN-throw.away-PST-DEC
"The mice finished eating one pack of rice." (B.S. Park 1974: 61)

(4.103) a. wuli-ka ku swul-lul masi-keyss-ta
we-NOM the liquor -ACC drink-MOD-DEC
"We will drink the liquor."

b. wuli-ka ku swul-lul masi-e- po-keyss-ta : Try
we-NOM the liquor-ACC drink-CONN-try-MOD-DEC
"We will try to drink the liquor first." (B.S. Park 1974: 61)

In the above complex constructions (i.e. (a)-examples), the first matrix nucleus and the second subordinate nucleus are connected with a connective-*ko* or *-e/-a*: main verbs+ *ko/-e* + auxiliary verbs. Adding the second nucleus to the (a)-examples does not change the number of core arguments. The two linked nuclei form single units, and work as single nucleus, indicating that the second nucleus has no predicate function[139] and hence showing

[139]Some second nucleus such as *iss-ta* 'to be or exist', *peli-ta* 'throw' and *po-ta* 'to see, to watch, to read' are also used as main verbs themselves as in (i):

(i) a. na-nun cip-ey iss-ta
I-TOP house-LOC be-DEC
"I am at home."

b. Chelswu-nun ssuleyki-lul peli-ess-ta
-TOP trashbag-ACC throw-PST-DEC

their subordinate relation to the first nucleus. In these constructions, the second nucleus simply enhances the meaning of the first nucleus. Because of the non-main predicate function of the second nucleus, many previous studies (H.B. Lee 1989, H.B. Choi 1929, C. Kang 1990, among others) refer to it as 'a helping verb', or 'auxiliary verb'. However, it should be considered as a complex verb predicate (J.I. Kown 1985, B.S. Park 1972, 1974). The second nucleus has no predicate function, but just modifies the meaning of the first nucleus with such meanings as continuous, perfective, completion, and try. That is, to express the aspect of the main verb in Korean, this juncture type is used. As shown in (4.101a), some temporal/ aspectual adverbs such as *imi* 'already' are impossible without the aspectual nuclei, while they are possible with Nuclear Subordination. The possible second nuclei representing aspect are listed in (4.104).

(4.104) Auxiliary Verbs in Korean (from H.B. Lee 1989: 46)[140]

a. Processive Auxiliary Verbs

-po-	'to try [doing]'	-cwu-	'to do something as a favor"
-tay-	repetition	-ssah-	repetition, continuation
-peli-	'do completely or thoroughly		
-ka-	progression [toward a goal] from present to future or away from the speaker; near-completion		
-o-	progression [toward a goal] from PST to present or toward the speaker		
-noh-	completion, retention		
-na-	progression, completion (intransitive)		
-nay-	progression, completion (transitive)		
-twu-	retention, preservation		

"Chulsoo dumped the trashbag."

c. na-nun sacin-lul po-ass-ta.
I-TOP picture-ACC see-PST-DEC
"I saw the picture."

If the second nucleus works as a main verb, however, the juncture types will be different from this non-predicate situation as I will study right after this.

[140]Actually H.B. Lee (1989) proposes a list of the twenty one most common auxiliary verbs under three different headings: processive auxiliary verbs, descriptive auxiliary verbs, and both processive and descriptive verbs. I do not include the processive and descriptive verbs, *-aniha*, *-mosha*, and *-mal*, which means negation, into auxiliary verbs (4.104) since it can be handled with negation operator (cf. section 3.2.4 for the operator approach).

b. Descriptive Auxiliary Verbs

-iss- retention; progressive
-sip- ‘to want to, to wish to’

It should be noted that (4.104) includes some auxiliary verbs such as *o-ta* ‘come’ and *ka-ta* ‘go’, which represent directionals such as ‘toward’ and/ or ‘away from the speaker’. As I mentioned in section 3.2.3, directionals can be expressed with this Nuclear Subordination, consisting of verb and *o-ta* ‘come’ or *ka-ta* ‘go’, as illustrated in (4.105).

(4.105) a. Say-ka nal-a-ka-n-ta[141]
bird-NOM fly-CONN-go-PRES-DEC
“The bird flies away (from me).” (B.S. Park 1974: 61)

b. kay-ka ttwi-e-o-n-ta
dog-NOM run-CONN-come-DEC
“The dog runs (toward me).” (ibid.: 61)

As the English interpretation suggests, (4.105a) describes a situation in which a bird is flying away from the speaker, while (4.105b) describes a situation in which a dog is running toward the speaker. The embeddedness of the second nucleus in the first nucleus

[141]Also, *ka-ta* ‘go’ and *o-ta* ‘come’ can be a main verb having its own argument.

can be illustrated with no valence change in the complex constructions[142], as shown in (4.106).

(4.106) a. *Say-ka pihayngki-ka nal-a-ka-n-ta
bird-NOM airplane-NOM fly-CONN-go-PRES-DEC
"The bird flies and the airplane goes away." (ibid.: 63)

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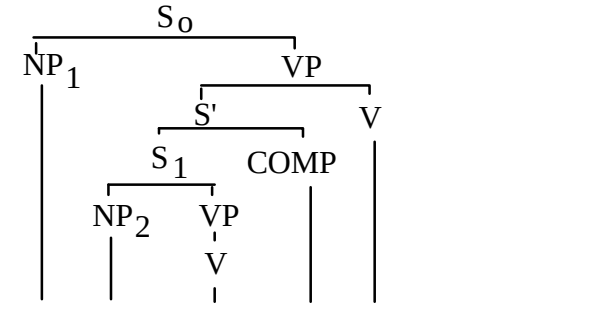
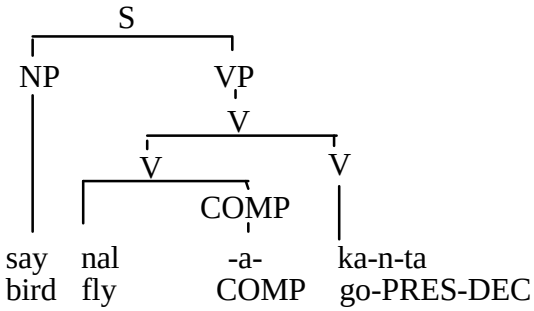
[142]As a transformational grammarian, B.S. Park (1974) accounts for this ungrammatical sentence with the violation of Subject Identity Condition in deep structure, proposing biclausal deep structure (ia) and mono-clausal surface structure (ib) derived from (ia) through Equi-NP Deletion and Verb Raising.

(i) a. Deep Structure



b. Surface Structure



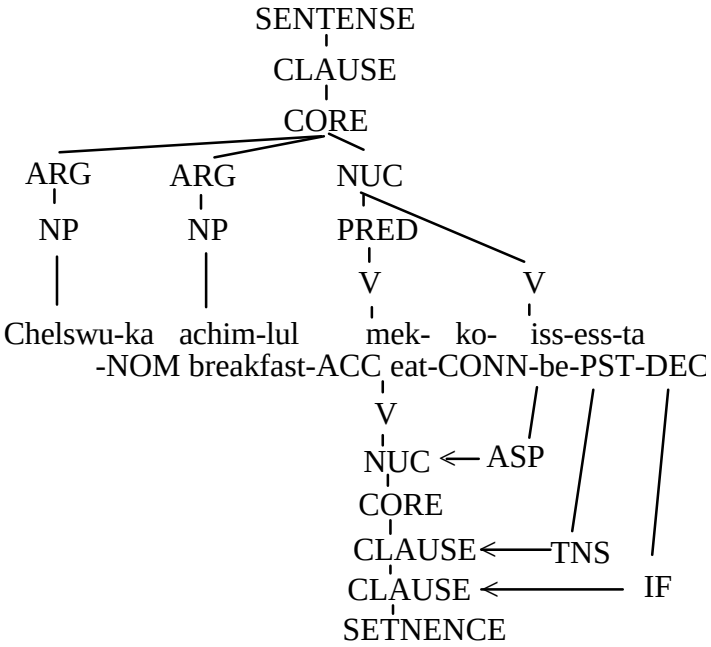
In RRG, which posits one level of syntactic representation, we need not worry about the same or different subject in deep structure. Instead of positing some constraint such as the Subject Identity Condition, or Equi-NP Deletion, the ungrammaticality of these complex sentences can be explained using the lack of predicate function in the the second nucleus as an embedded nucleus in Nuclear Subordination.

b. *kay-ka ai-ka ttwi-e-o-n-ta
dog-NOM child-NOM run-CONN-come-DEC
"*The dog runs and the child comes." (ibid.: 63)

(4.106) shows that the second nucleus does not has its own predicate function because it does not affect argument selection. It just modifies the first nucleus as a directional operator.

The non-predicate verb function and aspectual/directional operator function of the second nucleus can be expressed in Nuclear Subordination with constituent and operator projections, as in (4.107), similar to the projections suggested for Japanese in Hasegawa (1992).

(4.107) Korean Nuclear Subordination (cf. 4.101b)



This juncture type approach for analyzing Korean aspects and directionals has several advantages for explaining verb complex constructions. First, it shows why Korean aspect and directional constructions contain a connective (i.e. *-ko*, *-e*) plus nucleus, whereas other operators (i.e. modality, tense, etc.) are expressed through inflectional morpheme. In (4.107), the two nuclei are treated as a complex verb, and the connective is needed to connect the two nuclei in an aspectual/ directional predicate clauses. Moreover, by treating *-ko* and *-a/-e* as connective , rather than simple phonetic fillers (cf. J.J. Song 1988; K. Park 1993b), one can suggest a general regularity for all complex constructions: at all levels – clause, core and nuclear, the two (or more) juncts can be connected with the connectives [143]. Third, auxiliary verbs (i.e. helping verbs) can be expressed by analyzing them as clausal constituents without their own predicate function. Fourth, the

[143]B.S. Park (1974) treats the morpheme *-e/-a* as a verb complementizer.

aspect/directional function of the second nucleus is represented at the operator projection. Without the operator projection, we need to mark the function of the subordinate nuclei in the lexicon with ad hoc features V[+aspect]/ V[+directional] (Van Valin p.c.). In (4.107) we do not need to worry about feature marking of aspect and directional in the lexicon since it is represented in the operator projection. Fifth, the above mentioned subordinate nuclei can work as regular predicate verbs (i.e. main verbs) with their own core arguments as in (4.108).

(4.108) a. Chelswu-ka achim-lul mek-ko (cip-ey) iss-ess-ta
-NOM breakfast-ACC eat-CONN (home-at) be-PST-DEC
"Chulsoo ate breakfast and then stayed (at home). "

b. Chelswu-nun hakkyo-ey wa-(s)e (kyosil-ey) iss-ess-ta
-TOP school-at come-CONN (classroom-at) be-PST-DEC
"Chulsoo came at school and stayed (in the classroom)."

c. cwi-ka ssal han-mal-lul ta mek-ko (pongtwu-lul) peli-ess-ta
mouse-NOM rice one-CL-ACC all eat-CONN (bag-ACC) throw.away-PST-DEC
"The mice ate all of one pack of rice and throw the (rice) bag away."

d. wuli-ka ku swul-lul masi-ko (yengwha-lul) po-keyss-ta
we-NOM the liquor-ACC drink-CONN (movie-ACC) see-MOD-DEC
"We will drink the liquor and (then) see the movie."

(4.109) a. Say-ka nal-a (namccok-ulo) ka-n-ta
bird-NOM fly-CONN (south- to) go-PRES-DEC
"The bird flies and goes south."

b. kay-ka ttwi-e (cip-ulo) o-n-ta
dog-NOM run-CONN (house-to) come-DEC
"The dog runs and comes to the house."

In contrast to nuclear subordination (cf.(4.100b)-(4.103b) and (4.105)), the second nucleus gets its own argument in (4.108) and (4.109), i.e. they are Core Juncture, even though the morphological form of these two constructions is basically identical. The arguments preceding the first nucleus (e.g. *achim* 'breakfast' in (4.108a), *hakkyo* 'school' in (4.108b), *ssal* 'rice' in (4.108c), and *swul* 'liquor' in (108d)) are those for the first nucleus. The optional arguments in parentheses are those for the second nuclei. The complex sentences in (4.108) and (4.109) do not retain the aspectual or directional meanings founded in (4.100b)- (4.103b). Because the subject argument is shared by the two nuclei and the second nucleus has predicate function in having their own arguments, (4.108) and (4.109) should be analyzed as core junctures. The position of the argument of the second nuclei in (4.108) and (4.109) should also be noted. In the Core Junctures (e.g. (4.108) and (4.109)), the argument of the second nucleus can occur between the first and second nuclei, separating the two nuclei. However, in Nuclear Junctures (e.g. (4.100b)-

(4.103b)), the verbs occur adjacent to each other, forming a single, complex predicate[144]. Thus, RRG's clause linkage types can explain the dual function of verbs like *iss-ta* 'be', *po-ta* 'see' *peli-ta* 'throw away', *o-ta* 'come' and *ka-ta* 'go', which can work as either main predicates (in Core Juncture) or auxiliaries (in Nuclear Juncture). Sixth, in Korean Nuclear Subordination, nothing can intervene between the two nuclei except the connective *-ko* or *-e/-a*. This shows that the strong syntactic bond of Nuclear Subordination expressing aspectual and directional semantic relations, two of the closest semantic relations.

4.3.3.2. Nuclear Coordination

In Nuclear Coordination, two predicates, each with its own inherent argument structure, are linked together to form a single nucleus. Although complex, such a nucleus can only have a single set of core arguments (Hasegawa 1992: 92), but the two nuclei have independent aspectual or directional marking. Nuclear Coordination is rare, but it can be found in two unrelated languages of Papua New Guinea, Alamblak (Bruce 1979) and Barai (Olson 1981) (Foley and Van Valin 1984: 248), as well as in English.

(4.110) a. John painted the table red. (Van Valin 1993a: 108)

b. Fu vazai ufu furi numu akoe.
3sg grass cut finish pile throw.away
"He finished cutting, piled, and threw away the grass."
(Barai: Foley and Van Valin 1984:248)

c. Wa-yarim-ak-n-m-ko
IMP-DIR-get-go-2sgA-3plU-DIR
"Get them toward me and go up [there]." (Alamblak: ibid.: 248)

Foley and Van Valin (1984: 248- 249) proposes the Barai and Alamblak examples as nuclear coordination because the individual nuclei receive individual aspectual inflection (i.e. Barai) or directional modification (i.e. Alamblak). In the Barai example (4.108b), the aspectual operator *furi* 'finish' modifies only *ufu* 'cut'. In the Alamblak example (4.108c), each of the directionals *-yarim-* 'toward speaker' and *-ko* 'up from speaker' modifies a different verb; *-yarim-* for *-ak-* 'get' and *-ko* for *-ni-* 'go'.

Hasegawa (1992) distinguishes two types of Japanese TE AR -constructions by whether they are valence-maintaining or valence-changing.

(4.111) a. Valence-Maintaining TE-AR Construction
(zyoon ga) soto ni kuruma o tomete ar-u.
NOM outside LOC car ACC stop-TE be-NPST
"(Joan) has parked the car outside." (Hasegawa 1992: 89)

---

[144]Similar phenomena are observed in French and Jacaltec Core Juncture vs. Nuclear Juncture by Van Valin (1993a: 108).

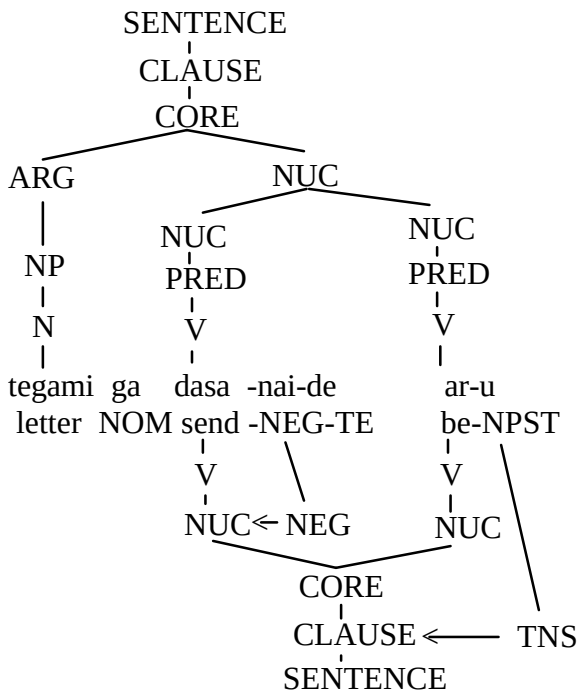
b. Valence-Changing TE-AR Construction
(*zyoon ga) soto ni kuruma ga tomete ar-u
NOM outside LOC car NOM tomete be NPST
"There is a car parked outside." (ibid.: 90)

She proposes that the valence-maintaining TE-AR construction (4.111a) is Nuclear Subordination since the second nucleus *ar-* 'be' makes no contribution to the argument structure. The valence-changing construction (4.111b) is Nuclear Coordination since *ar-* alters the valence. Further evidence comes from the fact that the nuclear negative operator *nai-de* [145] can have scope over only the first nucleus as follows:

(4.112) Valence-Changing TE-AR- Construction
tegami ga dasa-nai-de ar-u.
letter NOM send-NEG-TE be-NPST
"There is a letter which hasn't been sent out." (ibid.: 91)

Thus, Hasegawa (1992) proposes the following LSC and operator projection for Nuclear Coordination in Japanese.

(4.113) Japanese Nuclear Coordination (ibid.: 92, Figure 4))



[145]Hasegawa (1992) mentions that there are nuclear level negative operator *nai-de* and core level operator *naku-te* in Japanese. The TE-predicate can be negated by *nai-de*, but not by *naku-ta*. In this sense, TE-predicate complex construction is a nuclear level juncture.

Compared with Nuclear Subordination (cf.(4.99b)), Nuclear Coordination has two (or more) separate nuclei which can function as a single nucleus in the constituent projection and each nucleus can get its own nuclear operator.

In section 2.2.2.6, I proposed that Korean activity psych-verb constructions (4.115) are derived from the stative psych-verb constructions (4.114) as follows:

(4.114) Stative Psych-verb Constructions (2.85)

a. Swunhi-eykey/ka emeni-ka kuliwe-ss-ta
-DAT/NOM mother-NOM miss-PST-DEC
"Soonhi missed mother."

LS: **miss**´ (Soonhi, mother)[+MR]
Soonhi = experiencer, mother = theme

b. Na-eykey/ka kay-ka mwusep-ta
I-DAT/NOM dog-NOM be.afraid-DEC
"I am afraid of the dog."

LS: **be-afraid**´ (I, the dog) [+MR]
I=experiencer, the dog =theme

(4.115) Activity Psych-verb Constructions (2.84)

a. Swunhi-ka emeni-lul kuliwe-e-hay-ss-ta.[146]
-NOM mother-ACC miss-CONN-do-PST-DEC
"Soonhi missed mother."

LS: (**do**´ (Soonhi, [**miss**´ (Soonhi, mother)])
Soonhi = effector+experiencer, mother = theme

b. Nay-ka kay-lul mwusewe-e-ha-n-ta
I-NOM dog-ACC be.afraid-CONN-do-PRES-DEC
"I fear the dog."

LS: (**do**´ (I, [**be-afraid**´ (I, the dog)])
I=effector+experiencer, the dog =theme

As I proposed in section 2.3.3.3, the LS of stative psych-verb constructions is represented with [+MR] (i.e. 4.114), which represents an intransitive construction (i.e. unaccusative; cf. C. Youn 1989, O'Grady 1991, Y.J. Kim 1990, B.S. Yang 1991). Activity psych-verb constructions are transitive, whose complex verbs are construed with state psych verbs

[146]From this point on, I will break activity psych-verbs down into a two verb form consisting of stative psych-verb - *e* 'connective' - *hata* 'do' to show the verb complex.

plus *e-hata* 'do'[147]. In other words, activity psych-verbs are complex predicates, but stative psych-verbs are not. As in Japanese Nuclear Coordination, the valence is changed in activity psych-verb constructions. That is, the number of macroroles is increased from one to two in activity psych-verb constructions. The valence of the first nucleus is changed by adding the second nucleus. Thus, the activity psych-verb constructions can have an undergoer argument, but the stative psych-verb constructions cannot. In the logical structure for activity psych-verbs shown in (4.115), NOM marked arguments (i.e. *Swunhi* in (4.115a) and *na* 'I' in (4.115b)) are assigned with two different thematic roles: effector for the second nucleus *-hata* 'do' and experiencer for the first nucleus (i.e. *kulip-* 'miss' in (4.115a) and *mwusep-* 'be afraid' in (4.115b)). Even though each predicate have their own inherent arguments, the two are linked together and function as a single nucleus. Thus, the two separate thematic roles (i.e. effector and experiencer) are shown with one argument (i.e. actor) in the syntactic representation[148]. This is a characteristic of Nuclear Coordination and Cosubordination which I mentioned in the beginning of this section.

Nexus is determined from the dependency of relevant operators. The nexus type of the activity psych-verb constructions is Coordination rather than Cosubordination because it is possible to negate each nucleus, using the pre-verbal negative marker *an-* [149], a nuclear operator (cf. section 3.2.4). Examples are given below:

(4.116) a. Swunhi-ka emeni-lul (an)-kuliwe-e-(an)-ha-lswu.iss-ess-ta.
-NOM mother-ACC (NEG)-miss-CONN-(NEG)-do-ABLE-PST-DEC
"Soonhi could not miss mother"

b. Nay-ka kay-lul (an)-mwusewe-e-(an)-ha-n-ta
I-NOM dog-ACC (NEG)-be.afraid-CONN-(NEG)-do-PRES-DEC
"I do not fear the dog."

In (4.116), each nucleus can be negated with the pre-verbal *an-*, which shows the independence of each nucleus for nuclear operators. The meaning is a little bit different according to the position of *an-*. If the negation precedes the first nucleus in (4.116b), for example, it most likely means that I preformed an action such as hugging, petting, or kissing the dog since I do not fear the dog; in this case, the scope of negation is over the

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[147]In the sense that *-hata* 'do' can get its own argument and affects the valence increase in the activity psych-verb constructions, this *-hata* verb should be distinguished from the so-called light verb *-hata* (cf. Grimshaw and Mester 1988 for Japanese light verb *-suru* 'do') which can be attached directly to a Sino-Korean nominal and does not assign any theta-role.

[148]Cf. section 2.3.2.3. regarding representation of the two thematic roles with one argument in syntactic representation in RRG.

[149]It is not good way to use aspect, which is another possible nuclear operator in Korean with two points: (i) As I mentioned in section 2.2, stative psych-verbs are inherent states. Thus, it cannot take aspect morpheme such as continuous, perfective, etc. (ii) Aspect is construed with nuclear subordination as shown in previous section.

first nucleus. If the negation occurs between the two nuclei, it more likely means that I do not express fear of the dog, such as crying, running away, or being scared, even though I feared the dog. In this case, the scope of negation is over the second nucleus. If the negation occurs in both positions, as in (4.117), the sentence is affirmative according to the logic: negation + negation = affirmative.

(4.117) a. Swunhi-ka emeni-lul an- kuliwe-e- an- hay-ss-ta.
-NOM mother-ACC NEG-miss-CONN-NEG-do-PST-DEC
"Soonhi did miss mother."

b. Nay-ka kay-lul an- mwusewe-e-an- ha-n-ta
I-NOM dog-ACC NEG-fear-CONN-NEG-do-PRES-DEC
"I do fear the dog."

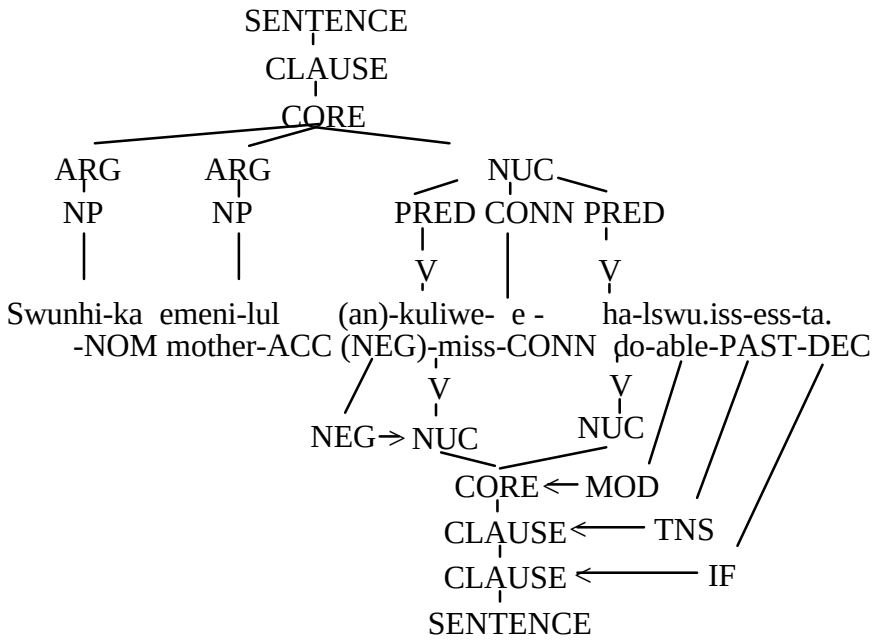
Modality can occur after the second nucleus, but not between the nuclei (cf. (4.116a)). Also, the post-verbal negative *ci-anh* , which is a core operator, can not intervene between two nuclei but should occur after the second nucleus as shown in (4.118).

(4.118) a. Swunhi-ka emeni-lul kuliwe-(*lswu.iss-ci.ahn)-e-ha-lswu-iss-ci.ahn-ss-ta.
-NOM mother-ACC miss-(*ABLE-NEG)-CONN-do-ABLE-NEG-PST-DEC
"Soonhi could not miss mother."

b. Nay-ka kay-lul mwusewe-(*lswu.iss-ci.anh)-e-ha- ci.anh-nun-ta
I-NOM dog-ACC be.afraid-(*able-NEG)-CONN-do-(NEG)-PRES-DEC
"I do not fear the dog."

That is, only pre-verbal negation can intervene between the nuclei in activity psych-verb constructions, which shows that activity psych-verb constructions involve nuclear juncture. The Korean activity psych-verb construction, a case of Nuclear Coordination, can be schematized with the following constituent and operator projections.

(4.119) Korean Nuclear Coordination (cf. 4.116a)



(4.119) differs from Nuclear Subordination in that each verb is a separate predicate. That is, neither verb is embedded in the other. It is different from Core Juncture, in which only one core argument should be shared by both junctures. Both core arguments are shared by the nuclei in (4.119). As B-S. Park (1974: 48) and others note, the activity psych-verb construction involves a certain action or activity while no such action or activity is involved in the stative psych-verb construction. That is, the semantic relation of activity psych-verbs is psycholigical-action, a close semantic relation. This psych-action is represented through Nuclear Coordination, a strong syntactic relation. This syntactic and semantic relationship is natural according to the IRH.

4.3.3.3. Nuclear Cosubordination

The last and the most common type of nexus at the nuclear level is cosubordination. In Nuclear Cosubordination, complex nuclei share an aspectual or directional operator. The difference between coordination and cosubordination is the dependency with nuclear operators. The strongest syntactic relation among the nine possible juncture-nexus types is Nuclear Cosubordination. It conveys the closest semantic relations, causatives. The examples that have nuclear cosubordination distinct from nuclear coordination can be found in Alamblak (cf. Foley and Van Valin 1984; also Barai (Papua New Guinea language) and Fijian).

(4.120) a. Nuclear Coordination
Wa-yarim-ak-n-m-ko
IMP-DIR-get-go-2sgA-3plU-DIR
"Get them toward me and go up [there]."
(Alamblak: Foley and Van Valin 1984: 248)

b. Nuclear Cosubordination
Wa-rim-ak-ni-n-m.
IMP-DIR-get-go-2sgA-3plU
"Get them and go away from me !"
(Alamblak: ibid.: 262)

In Alamblak Nuclear Cosubordination (4.120b), a single directional affix, -*rim*- 'away from speaker', modifies both nuclei -*ak*- 'get' and -*ni*- 'go', while in Nuclear Coordination (4.120a), different directionals modify the two nuclei (Foley and Van Valin 1984: 263). Jacobsen (1993: 248-252) shows that Nootka verb serialization is another example of Nuclear Cosubordination.

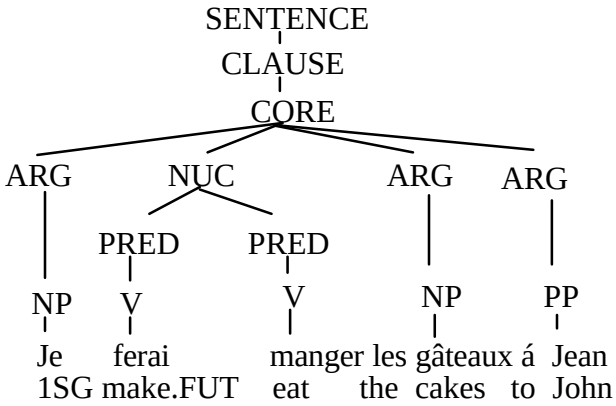
Clear cases of Nuclear Cosubordination which express causation can be found in French and Jacaltec (cf. Van Valin 1993a: 108).

(4.121) a. French (Van Valin 1993a: 104b)
Je ferai manger les gâteaux á Jean
1SG make.FUT eat the cakes to John
" I will make John eat the cakes."

b. Jacaltec (ibid.: 104e)
X-in-y-a' mak-a' naj t-aw-et.
PST-1SG.ABS-3ERG-cause hit-INF 3SG AUG-2SG.ERG-to
"He made you hit me."

In both French and Jacaltec Nuclear Cosubordination, "the actor and undergoer are contributed by different verbs, and the agent of the dependent verb, the causee, is coded as "the indirect object" of the complex nucleus (Van Valin 1993a: 108)." Note also both are examples of causatives, the closest semantic relations. In addition, in French the undergoer shifts position. In Nuclear Cosubordination the verbs are adjacent and the undergoer appears immediately after the whole nucleus, while in the core junctures, the argument which is the undergoer of the first verb and the actor of the second occurs between them. Thus Van Valin (1993a: 109) proposes the following constituent projection for French Nuclear Cosubordination.

(4.122) French Nuclear Cosubordination



In section 4.3.2.3., I argued that NOM-ACC-(ACC) causative constructions such as (4.123) are Nuclear Junctures, while the NOM-DAT-(ACC) pattern of directive causality is Core Cosubordination in Korean.

(4.123) a. Swunhi-ka Chelswu-lul wul-key ha-yess-ta
-NOM -ACC cry-CAU do-PST-DEC
"Soonhi caused (or made) Chulsoo cry."

b. haksayngtul-i sensayngnim-lul (hakkyo-lul) ttena-key ha-yess-ta
students-NOM teacher (HON)-ACC (school-ACC) leave-CAU do-PST-DEC
"Students caused (or made) the teacher leave (the school)."

Similar phenomena have been observed in Mandarin Chinese causatives (cf. section 4.3.2.3 and Hansell (1993: 228-229)). He shows that direct causality is expressed with Nuclear Cosubordination and is distinct from directive causality (cf. Shibatani 1974) expressing a jussive meaning, which involves core juncture. He cites the following Chinese examples for the two types of causation.

(4.124) a. Wço jiào t a lài. (Pivot)
I tell him come
"I tell him to come." (ibid.: (56a))

b. *Wço jiào lài t a. (Complement of Result)
I tell come him (ibid.: (56b))

(4.125) a. Nóngmín dça sç‹ láng. (Complement of Result)
peasant hit die wolf
"The peasant beats the wolf to death." (ibid.: (57a))

b. *Nóngmín dça láng sç‹.
peasant hit wolf die (ibid.: (57b))

He analyzes the pivot construction (4.124), which is used to express directive causality, as a Core Juncture, while he analyzes the Complement of Result (4.125), which is used to express direct causality, as a Nuclear Juncture (cosubordination). The clause linkage distinction is validated by the different positions of the arguments. In Nuclear Juncture, *láng* 'wolf' cannot intervene between the nuclei. In contrast *t a* 'him' can intervene in core juncture.

As I mentioned in section 4.3.2.3, similar phenomena can be observed in Korean causative constructions. In Core Juncture NOM-DAT-(ACC) directive causality constructions, the DAT-marked NP can intervene between the first and second nuclei, but in Nuclear Juncture NOM-ACC-(ACC) direct causality construction, the ACC-marked NP can not occur between the two nuclei.

The Korean NOM-ACC-(ACC) causative pattern behaves like French and Jacaltec Nuclear Juncture in that two (or more) predicates combine to form a single, complex nucleus with a single set of core arguments. In the NOM-ACC-(ACC) pattern, the actor and undergoer are contributed by different verbs, and the agent of the dependent verb, the causee, is coded as the direct object (i.e. patient; undergoer) of the complex nucleus. The undergoerhood of the ACC marked argument has been well investigated by O'Grady (1991) and Gerdts (1986, 1990), who also provide evidence that the optional ACC-marked NP is not an undergoer[150]. This is further evidence that NOM-ACC-(ACC) is Nuclear Juncture.

We now consider the nexus type of direct causality of the NOM-ACC-(ACC) causative pattern. It cannot be subordination because it changes valence.

(4.126) a. Chelswu-ka wul-ess-ta
-NOM cry-PST-DEC
"Chulsoo cried."

b. Swunhi-ka Chelswu-lul wul-key ha-yess-ta (4.123a)
-NOM -ACC cry-CAU do-PST-DEC
"Soonhi made Chulsoo cry."

(4.127) a. sensayngnim-i (hakkyo-lul) ttena-ss-ta
teacher (HON)-NOM (school-ACC) leave-PST-DEC
"The teacher(HON) left (HON) (the school)."

b. haksayngtul-i sensayngnim-lul (hakkyo-lul) ttena-key ha-yess-ta (4.123b)
students-NOM teacher (HON)-ACC (school-ACC) leave-CAU do-PST-DEC
"Students made the teacher(HON) leave (the school)."

As shown in (4.126a) and (4.127a) examples, *wul-ta* 'cry' is an intransitive and *ttena-ta* 'leave' is either intransitive or transitive like English *leave*. However, in direct causative constructions (i.e. (4.126b) and (4.127b)), the number of arguments is increased. This

[150]The fact that the ACC-marked NP is an undergoer is demonstrated with passivization (cf. O'Grady 1991:191-193). In RRG, the optional ACC marked NP is a theme or a locative, but it can not get a macrorole according to Actor-Undergoer Hierarchy.

shows that the nexus type is either coordination or cosubordination since each nucleus retains its predicate function and neither one is embedded in the other. In other words, we cannot analyze the direct causative construction as subordination.

In order to determine the nexus type in Nuclear Juncture, the distribution of nuclear operators such as aspect should be examined.

(4.128) a. Swunhi-ka Chelswu-lul wul-key ha-ko.iss-ess-ta
-NOM -ACC cry-CAU do-CONT-PST-DEC
"Soonhi was making Chulsoo cry."

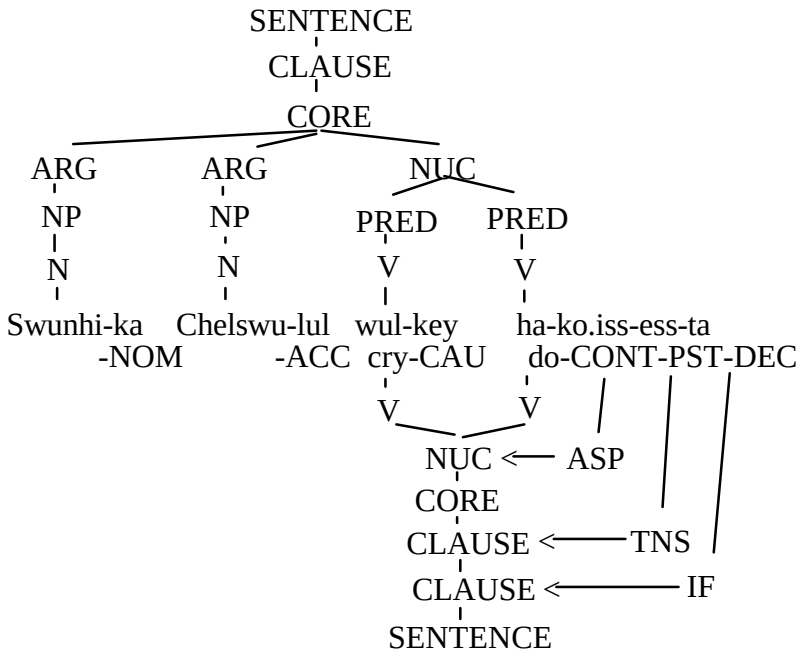
b. haksayngtul-i sensayngnim-lul ttena-key ha-ko.iss-ess-ta
students-NOM teacher (HON)-ACC leave-CAU do-CONT-PST-DEC
"Students are making the teacher leave (the school)."

(4.128a) implies both that Chulsoo is crying and that Soonhi is causing him to do it. That is, the continuous aspect *-ko.iss-* has scope over the whole complex nuclei. Also, the continuous aspect has scope over the whole complex nuclei in (4.128b). These examples show that the first verb is dependent on the second nucleus for the verb operator, a characteristic of cosubordination.[151]

The Nuclear Cosubordination of the NOM-ACC-(ACC) direct causality constructions is illustrated in the following:

[151]It is very hard to apply pre-verbal negation *an-* here since something intervene between the nuclei, the complex sentence loses its direct causativity and behaves as indirective causativity, as we shown above.

(4.129) Nuclear Cosubordination of Direct Causality Construction in Korean (4.128a)



In this section, I have proposed that the NOM-ACC-(ACC) causative constructions are Nuclear Cosubordination. This nexus juncture provides the tightest syntactic linkage and fits the expression of the semantic relation of direct causativity, the closest semantic relation[152].

In section 4.3.3., I have investigated Korean nuclear junctures and have showed that three nexus types are possible in nuclear juncture: nuclear subordination, which is used for verb+*e/-ko*+ auxiliary construction, expresses aspectual and directional relation; nuclear coordination, which is used for the activity pysch-verb constructions, expresses psych-action relation; and nuclear cosubordination, which is used for the NOM-ACC-(ACC) phrasal causatives, expresses direct causatives.

4.4. Clause Linkage and IRH in Korean

In section 4.3. I have investigated nine possible nexus-juncture types and their semantic relations in Korean. These can be summarized as follows:

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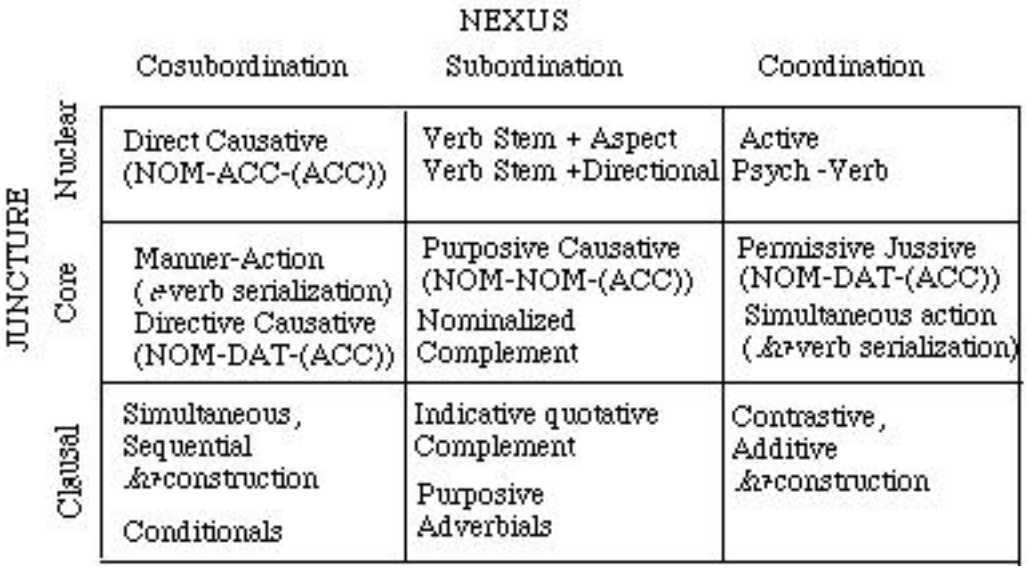
[152]J.J. Song (1988) proposes the following adversity constructions as another Nuclear Cosubordination.

(i) emeni-ka atul-eykey cacangka-lul pwule-cwu-ess-ta
mother-NOM son-DAT lullaby-ACC sing- give-PST-DEC
"The mother sang a lullaby for the son."

(4.130) Clause Linkage Types in Korean

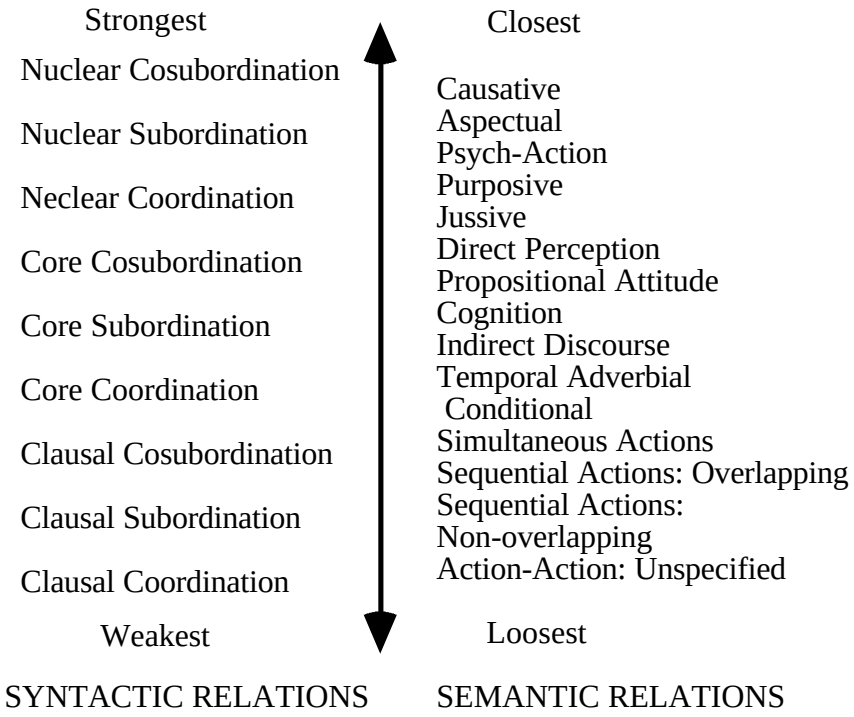


In this section I will propose a Korean IRH, following the clause linkage proposed in section 4.3. I will also show that the IRH can account for complex verb constructions and the degree of causation among lexical, morphological, and phrasal causatives in Korean. As a result, Korean fully follows RRG's IRH.

4.4.1. Korean Clause Linkage and IRH

As I mentioned in section 4.1.3, in RRG the Interclausal Relations Hierarchy (IRH) ranks the nine linkage types in terms of the strength of the syntactic bond between the units and how closely related in semantics the propositions in the linkage are. These relations form a continuum expressing the degree of semantic cohesion between the linked units (Van Valin 1993a:111). The IRH is represented as in (4.131).

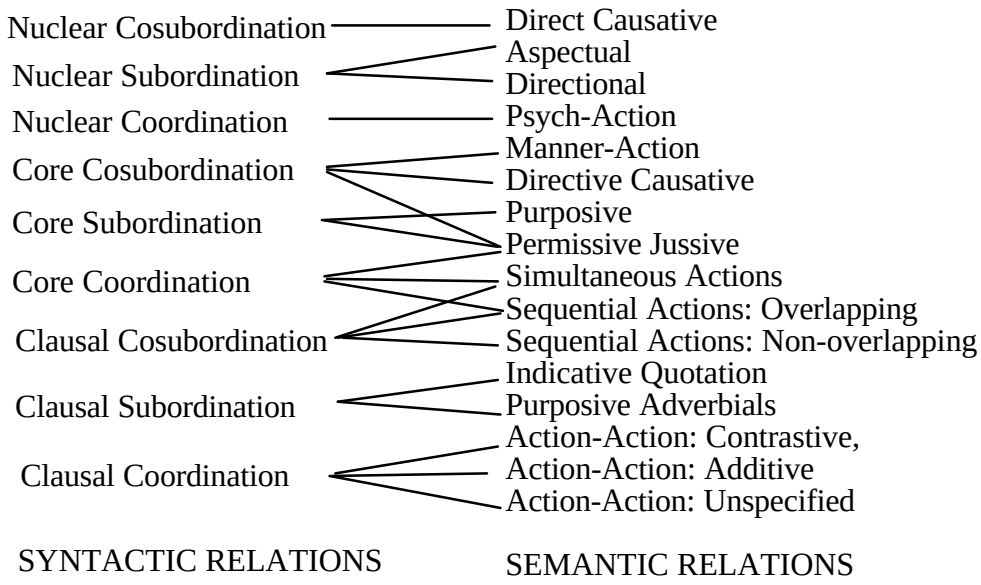
(4.131) The Interclausal Relations Hierarchy (Van Valin 1993a: Figure 29c; (4.27))



The relationship between the syntactic and semantic relations is not one-to-one. Thus it is very important to examine Korean clause linkage to see if it follows the IRH, which is assumed to be universal.

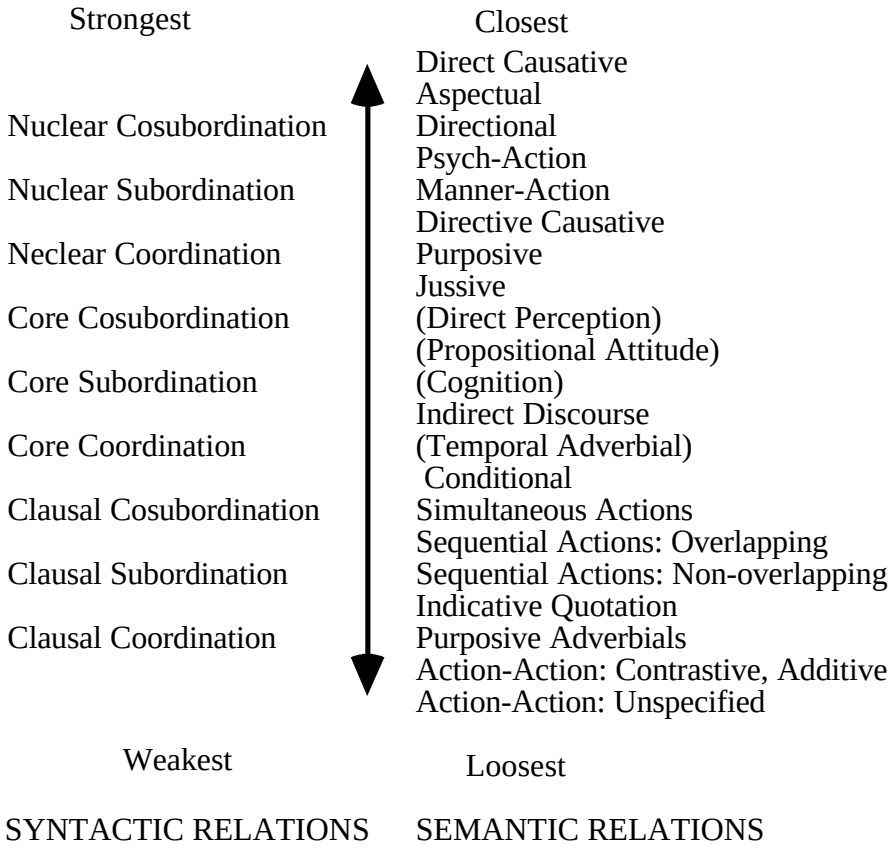
In section 4.3., I investigated nine nexus-juncture types and their semantic relations among the complex constructions connected with *e-/a-*, *-ko*, *-key*, etc. The interrelationships between the linkage types and their semantic relations can be re-analyzed hierarchically as follows:

(4.132) Syntactic and Semantic Interrelationships in Complex sentences in Korean



Generally speaking, the syntactic and semantic interrelationships in (4.132) follow the IRH. Since the IRH is not supposed to be a one-to-one relationship between syntactic relations and semantic relations, some of the syntactic relations can be related to more than one semantic relation. So, for example, both aspect and directionals can be expressed using Nuclear Subordination. Moreover, some of the semantic relations, such as jussive, can be matched to more than one syntactic relation: i.e. Core Coordination, Core Subordination, and Core Cosubordination. Following the IRH and assuming that all semantic relations mentioned in the IRH can be expressed in Korean, we propose the following Korean IRH similar to the universal IRH in RRG.

(4.133) The Interclausal Relations Hierarchy in Korean



This Korean IRH can explain several important morphosyntactic phenomena in Korean. In the next two sections, I will show how RRG can account for three different types of verb complementation (section 4.4.2) and the various degrees of causation expressed by three patterns of phrasal causatives as well as lexical and morphological (or suffixal) causatives (section 4.4.3).

4.4.2. Verb Complementation and IRH

Investigating the meaning of the verb *ha-* 'do' in activity psych-verb constructions, B.S. Park (1972, 1974) proposes four types of verb complementation, illustrated as in (4.134)[153].

(4.134) a. Verb *-ha* complementation
Kim-sensayngnim-i ku yeca-lul coh-a-ha-n-ta
-teacher -NOM the woman-ACC like-COMP-do-PRES-DEC
"Teacher Kim does like the woman." (B.S. Park 1974: 52)

[153]According to my analysis, *-e/-a, -ko,* and *-key* are connectives. In these examples, I will use COMP for them, following B.S. Park (1972, 1974).

b. *e/a-* Verb Complementation

cwi-ka sal-han-mal-lul ta mek-e- peli-ess-ta
mouse-NOM rice-one-CL-ACC all eat-COMP-throw-PST-DEC
"The mice ate all of one bag of rice up." (ibid.: 61)

c. *key-* Verb Complementation

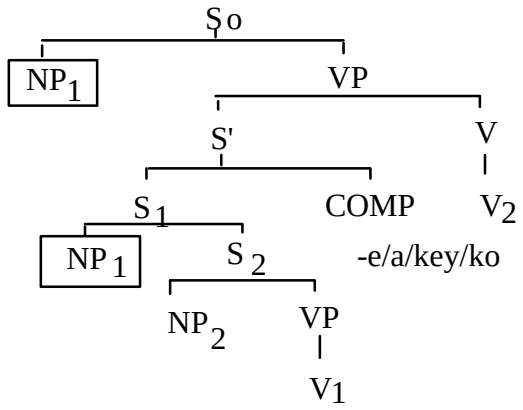
Swunhi-ka elum-lul nok-key ha-n-ta
-NOM ice-ACC melt-COMP do-PRES-DEC
"Soonhi makes the ice melted." (ibid.: 63)

d. *ko-* Verb Complementation

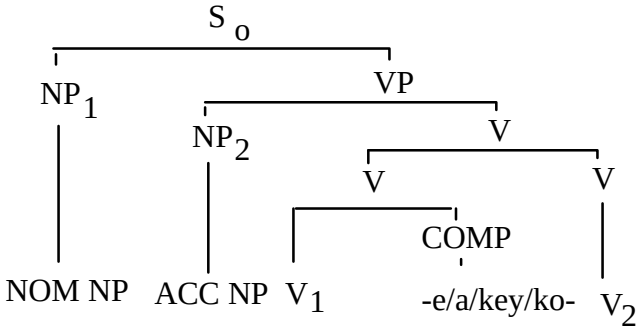
Kim-sensayngnim-i chayk-lul po-ko-iss-ta
-teacher-NOM book-ACC read-COMP-be (CONT)-DEC
"Teacher Kim is reading the book." (ibid.: 71)

B.S. Park (1974) argues that all four types of verb complementation are biclausal with a morphologically distinct complementizer in deep structure (cf.(4.135a)), and they are converted to mono-clausal structure with verb complex complements in surface structure, joined through transformations such as Complementizer Placement and the Equi-NP Deletion (cf. (4.135b)).

(4.135) a. Deep Structure of Verb Complementation



b. Surface Structure of Verb Complementation



The deep structure is biclausal with the same subject, and the embedded subject NP_1 will be deleted by Equi-NP Deletion. The surface structure resembles Nuclear Juncture in RRG. Even though B.S. Park (1974) describes the four types of verb complexes systematically, showing that their syntactic structures are the same (i.e. verb complementation), he does not show the semantic and syntactic differences between these four types of verb complementation.

As I already pointed out in section 4.3.3., these four types of verb complementation can be analyzed in RRG as three nexus types in nuclear juncture according to their syntactic and semantic relations. Even though RRG posits one level of syntactic representation and no transformational rules such as Equi-NP Deletion, etc., RRG can account for the verb complementation with the IRH. Following information posited to section 4.3.3., verb complementation can be summarized as follows:

(4.136) Korean Verb Complementation

Syntactic Relations	Semantic Relations	Complementizer
Nuclear Cosubordination	Directive Causatives	*-key-* (4.136c)
Nuclear Subordination	Aspectual	*-e/-a-* (4.136b)
	Directionals	*-ko* (4.136d)
Nuclear Coordination	Activity Psych-Action	*-e-ha-* (4.136a)

According to the Korean IRH (4.133), the higher the syntactic relation is, the stronger the syntactic bondedness is, and the higher the semantic relation is, the closer it is. That is, *-key* verb complementation, used in directive causatives, the closest semantic relation, is syntactically the tightest among the four types of verb complementation, *-e-ha* verb complementation, which expresses activity psych-action, the loosest semantic relation, is syntactically the weakest, and *e-/a-* and *-ko* verb complementation is between the two syntactically and semantically. This shows that the Korean IRH (4.133) accounts for the syntactic and semantic relations in verb complementation.[154]

4.4.3. Causation and IRH

In Korean, causation can be expressed with not only lexical and suffixal (e.g. 4.137), but also in phrasal constructions. Phrasal causatives exhibit three patterns of case marking, shown in (4.138).

(4.137) a. Suffixal Causative

emeni-ka ai-eykey/lul os-ul ip-hi-ess-ta
mother-NOM baby-DAT/ACC clothes-ACC wear-CAU-PST-DEC
"Mother made the baby wear the clothes."

[154]Since I have already proposed the syntactic structure of each nuclear nexus types in section 4.3.3., I do not repeat here.

b. Lexical Causative
emeni-ka ai-lul hakkyo-ey ponay-ss-ta
mother-NOM child-ACC school-to send-PST-DEC
"Mother sent the child to school."

(4.138) Phrasal causatives

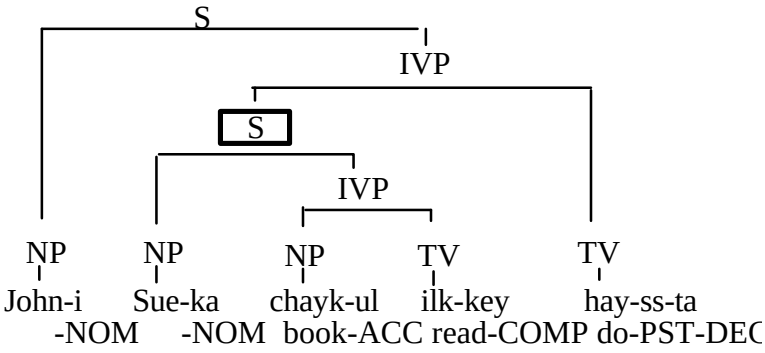
a. The NOM-NOM-(ACC) pattern
John-i Sue-ka chayk-lul ilk-key hay-ss-ta.
-NOM -NOM book-ACC read-CAU do-PST-DEC
"John made Sue read the book." (O'Grady 1991:171)

b. The NOM-DAT-(ACC) pattern
John-i Sue-eykey chayk-lul ilk-key hay-ss-ta.
-NOM -DAT book-ACC read-CAU do-PST-DEC
"John made Sue read the book." (ibid.: 171)

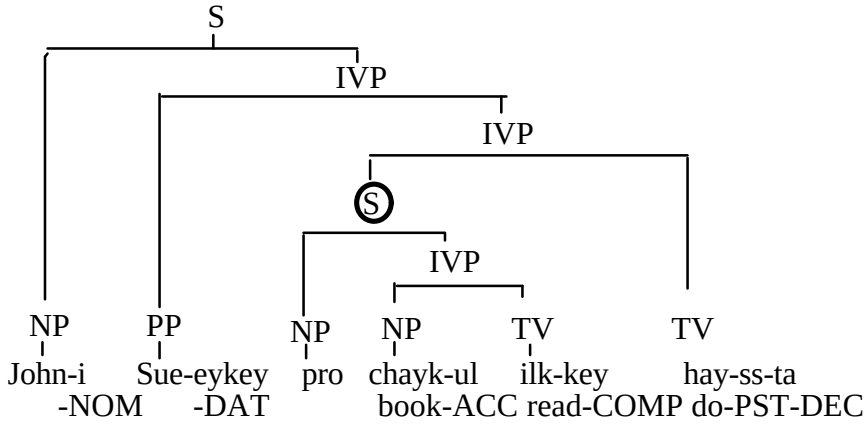
c. The NOM-ACC-(ACC) pattern
John-i Sue-lul chayk-lul ilk-key hay-ss-ta.
-NOM -ACC book-ACC read-CAU do-PST-DEC
"John made Sue read the book." (ibid.: 171)

Many studies in various theoretical frameworks have examined the phrasal causative constructions: e.g. Patterson 1974, S.C. Song 1988; transformational grammar, J.J. Song 1988, K. Park 1993a; RRG, Gerdts 1986, 1990, E. Cho 1987; RelG, O'Grady 1991; CG, J. Chang and D. Cho 1991, Y.J. Kim 1990; GB (cf. K. Park 1993a for review on some of these studies). All of these studies have tried to explain the different case patterns as different syntactic structures. For example, O'Grady (1991) proposes three different structures for the three different case-marking causative constructions in CG.

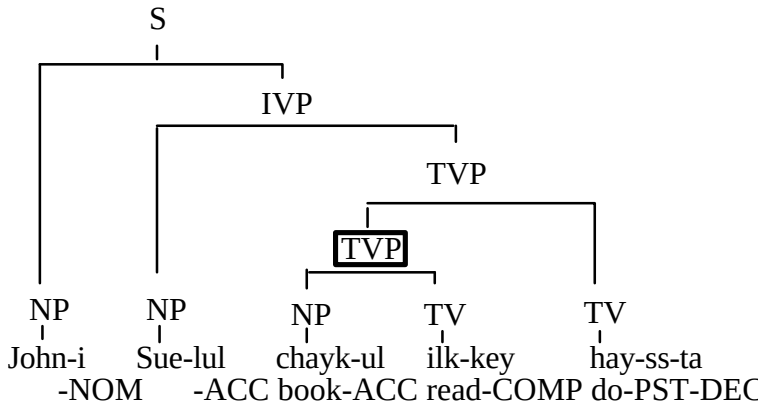
(4.139) a. NOM-NOM-(ACC) (O'Grady 1991:173)



b. NOM-DAT-(ACC) (ibid.: 178)



c. NOM-ACC-(ACC) (ibid.: 182)



In (4.139a), the main nucleus TV, *hata* 'do', takes an NP term *John* (i.e. actor role) and an squared S (i.e. theme role), as an argument of the TV. This is basically similar to Core Subordination in RRG. In (4.139b), the second nucleus *hata* 'do' combines with the circled S having null pronominal zero, yielding an IVP. This is similar to core cosubordination and core coordination in RRG. In (4.139c), the first nucleus, including its argument (i.e. squared TVP), combines with the other nucleus *-hata* (i.e. TV) and this combination yields another TVP. This is similar to nuclear juncture in RRG. Gerdts (1986, 1990), using the framework of RelG, proposes that Korean periphrastic causatives involve Causative Clause Union (CCU) and explains the case marking pattern with three different relational networks, using the concept of Revaluation and Inheritance[155] Previous studies was mainly interested in case-marking and structural differences.

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[155]The concepts of Revaluation and Inheritance (cf. Gerdts (1990: 213)) are as follows:

(i) a. Revaluation: The downstairs final 1 is revalued as a 2 or 3.
No Revaluation: The downstairs final 1 is not revalued.
b. Inheritance: A nominal which is not revalued inherits its downstairs final relation in the union stratum.
No Inheritance: A nominal is placed en chomage.

There are several studies of the structural and semantic interrelationships and the degree of causation between lexical/morphological and phrasal causatives in Korean, and also the differences of degree implied by the three case patterns of phrasal causative constructions: e.g. B.S. Park 1972, I.S. Yang 1972, 1974, K. Lee 1975, Shibatani 1973b, Patterson 1974, S.C. Song 1988, J.J. Song 1988, O'Grady 1991, K. Park 1993a, among others. B.S. Park (1972) seems to be the first to suggest a semantic difference, based on whether the subject noun is committed to the 'process-action' expressed by the causative verb directly (i.e. lexical causative) or indirectly (phrasal causative)(S.C. Song 1988: 187). B.S. Park (1972, 1974) posits identical underlying structures although they are not synonymous. The structural difference between the two forms lies in the choice of the matrix verb; *ha-* or causative morpheme *-i*. Shibatani (1973b) claims that lexical causatives are different from their corresponding phrasal ('periphrastic' in his terms) causatives in Korean in that a lexical causative expresses direct and indirect causation whereas a periphrastic causative expresses indirect causation only.[156] Opposing Shibatani's claim, I.S. Yang (1972, 1974) argues that phrasal causatives ('clausal causatives' in his terminology) and lexical causatives are synonymous in that phrasal causatives express direct causation as well as indirect causation, just as lexical causatives do[157] (cf. S.C. Song 1988 for reviews of the study of Korean causatives in transformational grammar). Observing that "the NOM-ACC-(ACC) construction exhibits a higher degree of structural and semantic 'cohesion' than its biclausal counterparts" (O'Grady 1991: 188) (i.e. NOM-NOM-(ACC)), O'Grady (1991) proposes that the tightest semantic cohesion of the most direct type of causation is expressed by lexical causatives, the loosest semantic cohesion of the least direct type of causation is expressed by a biclausal NOM-NOM-(ACC) causative, and intermediate directness is expressed by the monoclausal NOM-ACC-(ACC). However, he mentions vaguely that the NOM-DAT-(ACC) seems to be between the NOM-ACC-(ACC) and NOM-NOM-(ACC). Handling NOM-DAT-(ACC) and NOM-ACC-(ACC) with the same syntactic and semantic cohesion, J.J. Song (1988) argues that NOM-DAT-(ACC) and NOM-ACC-(ACC) ('Periphrastic Causative Construction' in his terms) expresses stronger causation than NOM-NOM-(ACC) ('Complement Causative Construction' in his terms). K. Park (1993a) proposes an argument similar to J.J. Song's without distinguishing between NOM-DAT-(ACC) and NOM-ACC-(ACC). However, many studies have observed that the NOM-NOM-(ACC) construction is weaker than the NOM-ACC-(ACC)/ NOM-DAT-(ACC), and that the phrasal causative is weaker than the lexical causative in terms of degree of causation. Even though the degree of causation among the causative constructions was noticed and studied by many scholars, no one has

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She posits two stages of the periphrastic causatives: initial biclausality and final monoclausality. Also, she argues that NOM-DAT/ACC-ACC involves CCU with Revaluation and NOM-NOM-ACC involves CCU without Revaluation.

[156]Shibatani (1973a) has the same arguments for Japanese.

[157]S.C. Song (1988: 180) labels these two conflicting views on causatives the 'synonymy' and 'nonsynonymy' hypotheses: the former view is from I.S. Yang (1972, 1974, 1976), C. Lee (1973), D.W. Yang (1975) and the latter view is from Shibatani 1973b, K. Lee (1975), S.C. Song (1977).

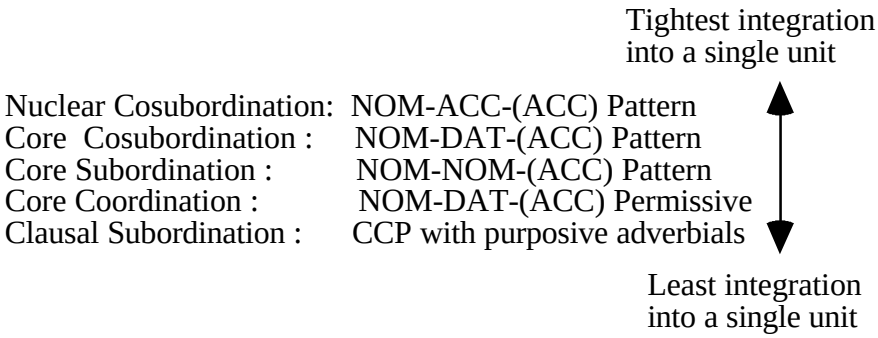
proposed the complete scale of degree of causation in Korean. I will show that Korean IRH in (4.133) forms a hierarchical continuum with the relationships between the syntactic and semantic relations. That explains the degree of causation in the various forms of Korean causatives.

Korean causatives can be interpreted with either a causative interpretation or a permissive interpretation. The causative interpretation can be either direct causation or indirect causation (cf. I.S. Yang 1972, 1974, Patterson 1974, S.C. Song 1988, O'Grady 1991, K. Park 1993a). I will schematize the strongest causation as direct causation and the weakest causation as permission. To see the full scale of Korean causation, I will include in the consideration on causation not only the three different case patterns of phrasal causatives, lexical causatives and suffixal (morphological) causatives classified by Patterson (1974), but also the complex construction with purposive complex clauses (i.e. CCP; J.J. Song 1988).

It is generally assumed that entries in a lexicon without inflectional mophology cannot be segmented syntactically or morphologically, although it is possible semantically; e.g. English *kill* can be decomposed into semantic primes of 'CAUSE-BECOME-NOT-ALIVE'. A lexicon consisting of verb stems and inflectional morphemes can be analyzed morphologically, though it cannot be analyzed syntactically. Thus, I will follow the general assumption that the lexical causative has the tightest syntactic (?) bond and semantic cohesion. The morphological causative consisting of verb stem plus causative morpheme *-i-* (cf. section 3.2.1) is the second tightest relation. I will also accept the general proposal that the lexical causatives and morphological causatives express the most direct causation.

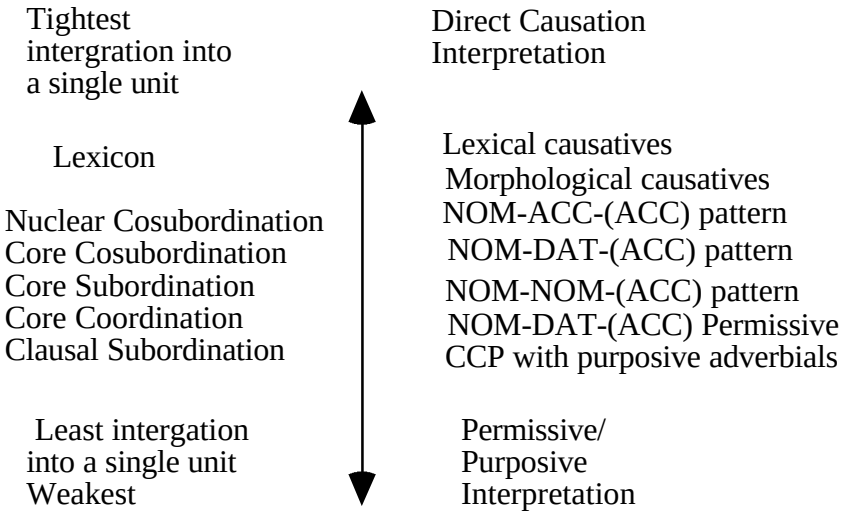
I have already investigated the clause linkage types in the three case marking patterns of phrasal causatives and the CCP (cf. section 4.3). I proposed that there are two different nexus-juncture types for the NOM-DAT-ACC pattern, depending on whether it expresses causation or permission. The syntactic relations in complex sentences of causation can be summarized as follows:

(4.140) Nexus- Juncture Types of Syntactic Causation



In section 4.3, I have proposed the semantic relations for each types of clause linkage mentioned in (4.140): Nuclear Cosubordination expresses a direct causative, Core Cosubordination expresses the directive causative, Core Subordination expresses the purposive, Core Coordination expresses the permissive jussive, and CCP expresses purposive adverbials. Following these syntactic and semantic relations as proposed in the Korean IRH, we can propose the following hierarchy for the degree of causation, including lexical and morphological causatives.

(4.141) Degree of Causation between Causative Forms in Korean



Like the IRH, (4.141) is a semantic continuum expressing the degree of direct causation down to permission and purposive. If a relation appears near the top like the lexical causative, it expresses the most direct causation and least like permissive or purposive meaning. If it appears at the bottom, it expresses the most permissive/ purposive meaning, and the least direct causation. The continuum between direct causation and the permissive/ purposive interpretation can explain the dual interpretation of causation and permission in Korean causatives. That is, the more directive causation a sentence has, the less permissive interpretation it has and vice versa. Also, (4.141) can answer a question that might be raised by my proposal: among three patterns of phrasal causative constructions, why are there two clause linkage types for NOM-DAT-(ACC) only ? (4.141) expresses the dual function of NOM-NOM-(ACC) and NOM-ACC-(ACC): direct causation and permission. The dual function of NOM-NOM-(ACC) and NOM-ACC-(ACC) is not so largely as much as that of NOM-DAT-(ACC) is. Thus, we do not need separate clause linkages for NOM-NOM-(ACC) and NOM-DAT-(ACC).

4.5. Summary

This chapter has been a study of the clausal constituents along with the operator projection among the four planes of a three dimensional model of grammar. In this chapter, I studied Korean complex constructions using RRG's juncture-nexus types. Aspect and directionals are expressed with Nuclear Juncture, not inflectional morphemes, activity psych-verbs are complex verbs analyzed as Nuclear Coordination, and NOM-ACC-(ACC) phrasal causatives are Nuclear Cosubordination, the tightest syntactic linkage among complex constructions. I showed that there are nine juncture-nexus types in Korean and Korean clause linkages follows the IRH, providing support for the IRH as a universal paradigm. I also proposed a Korean IRH, which follows the universal IRH. The proposed Korean IRH accounts for several morpho-syntactic phenomena; including verb complementation and causation. Following the Korean IRH, I accounted for the degree of causation among all causatives including lexical, suffixal/morphological causatives, and the

three patterns of phrasal causatives. The degree of causation can be explained through the IRH, giving further support to its place in universal grammar.

Chapter 5
Clause and Information Structure of Korean Relative Clauses

5.0. Introduction[158]

Since Wilson (1963) analyzed Internally Headed Relative Clauses (henceforth IHRCs) in the earliest transformational framework, many studies (Gorbet 1976, Platero 1974, Weber 1983, Peterson 1974, Itô 1986, Cole 1987, Williamson 1987, Culy 1990, among others) have proposed analyses of the structure of the IHRCs in comparison to Externally Headed Relative Clauses (henceforth EHRCs). For Korean[159], even though there have been many studies of EHRCs in the literature (I.S. Yang 1972, D.W. Yang 1975, Y. Na 1986, Tagashira 1972, J.J. Song 1991, among others), Jhang (1991, 1992, 1994) was the first to show that IHRCs exist in Korean and describes the distributional restrictions on NP accessibility with grammatical relations in IHRCs. K.O. Lee (1991) and K.O. Lee et al (1990) also show that IHRCs represent a common pattern in colloquial Korean. These previous studies, mainly carried out within generative-transformational theory, assume movement and NP-deletion, or two levels of syntactic structure (i.e. D/S-structure and LF) with reference to the structure of these two relative clause types.

In section 1.2, I mentioned that there are two types of relative clauses in Korean, shown in (5.1)-(5.3).

(5.1) a. Externally Headed Relative Clause (EHRC)

Chelswu-ka [**e**$_i$ kocangna-n]$_{REL}$ **khempwuthe**$_i$- lul kochi-ess-ta
-NOM be.broken-COMP computer -ACC fix-PST-DEC
"Chulsoo fixed the computer that was broken."

b. Internally Headed Relative Clause (IHRC)

Chelswu-ka [**khempwuthe**$_i$-ka kocangna-n]$_{REL}$ **kes**$_i$-ul kochi-ess-ta
-NOM computer -NOM be.broken-COMP one-ACC fix-PST-DEC

(5.2) a. Externally Headed Relative Clause (EHRC) (Jhang 1991)

[totwuk-i **e**$_i$ hwumchi-n]$_{REL}$ **posek**$_i$-i kacca-ta
thief-NOM steal -COMP jewelry-NOM fake-DEC

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[158]Some part of this chapter is presented in B.S. Yang (1993a, b).

[159]See Kuroda (1976), Itô (1986), Ishii (1989), Ohara (1994), Dryer (1994a), and Hirose and Ohori (1992), among others for Japanese. Ohara (1994) argues that the relative clauses analyzed as IHRCs in Japanese are not IHRCs, but "pseudo-relatives". Dryer (1994a) argues against the argument of Ohara (1994) claiming that they are indeed IHRCs. Horie (1993) studies the different acceptability of IHRCs in Japanese and Korean to the lexico-semantic differences between Japanese *no* and Korean *kes*.

"The jewelry that the thief stole is fake."

b. Internally Headed Relative Clause (IHRC)

[totwuk-i **posek**$_i$ -ul hwumchi-n]$_{REL}$ **kes**$_i$-i kacca-ta
thief-NOM jewelry-ACC steal- COMP one -NOM fake-DEC

(5.3) a. Externally Headed Relative Clause (EHRC)

[**e**$_i$ ssingssingha-te-n]$_{REL}$ **koki**$_i$ -ka ssek-ess-ta
fresh -RETOR-COMP fish-NOM rotten-PST-DEC
"The fish that was fresh was rotten."

b. Internally Headed Relative Clause (IHRC)

[**koki**$_i$ -ka ssingssingha-te-n]$_{REL}$ **kes**$_i$ -i ssek-ess-ta
fish -NOM fresh- RETRO-COMP one -NOM rotten-PST-DEC

This chapter presents an analysis of the two kinds of Korean relative clauses with RRG's Constituent and Focus Structure Projection. The purpose of this chapter is threefold: (i) to propose that EHRCs and IHRCs have the same clause (syntactic) structure, (ii) to demonstrate that their information (pragmatic) structures are different, and (iii) to suggest that pragmatic information is necessary to distinguish IHRCs from EHRCs in a language such as Korean which has IHRCs and EHRCs. This will show that a structural-functionalist theory, such as RRG, can account for the two types of relative clauses in Korean.

This chapter will be organized as follows: Section 5.1 will introduce the RRG theory of information structure. Section 5.2 will examine the constituent and operator projections of relative clauses and argue that IHRCs and EHRCs have the same clause structure. In section 5.3, I will propose that the information structure of EHRCs is different from that of IHRCs . I will show that the perceived difference in grammaticality between IHRCs and EHRCs is not due to a difference in syntactic structure, but to the difference in pragmatic information structure: in EHRCs, the gap position (or resumptive pronoun position) is a topic expression and the relative clause is a presupposed predicate focus construction, which is excluded from the Actual Focus Domain (AFD), whereas in IHRCs, the relative clause is an asserted sentence focus construction, which is included in the AFD. This will show that a syntactic structural account alone is insufficient for the two types of Korean relative clauses and that we need an account in functional or pragmatic terms, such as information structure. Section 5.4 will be the summary of this chapter .

5.1. RRG Theory of Information Structure

5.1.1. Theoretical Background

In addition to the constituent projection representing clause structure and operator projection representing grammatical categories such as aspect, tense and modality, another main projection of RRG clause representations is the focus structure projection, which represents information structure. The RRG approach to information structure relies on Kempson's (1975) reformulations of Grice's conversational maxims and Lambrecht's (1986, 1987, 1988a, in press) theory of information structure.

In his theory of information structure, Lambrecht (in press: 7) gives the definition of 'information structure' as follows:

> Information Structure: That component of sentence grammar in which propositions as conceptual representations of states of affairs are paired with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret these structures as units of information in given discourse contexts.

The information structure of a sentence is the formal expression of the pragmatic structure of a proposition in a discourse. The most important categories of information structure are presupposition and assertion, identifiability and activation, and topic and focus (ibid.: 7). He (ibid.: 64) refers to the old information contained in, or evoked by, a sentence as the pragmatic presupposition and the new information expressed or conveyed by the sentence as the pragmatic assertion, which are defined as follows:

> Pragmatic Presupposition: The set of propositions lexicogrammatically evoked in a sentence which the speaker assumes that the hearer already knows or is ready to take for granted at the time the sentence is uttered.
>
> Pragmatic Assertion: The proposition expressed by a sentence which the hearer is expected to know or take for granted as a result of hearing the sentence uttered. (ibid.: (2.12))

He identifies 'topic' and 'focus' as the two primary information statuses in an utterance: 'topic' of a sentence is "the thing which the proposition expressed by the sentence is ABOUT" (ibid.: 144), which is related to, but not the same as 'subject' in traditional grammar; while 'focus' of an utterance "is the part that is asserted in a declarative utterance or questioned in an interrogative utterance" (Van Valin 1993a: 23). Also he distinguishes 'topic referent' which is a pragmatic category from 'topic expression' which is a grammatical category. His definition of topic and focus, the complement of topic, is as follows:

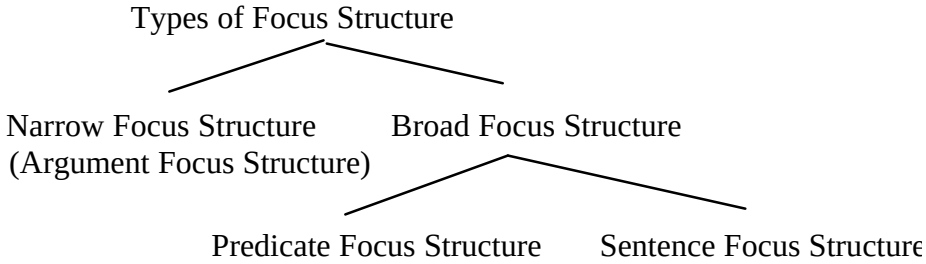
(5.4) a. TOPIC: A referent is interpreted as the topic of a proposition if in a given situation the proposition is construed as being about this referent, i.e. as expressing information which is relevant to and which increases the addressee's knowledge of this referent. (ibid.: (4.6))

b. TOPIC EXPRESSION: A constituent is a topic expression if the proposition expressed by the clause with which it is associated is pragmatically construed as being about the referent of this constituent. (ibid.: (4.6))

c. FOCUS: The semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition. (ibid.: (5.4))

With this definition of topic and focus, he (ibid.: section 5.2.1) formulates 3 types of focus structures: narrow vs. broad focus constructions, and two subtypes of broad focus constructions, predicate vs. sentence-focus constructions as in (5.5).

(5.5)



The predicate focus structure, which is the traditionally recognized 'topic-comment' structure, is universally the unmarked focus construction, while narrow focus, which is called the 'identificational' structure , and sentence focus structure[160], which is the so-called the 'event-reporting' (or 'presentational') structure, are marked. In predicate focus structure, the predicate is the focus and the subject (plus any other topical elements) is in the presupposition. In the narrow focus structure[161] the focus identifies the missing argument in a presupposed open proposition and the focus domain extends over only a single constituent such as subject, object, an oblique, or even the verb. In the sentence focus construction, the focus extends over the entire sentence, both the subject and the

[160]Different terms for this sentence have been used in the literature; 'presentational sentence' (Bolinger 1965), 'neutral description' (Kuno 1972), 'news sentence' (Schmerling 1976), 'event-reporting sentence' (Lambrecht 1987), 'thetic sentence' (Lambrecht 1987, in press) (cf. Lambrecht in press: 169)

[161]Lambrecht (in preparation) uses the term 'argument focus structure' instead of narrow focus. However, I will use narrow focus structure in this dissertation, following Van Valin (1993a).

predicate (minus any topical non-subject elements) (Lambrecht in press: 272)[162]. He (ibid.: section 4.1.1.) exemplifies these three types of focus structures with the following examples.

(5.6) The children went to school. (ibid.: (4.1))

(5.7) a. (What did the children do next ?) The children went to SCHOOL.
b. (Who went to school ?) The CHILDREN went to school.
c. (What happened ?) The CHILDREN went to SCHOOL ! (ibid.: (4.2))[163]

(5.6) can be interpreted as three different focus structures in different discourse contexts, as shown in (5.7). In (5.7a), the referent of the subject NP *the children* represents the topic of the sentence and the predicate *went to school* is an assertion about these children. (5.7), which is labeled a 'topic-comment sentence' is a predicate focus structure. In (5.7b), the statement is not about the children, and the presupposition is the proposition that 'someone went to school' and the assertion is that this 'someone' is 'the children'. (5.7b), which is called an 'identificational sentence', is a narrow focus structure. In (5.7c), not only the subject NP, but also the entire proposition 'the children went to school' is the assertion. (5.7c), which is called a presentational or event-reporting sentence, is a sentence focus structure. Following Lambrecht (in press), the three different types of information structure of (5.7)[164] can be schematically represented as follows:

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[162]Lambrecht (1988) gives the following definition of predicate and sentence focus structure.

(i) a. Predicate Focus Structure: Unmarked focus structure found in sentence constructions in which the subject is the topic, thus in the domain of the pragmatic presupposition, and in which the predicate expresses an assertion about this topic. The focus domain is the predicate (or part of it). The object NP is the unmarked focus constituent. (ibid.: (6))

b. Sentence Focus Structure: Marked focus structure found in sentence constructions in which a lexical subject NP (or an NP that is the subject of the proposition underlying the construction) is marked as the focus and in which both this NP and the predicate are in the domain of the assertion. The focus domain is the entire sentence. Sentence focus constructions are semantically non-binary, i.e. they lack both a subject-predicate (topic-comment) and a focus-presupposition bipartition. (ibid.: (11))

[163]Actually Lambrecht (in press) gives one more interpretation for (5.6) as follows:

(i) (John was very busy that morning.) After the children went to SCHOOL, he had to clean the house and go shopping for the party. (ibid.: (4.2d))

[164]Lambrecht (in press) presents the example 'My car broke down' and proposes the following feature distribution for the three focus structures:

(5.8) a. Predicate focus structure (5.7a)

Sentence: The children went to SCHOOL.
Presupposition: 'the children is a topic of comment x'
Assertion: 'x= went to school'
Focus: 'went to school'
Focus domain: VP

b. Narrow focus structure (5.7b)

Sentence: The CHILDREN went to school.
Presupposition: 'someone went to school'
Assertion: 'someone = the children'
Focus: 'the children'
Focus domain: NP

c. Sentence focus structure (5.7c)

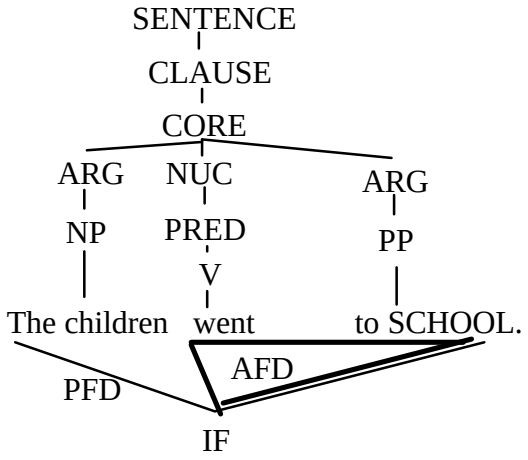
Sentence: The CHILDREN went to SCHOOL
Presupposition: None
Assertion: 'the children went to school'
Focus: 'the children went to school'
Focus domain: S

Different languages code topic and focus in different ways (cf. section 5.1.2 for example) in terms of syntactic structures, and therefore, information structure in RRG is concerned with the syntactic range in which the focus may occur in the utterance [Potential Focus Domain: PFD] and the part of the range in which the focus actually occurs in the utterance [Actual Focus Domain: AFD] in focus structure projection, which is a separate projection from both the constituent and operator projection, though it is related to both. Predicates, arguments and peripheral PPs form the basic information units in focus structure. In the focus structure projection, the IF operator anchors the projection and the PFD and AFD are represented within the IF scope. Even though the focus may be in any position within a clause in English, the focus is restricted to postverbal position, excluding preverbal position, in some languages such as Italian, French, and Setswana/Sesotho (cf. Van Valin 1993a: 28-29). Thus, it is necessary to talk about the PFD in focus structure. Formal representation of the three types of focus structure of (5.7) can be represented with constituent and focus structure projections as in (5.9).

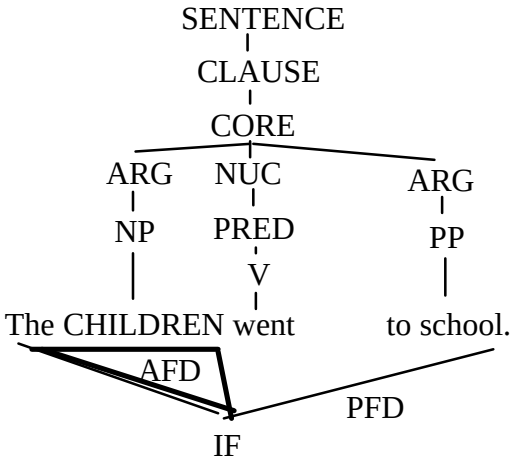
(i) Pragmatic Articulation of the three focus-structure categories
(Lambrecht in preparation: 289)

	Argument in Focus	Predicate in Focus
Predicate Focus	-	+
Narrow Focus	+	-
Sentence Focus	+	+

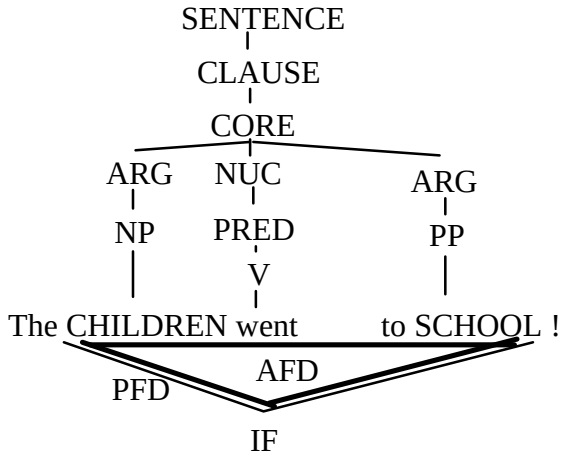
(5.9) a. Predicate focus structure (cf. 5.7a)



b. Narrow focus structure (cf. 5.7b)



c. Sentence focus structure (cf. 5.7c)



5.1.2. Korean Information Structure

As Van Valin (1993a) and Lambrecht (1988, in press) argue, languages employ different grammatical means for indicating the three types of focus constructions. They give the following examples from four different languages.

(5.10) Predicate Focus Structure (Lambrecht in press: (5.10))
What happened to your car ?
a. My car /It broke DOWN. English
b. (La mia macchina) si è ROTTA. Italian
c. (Ma voiture) elle est en PANNE. French
d. (Kuruma wa) KOSHOO-shi-ta Japanese

(5.11) Narrow Focus Structure (ibid.: (5.11))
I heard your motorcycle broke down ?
a. My CAR broke down.
b. Si è rotta la mia MACCHINA./ E la mia MACCHIA che si è rotta.
c. C'est ma VOITURE qui est en panne.
d. KURUMA ga koshoo-shi-ta.

(5.12) Sentence focus structure (ibid.: (5.12))
What happened ?
a. My CAR broke down.
b. Mi si è rotta (ROTTA) la MACCHINA.
c. J'ai ma VOITURE qui est en PANNE.
d. KURUMA ga KOSHOO-shi-ta.

These are four focus-marking mechanisms illustrated in these sets of examples: (i) exclusively prosodic (English); (ii) prosodic and morphological (use of *wa* vs. *ga* with the subject/ topic noun in Japanese); (iii) prosodic and syntactic (word order variation in Italian); (iv) complex grammatical constructions (in French and Italian) (Lambrecht in

press: 275). Also, it is worth noting that the optionality of the lexical NPs in (5.10) is evidence for their topical, i.e. non-focal, status. A constituent in focus can by defintion not be omitted without depriving the utterance of some or all of its information value (Lambrecht in press: 274).

Among the four ways of indicating focus constructions, morphological markers, such as particles *wa* and *ga*, indicate the various focus constructions in Japanese, as intonation and syntax do in English. Kuno (1973) argues that there are two uses of*wa* and two uses of*ga* [165] in Japanese: the unstressed topic *wa* (thematic *wa* in his terms), the contrastive topic *wa* (stressed), neutral description *ga* (unstressed) and stressed contrastive *ga* (exhaustive listing *ga* in his terms). Shibatani (1990: section 11.2) rejects Kuno's (1973) two uses of *wa* and two uses of *ga* analysis, rather proposes one and the same *wa/ga* which "has the effect of emphasizing the contrast when the discourse environment provides a background for contrast" (Shibatani 1990: 265). He (ibid.: 271) observes that the neutral vs. contrastive meaning of the NP is not related to the particle *wa/ga per se*, but "it is a conversational implicature associated with a particular kind of sentence — one with a focus of new information — which is derived from the combinatory factors of the focus of new information and the Gricean conversational maxim of quantity." Shibatani's analysis supports RRG's approach in that the two uses of *wa/ga* should be handled with pragmatic information. not with morphome and/or stress.*Wa* is a topic marker, which accounts for its use in predicate focus constructions. Neutral description *ga* is used in sentence focus construction like (5.12d)[166], while exhaustive listing *ga* is found in narrow focus constructions like (5.11d) (cf. Van Valin 1993a: 28).

In Korean, the anlogous morphological markers, the topic marker *-(n)un* and the NOM marker *-ka/ -i*, indicate the different focus structures. In section 4.1.2, I proposed that there is the neutral topic *-(n)un* (unstressed) assigned under LDP and the contrastive topic *-(n)un* (stressed) assigned under PCS. Likewise, there is the neutral description *-ka* (unstressed) assigned under CORE argument and the contrastive focus *-ka* (stressed) assigned under PCS. The neutral topic *-(n)un* is used in predicate focus constructions, while the neutral *-ka* is used in sentence focus constructions. These are exemplified in (5.13).

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[165]Actually Kuno (1973) mentions objective *ga* as in (i) in addition to the two different use of *ga*.

(i) Boku wa Mary ga suki desu.
I fond.of am
"I like Mary."

(i) is similar to the stative psych-verb construction which I studied in chapter 2.

[166]The neutral description *-ga* can also be used in non-sentence focus construction (cf. Shimojo 1994).

(5.13) a. Predicate Focus Structure
i)What happened to your car ?
(nay cha-nun/??-ka) kocangna-ss-ta
my car-TOP/??-NOM break.down-PST-DEC
"My car/ It broke down."

ii) What happened to your car and computer ?
nay cha-nun kocangna-ss-ko (nay) khempwuthe-nun phal-li-ess-ta
my car-CFM break.down-PST-CONN (my) computer-CFM sell-PAS-PST-DEC
"My car broke down and my computer was sold."

b. Narrow Focus Structure
I heard your motorcycle broke down ?
(motorcycle-i anh-i-ko) nay cha-ka/*-nun kocangna-ss-ta
-NOM NEG-be-CONN my car-NOM/*-TOP break.down-PST-DEC
"My CAR broke down."

c. Sentence focus structure
What happened ?
nay cha-ka /*-nun kocangna-ss-ta
my car-NOM/ *-TOP break.down-PST-DEC
"My CAR broke down."

In (5.13a), which is a predicate focus structure, the proposition *nay cha* 'my car' can get neutral and contrastive topic marker *-(n)un*, while in (5.13c), which is a sentence focus structure, neutral NOM-marked *-ka* is possible. In (5.13b), the exhaustive listing (or contrastive focus in Lamrecht's terms) *-ka* is possible, since it is a narrow focus structure[167].

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[167]There is a non-focus or activation (cf. Dryer 1994b; Lambrecht in press) *-ka* , which can be termed as 'plain -ka' in Korean.

(i) A: (Watching B's car being towed)
ney cha-ey ettenil-i ilena-ss ni ?
your car -to what-NOM happen-PST-Q
"What happened to your car ?"

B: ecey pam-ey hakkyo-ey ka-ss-ta cip-ey o-nuntey
last night-at school-to go-PST-after home-to come-while

isanhan naymsay-ka na-teni, (cha-ka/-*nun) kocangna-ss-ta
strange smell - NOM happen-after (car-NOM/-*TOP) break.down-PST-DEC
"While (I) was coming home from school, there was a bad smell. and then the car broke down."

These focus structures can explain the difference between contrastive topic *-(n)un* and contrastive focus *-ka* constructions, which are analyzed with same LSC in Korean (Japanese, too). In section 4.1.2 (Hasegawa 1992 and Shimojo 1994 for Japanese), both the contrastive topic *-(n)un* and the exhaustive listing *-ka* are positioned under PCS syntactically, the position of an English WH-word, and are stressed phonetically. Because of being marked by stress, many studies assume that contrastive topic *-nun* is a (narrow) focus (e.g. K.S. Choi 1990)[168]. However, Lambrecht (in press; sections 3.5 and 5.4.1) argues that an accent may fall on a constituent which is not in focus and distinguishes activation accent from focus accent. The activation accent activates the referent as topic which, though topical in the discourse, was not yet established as the topic of the sentence at the time of utterance . Thus, the activation accent is not focus. Also, Lambrecht (in press; sections 5.5.1 and 5.5.2) distinguishes the contrastive topic from the contrastive focus in the pragmatics, even though both of them are accented: the accented contrastive topic is topic, while the accented contrastive focus is narrow focus. By the same token, the contrastive topic *-(n)un* and the contrastive focus *-ka* should be distinguished pragmatically in Korean (also in Japanese), even though they are syntactically and phonologically similar. Thus, there are four possibilities to express 'my car broke down' according to differences in discourse context as in (5.13): neutral topic *-(n)un*, contrastive topic *-(n)un*, neutral descriptive *-ka*, and contrastive focus *-ka*.[169] With the following

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In this case, unstressed *-ka* or ellipsis is used instead of unstressed *-nun* as in (i). The plain *-ka* is topic referent (cf. Lambrecht in press) or non-focus (cf. Dryer 1994b) expressing information which increases the addressee's knowledge of the referent and helps his/her understanding of it.

In the begining of the story, new referents, which are focal, also can be introduced into the discourse with particle *-nun* as follows:

(ii) **hwanca**-nun milcha-ey sillye pyengsil-lo tul-e-ka-ko.iss-ess-ta.
patient-TOP sickbed-with carried sickroom-to enter-go-CONT-PST-DEC

Cwunsik-un pokto hankyen-ey sese tampay-lul kkenay mwul-ess-ta.
-TOP hallway corner-at stand cigarette-ACC take.out hold-PST-DEC
"A patient being carried with sickbed was being entered into his sickroom.
Joonsik took a cigarette and put it in his mouth."
(from a short story *Mwutemsay* 'Grave Bird' written by Yoon, Jeong-Mo)

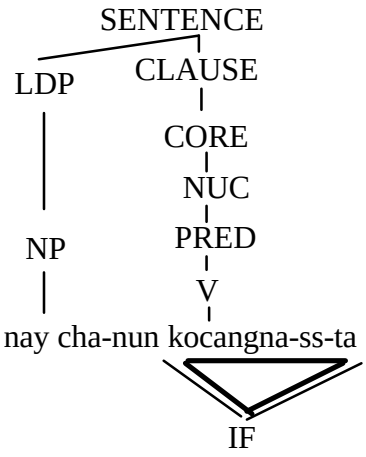
This non-focus plain *-ka* and the new referent introduing *-nun* are related not with pragmatic or syntactic phenomena, but with discourse level. I will ignore them in this thesis.

[168]Shimojo (1994) analyzes the contrastive topic *-wa* as well as contrastive focus *-ga* as narrow focus in Japanese.

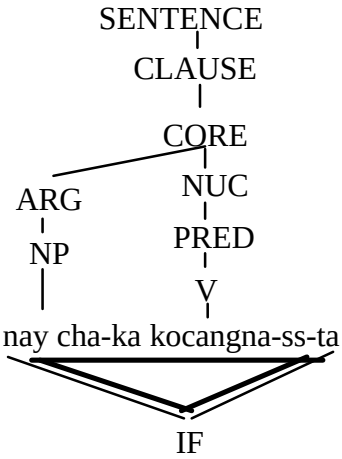
[169]In Korean, S.Y. Choi (1986, 1989) proposes one type of *-nun* and *-ka* instead of two types of *-nun* and *-ka* as Shibatani (1990) does in Japanese. For example,he proposes that the topic marker *-nun* has the meaning of contrastiveness all the time,but it is distinguished

constituent and focus constructions, the four types of expression can be distinguished as in (5.14).

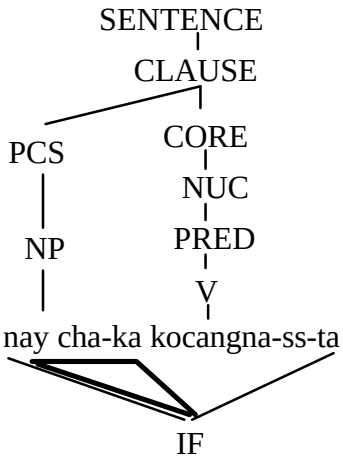
(5.14) a. Neutral topic *-(n)un*



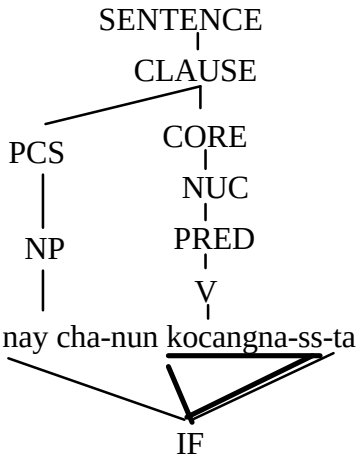
b. Neutral descriptive *-ka*



c. Contrastive focus *-ka*



d. Contrastive topic *-nun*



In (5.14a), the neutral topic is in the LDP, which is outside of the scope of IF, question and negation. Thus, it is excluded from the PFD, whose domain is the clause. In (5.14b), the neutral descriptive *-ka* is in the PFD and AFD, which represents sentence focus structure. These two constructions can be distinguished in terms of constituent structure as well as their focus structure. As Hasegawa (1992) proposes in Japanese, however, contrastive focus (5.14c) and contrastive topic constructions (5.14d) have the same constituent projection. These two constructions which are the same syntactically, semantically and phonetically can be distinguished in terms of two different types of focus

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by unmarked and marked pragmatic informations. Even though the terms are controversal, I will Kuno's (1973) terms in this thesis.

structure proposed by Lambrecht (in press). As shown in (5.14c and d), the clause structures of contrastive topic and contrastive focus constructions are the same, but their focus structures are different: (5.14c) is narrow focus structure, while (5.14d) is unmarked predicate focus. In other words, while the neutral topic is excluded from PFD and AFD, the contrastive topic is included in the PFD, but excluded from AFD. Both neutral descriptive *-ka* and contrastive focus *-ka* are in the domain of AFD and PFD[170], but the former is a narrow focus construction and the latter is a sentence focus construction. These four different types of pragmatic structures support and Shibatani's (1990) one and the same *wa/ga* rather than Kuno's (1973) two uses of *wa/ ga* in Japanese (*nun/ ka* in Korean). Kuno's (1973) neutral vs. contrastive meaning of the NP can be explained with the pragmatic information structure, "which is derived from the combinatory factors of the focus of new information and the Gricean conversational maxim of quantity," (Shibatani 1990: 271) rather than with the particle *wa/ga persse*.

Foley and Van Valin (1984) outline four basic systems for signaling co-reference relations among NP arguments in discourse: switch-function, switch reference, gender, and the inference system. In Korean, which is classified as an inference system language, zero anaphora can be used when the content of the zero anaphor can be inferred from the discourse context.

(5.15) Q: ecey ettenil-i ilena-ss-ni ?[171]
yesterday what-NOM happen-PST-Q
"What happened yesterday ?"

A: Clinton taytongryeng-i paykakkwan-eyse elini-lul manna-ss-ta
president -NOM White House-LOC children-ACC meet-PST-DEC
"President Clinton met the children at the White House."

(5.16) Q: ecey Clinton taytongryeng-i mwues-lul hay-ss-ni ?
yesterday President -NOM what -ACC do -PST-DEC
"What did President Clinton do yesterday ?"

A: e paykakkwan-eyse elini-lul manna-ss-ta
White House-LOC children-ACC meet-PST-DEC
"(He) met the children at the White House."

---

[170]It is clear that the plain *-ka* (cf. footnote 10) should be excluded from the AFD, even though it is in the domain of the PFD.

[171]In these examples, the pronoun can be used instead of a null argument in some sentences.

(5.17) Q: Clinton taytongryeng-i paykakkwan-eyse elini-wa mwues-lul hay-ss-ni ?
president -NOM White House-LOC children-with what-ACC do -PST-Q

"What did President Clinton do with the children at White House ?

A: e e e manna-ss-ta
meet-PST-DEC

"(He) met (them at the White House)."

Although (5.15)-(5.17) describe the same event, namely that President Clinton met the children at the White House, there are three different answers, depending on the questions. Each answer is possible only for the particular question from which the proposition can be inferred. Additional zero-anaphora will lead to ungrammaticality in each case, since the null entity cannot be inferred from the discourse. As I mentioned above, Lambrecht (in press: 274) notes that the optionality of the lexical NPs in (5.10) is evidence for their topical, i.e. non-focal, status and that a constituent in focus, by definition, cannot be omitted without depriving the utterance of some or all of its information value. As shown in (5.13), which is a predicate focus construction, the non-focal NP *nay cha* 'my car' is optional in Korean. This zero-anaphora strategy and the optionality of NP can be examined to decide the type of information structure in Korean. Zero anaphora or a null argument is possible only in the case that the arguments are already assumed or informed in the discourse. If the argument is new and asserted information in the discourse, it cannot be replaced with a zero-anaphor and it is obligatory as shown in (5.14) and (5.15). Thus, it is impossible to use zero anaphora or a pronoun in the presentational sentences, which usually occur at the beginning of any discourse. Even though zero anaphora is common in an inference system language such as Korean, a newly introduced referent in the discourse must be overt in the first sentence since the speaker or hearer cannot interpret the story without it. However, the pronoun or zero anaphora can be used in the subsequent sentences. Thus, Korean focus structure is signaled by not only particles and stress (cf. Kuno 1976), but also zero anaphora and pronouns[172].

[172]Lambrecht (in press: 81) assumes that for an argument to appear in a phonologically null form in English the referent of the argument must have been formally established as a topic in the previous discourse.

5.2. Clause Structure of Korean Relative Clauses

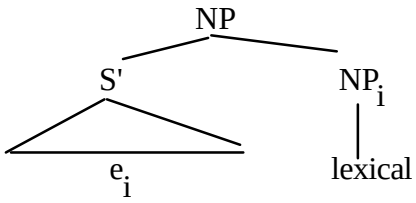
5.2.1. Previous Analysis

Extensive literature has been published by linguists on the topic of relative clauses (especially IHRCs) . Some authors have dealt with the construction in specific languages, e.g. Bird(1968), Cole (1987), Cole, et. al (1982), Gorbet (1976), Kuroda (1976), Platero (1974), Williamson (1987), and many others. Comrie (1981), Downing (1978), Keenan (1985), Thompson (1971) and others have taken a cross-linguistic approach in an attempt to determine universal properties of relative clauses.

Wilson (1963) is the only analysis of IHRCs given in the earliest transformational framework. He proposed that after two basic sentences have combined to form an EHRC, then the internal head is moved from outside of the relative clause to inside the relative clause to generate IHRC. There are other transformationalist analyses for the structure of EHRCs and IHRCs: e.g. Gorbet 1976; Platero 1974; Weber 1983, and Peterson 1974. Since transformationalists allow equi-NP deletion, they proposed that IHRCs are derived with deletion of an external head under identity with the internal head. In recent years, two different analyses have been posited for the structure of IHRCs in other languages using the Government-Binding framework. The first type is found in Cole (1987), and the other type is in Williamson (1987).

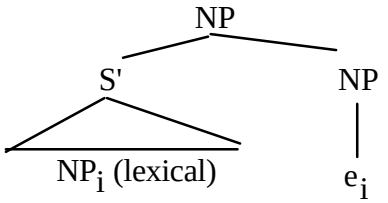
Cole (1987) posits that IHRCs are not, in fact, internally headed but rather have a phonologically null pronominal (external) head both at D-structure and at S-structure. Furthermore, he assumes that these null heads are co-indexed with the NP in the relative clause. Thus, he proposes the following structure.

(5.18) EHRC:

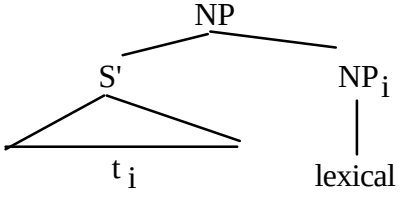


(5.19) IHRC:

a. S-Structure of IHRCs



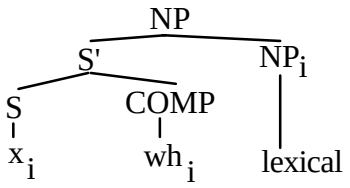
b. LF Structure of IHRCs



In this analysis, the internal head is co-indexed with the null external NP, since the external NP is an anaphor. Using word order and case marking facts, primarily from Imbabura Quechua and Ancash Quechua, Cole argues that IHRCs cannot be considered internally headed in the sense that the nominal traditionally referred to as the "head" is a constituent of the matrix clauses. Cole further posits that there is head-raising at LF and that the result is the same structure as a "headed relative clause" (i.e. (5.18)) as opposed to the S-structure of IHRCs where the head is phonologically null.

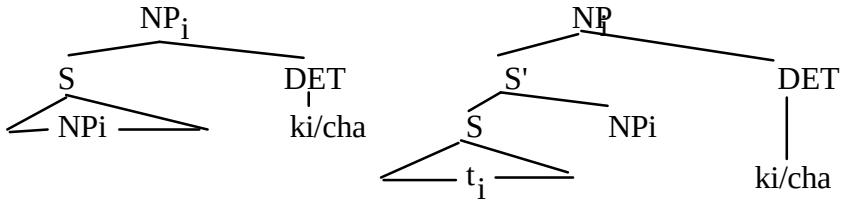
Williamson (1987) looks at the phenomenon of IHRCs using data from Lakhota Sioux. She argues that IHRCs are indeed internally headed rather than having empty external heads or "any other extra invisible structure" (1987: 187-88) as posited by Cole. She posits that they are base generated by the same phrase structure rules that generate simple clauses, producing the following S- and LF-structures:

(5.20) EHRC:



(5.21) IHRCs

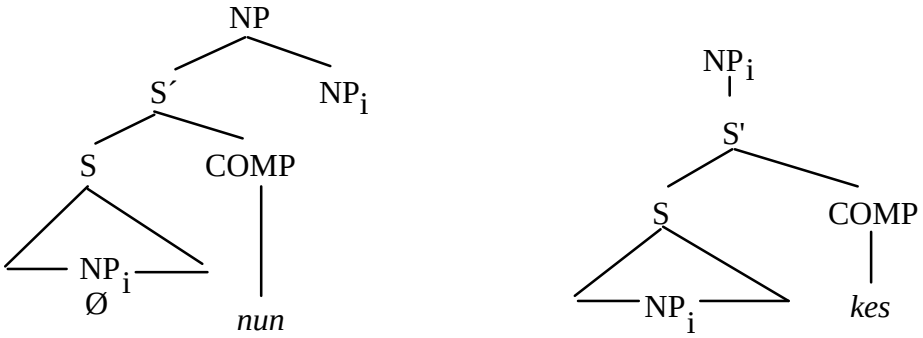
a. S-Structure of IHRCs b. LF Structure of IHRCs



In agreement with Cole, Williamson posits that RCs in Lakhota undergo obligatory "head movement (or head raising)" at LF and that the head is Chomsky-adjoined to REL.

For Korean, Jhang (1992, 1994) proposes an analysis for the structure of Korean IHRCs, presenting the structural differences between EHRCs and IHRCs. Jhang (1994) proposes the structure of Korean RCs as in (5.22), similar to Williamson (1987).

(5.22) a. EHRCs b. IHRC

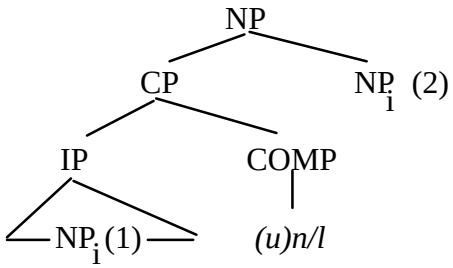


In EHRCs (5.22a), an overt external head is coindexed with a gap or resumptove pronoun inside the relative clause. In IHRCs (5.22b), a NP inside the relative clause is coindexed with the higher NP which dominates it. The syntactic argument of the main verb serves as the head noun in EHRCs, whereas the syntactic argument of the main verb is the entire embedded clause in IHRCs. In EHRCs, the COMP is represented with *-(n)un*, whereas the COMP is represented with *-kes* and the *-(n)un* is analyzed as a tense in IHRCs. This inconsistency makes the argument hard to follow.

5.2.2. The Structure of Korean Relative Clauses

In this section, I will argue that EHRCs and IHRCs have the same clause structure, schematized in (5.23), which supports Cole (1987) rather than Williamson (1987).

(5.23) The structure of Korean Relative Clauses (either IHRC or EHRC)



in EHRC: NPi (1) = gap, resumptive pronoun, reflexive NPi (2) = lexical head
in IHRC: NPi (1) = lexical head NPi (2) = pro-form *kes*

The structure of Korean IHRCs depicted in (5.23) is closer to the analysis in Cole (1987) than that in Williamson (1987). The major difference is that the pronominal (external) head that Cole posits and which is phonologically null in his analysis is filled by the pro-form *kes* in Korean IHRCs. (5.23) shows that the structure of IHRCs is the same as that of EHRCs and that the only syntactic difference between them is the lexical representation of the internal NP and the external NP of the relative clauses: the external NP (i.e. NP2) is realized as a lexical NP and the internal NP (i.e. NP1) is realized as a gap or a resumptive pronoun in EHRCs, whereas the external NP (NP2) is realized as the pro-form

kes and the internal NP (NP1) is realized as a lexical NP in IHRC. There are three motivations for this structure.

5.2.2.1. *kes* as a Pro-form in IHRCs

In the literature on Korean, there are two main views on Korean *kes* with respect to whether it is a COMP like English *that* or not: the former is supported by S.W. Lee (1983), H.B. Lee (1970), I.S. Yang (1972), etc., and the latter is supported by I.H. Lee (1980), and D.W. Yang (1975), who use different terms such as dependent noun, pro-form, or bound noun. Jhang (1992) and K.O. Lee (1991) analyze the *kes* of IHRCs as COMP. H.J. Yoon (1991) takes the position that *kes* belongs to COMP at D-structure and is raised to the head of the NP at S-structure[173]. In this section, I will show that the *kes* works as a pro-form or a bound noun, not as COMP.

In English, the [-WH] COMP *that* is a constituent of CP structures which function as the subject or the object of the matrix sentence. However, unlike English *that*, IHRCs with *kes* are used not only with the subject and object of the matrix sentence, but also with the PP of the matrix sentence as in (5.24).

(5.24) a. Chelswu-ka [**khempwuthe**$_i$-ka kocangna-n]$_{REL}$ **kes**$_i$-ul kochi-ess-ta
-NOM computer -NOM be broken-COMP one-ACC fix-PST-DEC
"Chulsoo fixed the computer that was broken." (5.1b)

b. [totwuk-i **posek**$_i$ -ul hwumchi-n]$_{REL}$ **kes**$_i$-i kacca-ta
thief-NOM jewelry-ACC steal- COMP one -NOM fake-DEC
"The jewelry that the thief stole is fake." (5.2b)

c. [Mary-ka **ton**$_i$-ul pili- n]$_{REL}$ **kes**$_i$-ulo chayk-lul sa--ss-ta
-NOM money-ACC borrow-COMP thing-with book-ACC buy-PST-DEC
" (Lit.)With that the money Mary borrowed, she bought a book."

kes works as a pro-form like English *one*, as shown in (5.25).

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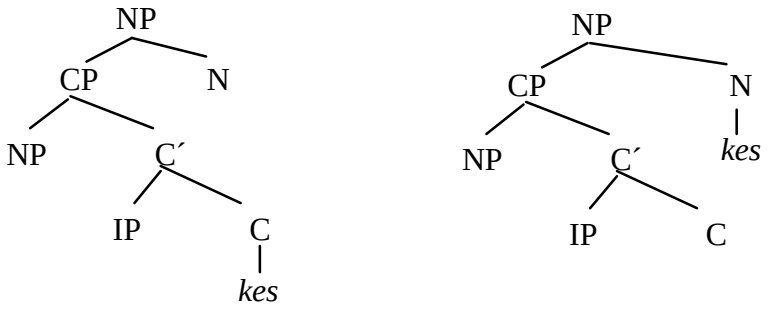
[173]H.J. Yoon (1991: 179) posits the following D- and S-structure in GB.

(i) a. S-structure b. S-structure



(5.25) yeki-ey [**khempwuthe**$_i$-ka kocangna-n]$_{REL}$ **kes**$_i$-i twu-kay iss-ta.
here-LOC computer -NOM be broken-COMP one-NOM 2-CL be-DEC

i-**kes**$_i$-un ssa-ko, ce-**kes**$_i$-un pissa-ta.
this-one-TOP cheap-and that-one-TOP expensive-DEC
"Here are two computers that are broken.
This one is cheap and that one is expensive."

In Korean, there are other pro-forms, such as *nom* and *ca*, referring to human beings or indefinite materials and *kos* , referring to location. In the Conla dialect, *kes* can be replaced with the pro-forms *nom*, *ca* , and *kos* in IHRCs as shown in (5.26), although this is not always true.

(5.26) a.[nay-ka **koki**$_i$-lul cap-un]$_{REL}$ **kes**$_i$/**nom**$_i$-ulo mawuntang-ul kkuli-ess-ta[174]
I-NOM fish-ACC catch-COMP one-INST hot.soup-ACC cook-PST-DEC
"I cooked the hot soup with the fish which I caught."

b. [[nay-ka **ku kwumeng**$_i$-lul maktayki-lo ccille-ss-ulttay] cwui-ka
I-NOM the hole -ACC stick -INST poke-PST-when mouse-NOM

thwuienawa-ss-te-n]$_{REL}$ **kes**$_i$/**kos**$_i$-ey paym-to iss-ess-ta.
spring.out-PST-RETRO- COMP one -LOC snake-also be-PST-DEC
"In the place that the mouse sprang out when I poked the hole with stick,
there was a snake, too."

c. [**totwuk**$_i$-i posek -ul hwumchi-n]$_{REL}$ **kes**$_i$/**ca**$_i$ -ka nwun-i ku-ta
thief-NOM jewelry-ACC steal- COMP one -NOM eye-NOM big-DEC
" The thief who steals the jewelry has big eyes."

The examples in (5.26) show that the *kes* is not COMP, but a pro-form.[175]

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[174]In some dialects, such as the Pusan dialect, a pro-form *nom* is not possible in this situation (cf. Jhang 1994).

[175]From a historical point of view, there is little doubt that *kes* is a pro-form (H.J. Yoon 1991:177). Ransom (1988: 365) proposes a grammaticalization process, the stages of complementizer development: Stage A: full lexical meaning and form --> Stage B: partially reduced lexical meaning and form --> Stage C: reduced lexical meaning and form. In modern Korean, there are three functions of *kes*, as Ransom (1988) claims.

(i) fully lexical meaning of *kes* (i.e. concrete noun)
a. say kes-un pissata
new thing-TOP expensive
"New thing is expensive."

5.2.2.2. *-(u)n* / *- (u)l* as COMP in Relative Clauses

If *kes* is analyzed not as COMP, but as a pro-form as shown in 5.2.2.1, then this raises the question: what is the COMP for the subordinate relative clauses in Korean ? In this section I will show that *-(u)n* and/or *-(u)l* analyzed as tense in previous works is COMP, not tense.

H.B. Lee (1989) mentions that three adjectival clause endings, *-nun*, *-(u)n*, *-(u)l*, are different from one another in time reference when they are not preceded by any other tense suffix. In addition, they have different distributions with tense suffixes: *-nun* occurs with present tense, *-(u)n* with past/present, and *-(u)l* with future/presumptive. H. S. Lee (1991, 3.1.1.1.1) mentions that there is an irrealis-attributive (noun-modifying) clause-terminal suffix *-(u)l* and three different forms for realis-attributive (noun-modifying) clause-terminal suffixes, *-nun*, *-(u)n*, and *-ten*. The latter three have different temporal interpretations: a simultaneous or present time interpretation with *-nun*, a prior or past perfective interpretation with *-(u)n*, and a prior or past imperfective interpretation with *-ten*. Because of these facts, much of the literature (K.O. Lee 1991, Jhang 1992, H.J. Yoon 1991, Y.C. Jung 1990) considers these clause final suffixes as tense markers. If we look at the data in detail, however, we find that this position is incorrect.

There are nominal clause suffixes *-(u)m* and *-ki* which are uncontroversially considered COMP. Typically, it is impossible for two COMPs to co-occur in an embedded clause. None of the relative clause-ending suffixes can co-occur with the nominal clause suffixes *-(u)m* and *-ki*, as shown in (5.27).

(5.27) a. Mary-nun [John-i ttena-(ss)-(*un/nun/ten/ul)-ki] -lul wenha-ss-ta
-TOP -NOM leave -(PST) -COMP-ACC want-PST-DEC
"(Lit.) Mary wanted that John left."

---

b. [nay-ka sa-n]$_{REL}$ kes-un chayk-i-ta
I-NOM buy-COMP thing-TOP book-be-DEC
"The thing that I bought is a book."

(ii) Reduced lexical meaning of *kes* (i.e. complementizer)

a. [Swunhi-ka yeca-i-n]-kes-i hwaksilha-ta
-NOM female-be-PRES-COMP-NOM certain-DEC
"It is certain that Swunhi is female."

b. Chelswu-nun [Swunhi-ka hakkyo-eyse kongpwuhal]-kes-ul wenha-n-ta
-TOP -NOM school-at study- COMP-ACC want-PRES-DEC
"Chulsoo wants Soonhi to study at school."

The pro-form *kes* of IHRCs falls between these two extreame cases: partially reduced lexical meaning. From the historical point of view, the pro-form *kes* is at stage B, not yet at stage C. Cf. section 5.2.3 for the binding condition violation, when the *kes* is analyzed as a pro-form.

b. [John-i keci-i-(ess)-(*un/nun/ ten/ul)-m] - i hwaksilha-ta
-NOM beggar-is-PST -COMP-NOM be certain -DEC
"It is certain that John was a beggar."

In (5.27), the embedded clause can have its own tense, e.g. past tense, which is independent from the matrix sentence's temporal situation.

The siffix *-nun* occurs with process verbs only, refers to the present time or to an action or event in progress, and is never found with any other tense suffix. The suffix *-(u)n* may occur with any verb but its time reference varies according to the type of verb to which it is suffixed[176], and it may be preceded by the retrospective suffix *-te* or the past tense suffix *-ass*/*-ess*- plus *-te*- . The suffix *-(u)l* may be preceded by the past tense suffix *-ass*/*-ess*- very freely and by the future tense suffix *-kess*- only rarely (H.B. Lee 1989:107).

In (5.28), *-ul* can be interpreted as past tense, present tense, or future tense according to the temporal adverb in the relative clause. It shows that *-(u)l* is not the future tense, but just the relative clause terminal suffix which can be analyzed as COMP.

(5.28) [**koki**$_i$-ka *ecey* / *cikum* / *nayil* ssu-ul]$_{REL}$ **kes**$_i$-i pangkum
beef-NOM yesterday/ now/ tomorrow use -COMP -NOM right now

tochakhay-ss-ta
be.delivered-PST-DEC
"The beef that had been used yesterday/The beef that is used now /The beef that will be used tomorrow/ is delivered right now."

The other evidence that *-(u)n/l* is the COMP can be derived from H.S. Lee's (1991) historical study. H.S. Lee (1991) proposes that historically *-(u)n* and *-(u)l* were attributive suffixes, which can be analyzed as complementizers. He proposes the following synchronically-valid decomposition of the realis-attributive suffixes:

(5.29) a. *-nun* = *nu* (non-past imperfective marker) + *(u)n*
b. *-(u)n* = (perfective maker) + *(u)n*
c. *-ten* = *te* (retrospective or past imperfective marker)+ *(u)n*

From this evidence, we can say that the relative clause ending suffixes such as *-un* and/or *-(u)l* rather than *kes* are COMP. Therefore, the analyses of Jhang (1992, 1994) and K.O. Lee (1991), who take *kes* as COMP and the relative clause ending suffix as tense in IHRCs, should be reconsidered.

5.2.2.3. Similarities in EHRCs and IHRCs

The gapping and resumptive pronoun strategies in Korean EHRCs have been studied by many scholars (Kuno 1973, S.W. Lee 1983, Y.S. Kang 1986 among others).

[176]With process verbs, *-(u)n* refers to past time or to an action or event that has been completed, but with descriptive verbs it refers to the present time.

Some EHRCs with a resumptive pronoun in the relative clause have an IHRC counterpart, as shown in (5.30)-(5.31).

(5.30) a. [**casin$_i$**/* ku-i (cikcep) posek-ul hwunchi-n]$_{REL}$ **totwuk$_i$** :EHRC
self / *he-NOM (himself) jewelry-ACC steal -COMP thief
"The thief who self stole the jewelry"

b. [**totwuk$_i$**-i posek-ul hwunchi-n]$_{REL}$ **kes$_i$** :IHRC
thief -NOM jewelry-ACC steal -COMP

(5.31) a. [sonyen-i **kukes$_i$**-ul (melli himchakey) tenci-ess-ten]$_{REL}$ **tol$_i$** :EHRC
boy-NOM it-ACC (far powerfully) throw-PST-RETRO-COMP stone
"The stone which a boy threw far away"

b. [sonyen-i **tol$_i$**-ul (melli himchakey) tenci-ess-ten]$_{REL}$ **kes$_i$** :IHRC
boy-NOM stone-ACC (far powerfully) throw-PST-RETRO-COMP one

The above examples show that there is a lexical head NP in the main clause and a resumptive pronoun in the embedded relative clause with EHRC constructions while there is the pro-form *kes* in the main clause and a lexical NP in the embedded relative clause in IHRCs. In either case, the head NP and *kes* or resumptive pronoun can get their own case-maker.[177] The only difference between the two types of relative clauses is the phonologically overt lexical representation. In both cases, the head is realized as a lexical NP, while the non-head NP is realized as either the pro-form *kes* in IHRCs or a gap in EHRCs which can be filled with a resumptive pronoun. Except for this symmetrical relationship between lexical NPs and pro-forms or resumptive pronouns, there are no syntactic structural differences between IHRCs and EHRCs. This supports the structure for both types of Korean relative clauses, proposed in (5.23) above.

5.2.3. Problems with GB Analyses

We have given several motivations for the structure in (5.23). However, much of the literature (Williamson 1987; Culy 1988, 1990; Jhang 1992, 1994; K.O. Lee 1991, among others) argues that (5.23) is not acceptable in the GB framework since the structure for IHRCs violates binding conditions or the ECP (if NP2 is null, as Cole (1987) proposes). However, there are clearly two languages that violate the binding conditions:

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[177]Jhang (1992) argues for a case marking difference in IHRCs and EHRCs in that the relativized nominal in IHRCs has case, but the gap in EHRCs does not have surface case. He is right in that the gap has no overt case marker in IHRCs. This is not only characteristic of gaps in EHRCs. In Korean, a case-marker is a bound morpheme that never occurs independently and that must be affixed to a noun. If there is no noun, naturally there will be no case-marker. Thus, a gap can not get its own case, but the resumptive pronoun in EHRCs can get its own case as the pro-form *kes* can get its own case in IHRCs.

Diegueño, a Yuman language of San Diego County and northern Baja California (Imperial Valley dialect; Gorbet 1976) and Kombai, a language of Irian Jaya (Vries 1989)[178]. There have been several attempts to solve this problem in the GB framework. Central to these attempts is an analysis which involves movement in LF. Some of the literature proposes an alternative structure for IHRCs (cf. K.O. Lee 1991, Jhang 1992), H.J. Yoon (1991) posits that *kes* is raised to the head of the NP, the head of N at S-structure (cf. footnote

---

[178]For example, Jhang (1994) argues that (5.23) violates Binding Condition C since the external pro-form *-kes* of IHRCs binds the internal lexical head (an r-expression). For this reason, Lee et. al. (1990: 319) suggest that, across languages, relative clauses never have both an external and an internal head. However, this approach cannot be valid with Diegueño, a Yuman language of San Diego County and northern Baja California (Imperial Valley dialect; Gorbet 1976) and Kombai, a language of Irian Jaya (Vries 1989). The former language is already noticed by Jhang (1994) and Culy (1990: 264) and I owe the latter language to Matthew Dryer (p.c.). Examples can be illustrated as in (i)-(ii).

(i) Diegueño (Imperial Valley): Gorbet (1976: 63-64)

[[[Si:pac a:k(+ø) wi:+m tuc]]+pu
man bone(+OBJ) rock+COMIT hit + DEM

a:k] +pu+ø si:n^{y} +c wyaw
bone+DEM+OBJ woman+SUBJ found
"the woman found the bone that the man hit with the rock"

(ii) Kombai (Vries 1989: 213)

a. [[Gana gu fali kha] ro] na-glana-y-a
bushknife you(sg.) carry.SS go.2sg.NF thing/RC my-bushknife-tr-pred
"The bushknife that you took away, is my bushknife."

b.[[Yare gamo khereja bogi-n-o] rumu] na-momof-a
old.man join.SSwork dur.do.3sg.NF-tr-conn person my-uncle-pred
"The old man who is joining the work, is my uncle."

Gorbet (1976) describes the relative clause as "relative clause construction IV" and Vries (1989) describes the construction for relative clauses as "double-headed." These constructions are different from corelative clauses (cf. Keenan 1985), common in Indic language, in that a corelative clause plus external NP does not form a constituent (Dryer, p.c.). In Kombai, relative clauses generally have two heads, a topical head inside the relative clause and grammatical head outside the relative clause (Vries 1989: 213). In that the grammatical head is semantically more general than the topical head in Kombai "double-headed" relative clause, Korean is smilar to Kombai: the head noun inside the relative clause is lexical noun and the noun outside the clause is general pro-form *kes*, referring to the general thing. The pro-form *kes* of Korean IHRC is much more processed to be reduced lexically to complementizer than the grammatical head of Diegueño and Kombai in that Korean allows only pro-form *kes*, not lexical NP, as its grammatical head.

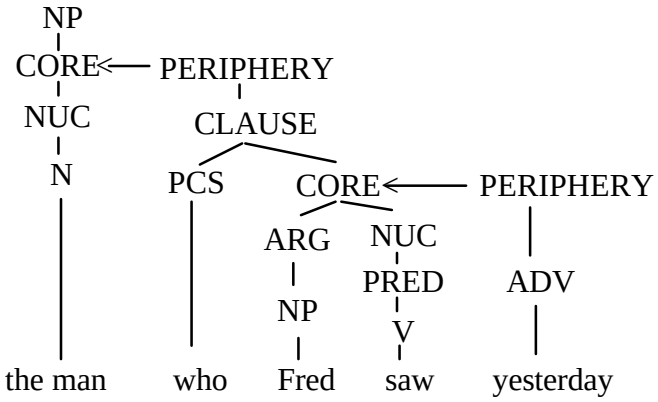
16), and Tsubomoto (1990) proposes that IHRCs are always extraposed relative clauses (K.O. Lee 1991:34).

Even though head-raising and movement have theory-internal motivations, none of these GB analyses gives any reason for why there should be such movement, nor do they show how the internal lexical head noun is co-indexed with the higher abstract NP nodes (cf. Williamson 1987; Jhang 1992, 1994). Moreover, if there is a lexically filled NP *kes* in the empty category as shown in (5.23), it would be impossible to raise the head to the phonologically null position since it is already occupied by a lexical NP. They make a non-standard assumption about movement which replaces an empty category in LF (Cole 1987).

5.2.4. RRG's Analysis: the Clause Linkage Types of Relative Clauses

In this section, I will propose a structure for relative clauses in the RRG framework. Van Valin (1993a) proposes the following clause structure for English restrictive relative clauses, which is structurally analogous to the strucutre for adverbial subordinate clauses (cf. section 4.3.1.1).

(5.32) Restrictive Relative Clause in English (Van Valin 1993a: Figure 40)



In this structure (5.32), the relative clause is a non-argument, i.e. a peripheral modifier of the nominal core, like adverbials in the periphery in adverbial clause subordination.

In Korean, relative clauses are non-arguments in both EHRCs and IHRCs, like English. However, as seen in section 1.2, Korean has no words corresponding to English relative pronouns such as *who, which , where,* etc. In both relative constructions, the head NP argument is shared by the subordinate relative clause and the main clause. Consider examples (5.1) and (5.2), which I repeat here for convenience as (5.33)-(5.44).

(5.33)a. Externally Headed Relative Clause (EHRC)

Chelswu-ka [**e**$_i$ kocangna-n]$_{REL}$ **khempwuthe**$_i$- lul kochi-ess-ta
-NOM be broken -COMP computer -ACC fix-PST-DEC
"Chulsoo fixed the computer that was broken."
[gapped NOM in REL = ACC in main]

b. Internally Headed Relative Clause (IHRC)

Chelswu-ka [**khempwuthe**$_i$-ka kocangna-n]$_{REL}$ **kes**$_i$-ul kochi-ess-ta
-NOM computer -NOM be broken-COMP one-ACC fix-PST-DEC
[NOM in REL = pro-form ACC in main]

(5.34) a. Externally Headed Relative Clause (EHRC) (Jhang 1991)

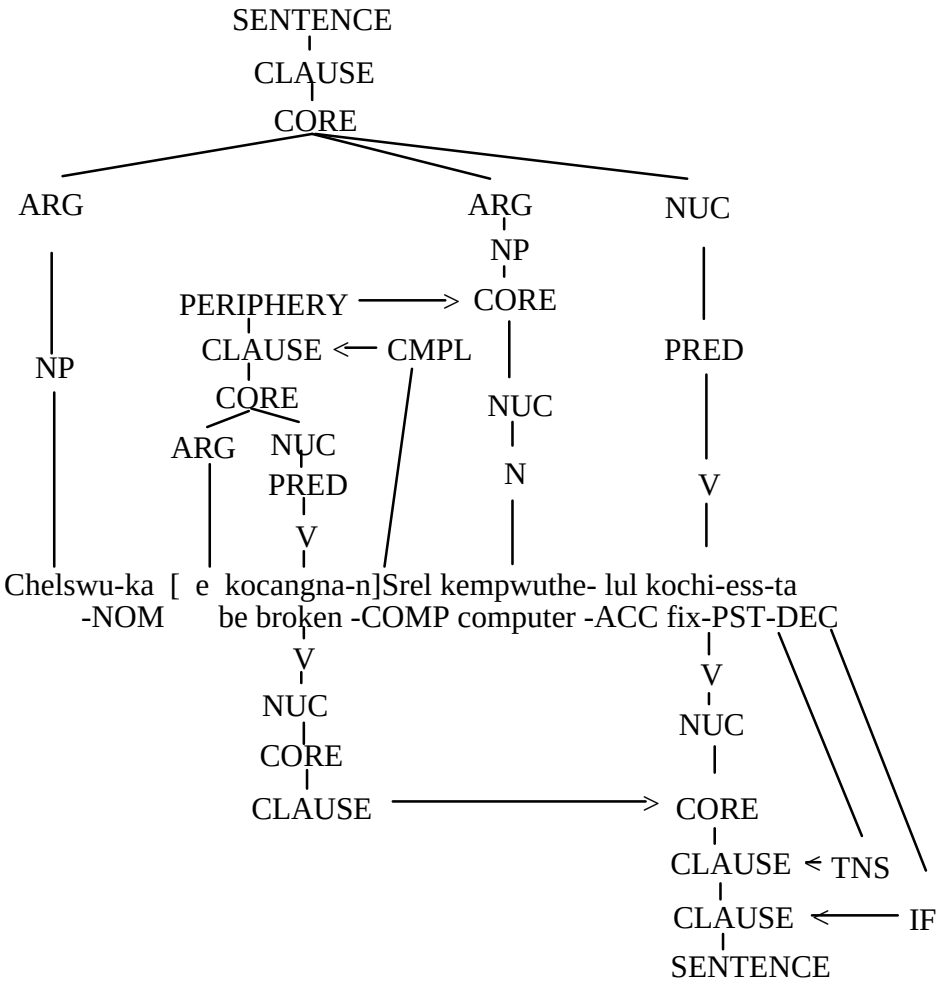
[totwuk-i **e**$_i$ hwumchi-n]$_{REL}$ **posek**$_i$-i kacca-ta
thief-NOM steal -COMP jewelry-NOM fake-DEC
"The jewelry that the thief stole is fake."
[gapped ACC in REL = NOM in main]

b. Internally Headed Relative Clause (IHRC)

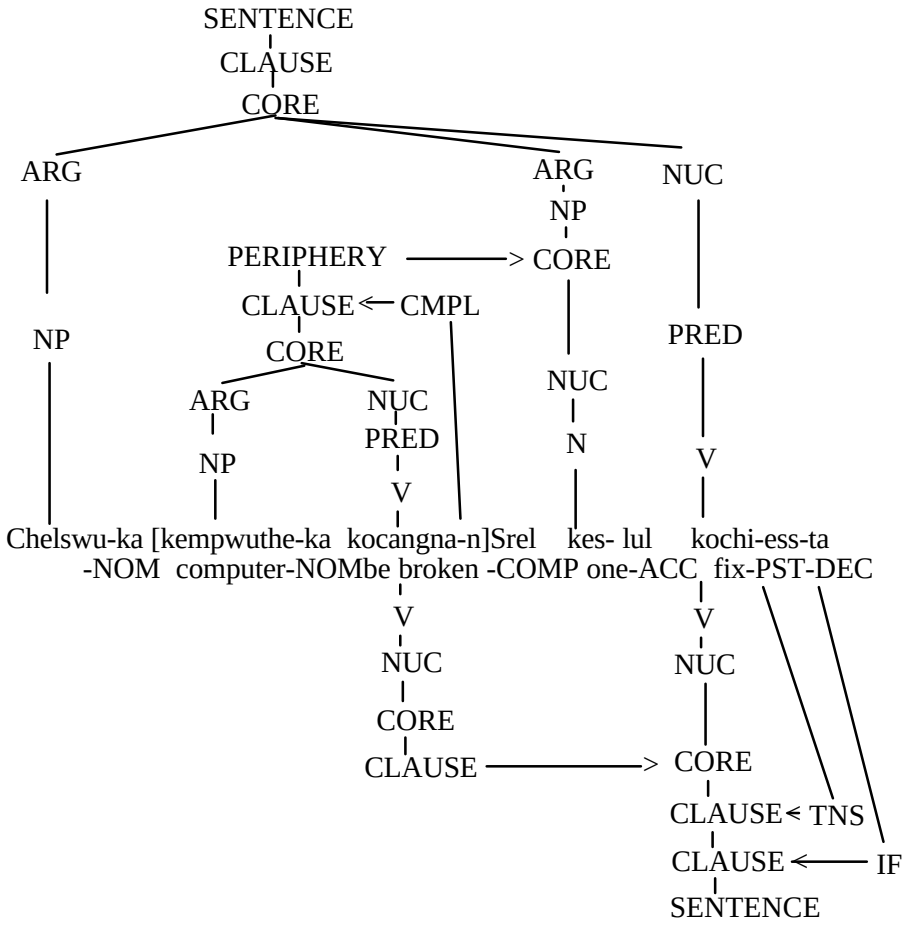
[totwuk-i **posek**$_i$ -ul hwumchi-n] $_{REL}$ **kes**$_i$-i kacca-ta
thief-NOM jewelry-ACC steal- COMP one -NOM fake-DEC
[ACC in REL = pro-form NOM in main]

In (5.33), the actor core argument of subordinate relative clauses (i.e. *khempwuthe* 'computer') works as the undergoer of the main clauses in both EHRC and IHRCs. In (5.34), the undergoer core argument (i.e. *posek* 'jewelry') of the relative clauses works as undergoer of the main clauses, which are unaccusative (cf. B.S. Yang 1991) in both cases. The structure of both relative clauses in (5.33) can be illustrated as in (5.35).

(5.35) a. EHRC (cf. 5.33a)



b. IHRC (cf. 5.33b)



In (5.35), the EHRC and the IHRC have the same constituent and operator projections. As I mentioned in the previous section, both relative clauses and main clauses are marked for tense, though the tense interpretation for the relative clauses is dependent on the tense of the main verbs in Korean. In contrast to English relative clauses in which the PCS is occupied by relative pronoun, there is no relative pronoun in Korean relative clauses. The shared argument between relative clauses and main clause can be marked by co-reference indexation, as I propose elsewhere (B.S. Yang 1993a & b), or can be represented in the linking from semantics to clause structure (cf. section 2.3.2). Since RRG posits only one level of syntactic representation and no transformational rules, it accounts for the binding conditions and the ECP in different ways.[179] (5.35) shows that Korean IHRCs have the same syntactic structure as EHRCs. Furthermore, a single structure for Korean IHRCs and EHRCs helps to suggest a structure for relative clauses in universal grammar. Few languages have both types of relative clauses, as Korean, Japanese, and Quechua do; however, there are many languages that have only IHRCs (i.e. Dogon and Lakhota) or

[179]Refer to Van Valin (1990c) for RRG's account of binding conditions and Van Valin (1993, 7.3.1.) for the ECP.

only EHRCs (i.e. English). Thus, one structure for relative clauses could be valid cross-linguistically.

Given the structure in (5.35), two questions still arise. If IHRCs and EHRCs have the same clause structure, how can the theory distinguish one from the other in a language that has two types of relative clauses? If there is a language that has only one type of relative clause, how can the theory predict which type it will be ? It is very hard to answer these questions in theories which assume autonomous syntax (cf. Culy 1988). In contrast, a structural-functionalist theory like RRG can handle them, since it is concerned with not only clause structure, but also information structure.[180]

5.3. Information Structure of Relative Clauses: the Differences between EHRC and IHRC

5.3.1. Focus structure of Relative Clauses

Lambrecht (1988b, in press) introduces three different relative constructions in English: restrictive relative clauses as in (5.36a), presentational (event-reporting or thetic) relative clauses as in (5.36b), and presentational amalgam constructions as in (5.36c).

(5.36) a . I finally met the woman who moved in downstairs.
(Lambrecht in press: (2.11))

b. Once upon a time there was an old king who lived in a beautiful castle.
(ibid.: (4.5))

c. There was a farmer had a dog. (Lambrecht 1988b)

He describes an important pragmatic difference among these three constructions. The proposition expressed by a restrictive relative clause is presupposed, not asserted, "meaning that it is assumed to be already known (or believed or otherwise taken for granted) by the addressee" (Lambrecht in press: 62). Thus, what I want to communicate to my addressee in (5.36a) is that I met my new neighbor, not that someone moved in downstairs. That is, the restrictive relative clause *who moved in downstairs* is excluded from the AFD and the PFD in RRG's information sense. He (ibid.: 63) uses Erteshik-Shir and Lappin's (1979, 1983) 'lie-test' to show that the restrictive relative clauses are presupposed, not asserted. In saying that *That's not true* to challenge (5.36a), the reply challenges only the asserted proposition that I met my neighbor, not the presupposition that a woman moved in downstairs. The presentational relative clause (5.36b) is treated as a bi-clausal sentence, structurally and pragmatically different from the restrictive relative clause (5.36a). The head *an old king* is first introduced by the presentational clause as a focus NP and can become the topic of the following relative clause, *who lived in a beautiful castle*, in which it appears as the (topic) expression *who*. (5.36b) differs from restrictive relative clause (5.36b) in that its proposition is not presupposed but asserted. Even though the old king is the topic of the sentence, it is not a topic expression (cf. section 5.1.1 for the defintion) (Lambrecht in press: 158- 159). The relative pronoun in

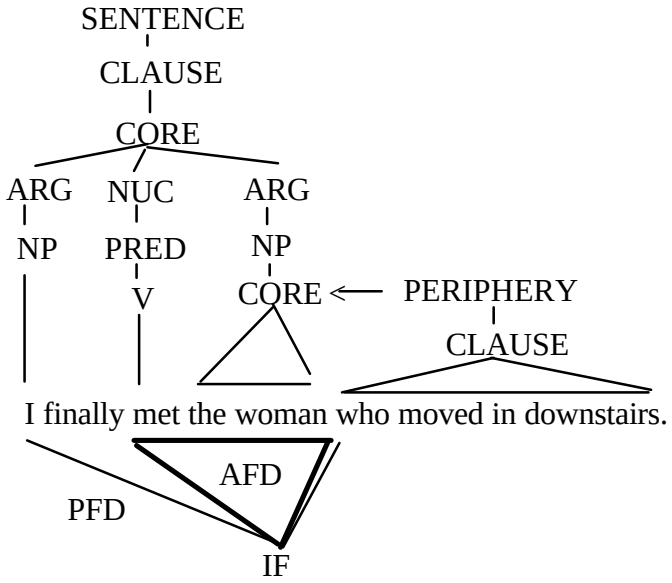
[180]At this stage, I am not sure that the information structures of Korean relative clauses are applicable to other languages. Therefore, I will leave this question open.

both restrictive relative clause and presentational relative clause is a topic expression[181], while the proposition expressed by the relative clauses is either presupposed (i.e. 5.36a) or asserted (i.e. 5.36b). In (5.36c), which has no relative pronoun, the head and the relative clause are not presupposed, but asserted like the presentational relative clauses (5.36b). In contrast to the presentational relative clause, the topic expression (i.e. relative pronoun) is amalgamated with a topic referent (i.e. head - 'a farmer'). Thus, in the presentational amalgam relative constructions, the head noun and the complex NP containing the relative clause may well be a focus expression.

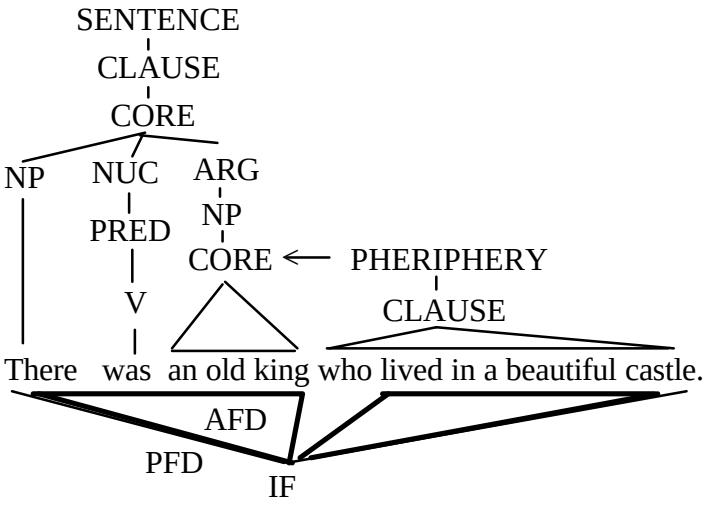
The three relative clauses can be represented with RRG's information structures as follows:

[181]In this sense, the relative clauses are unmarked predicate focus which is consistent with topic-comment in both restrictive and presentational relative clause constructions.

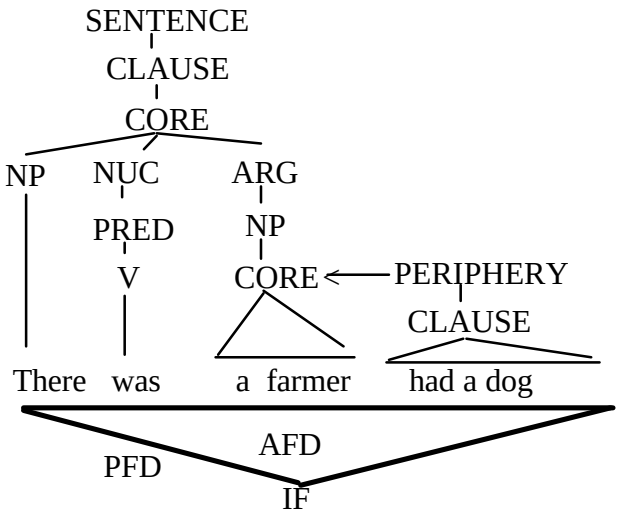
(5.37) a. Restrictive Relative Clause



b. Presentational Relative Clause



c. Presentational Amalgam Relative Clause



Only relativized elements (i.e. relative pronoun in English or gapping in Korean) in the relative clause is necessary for a topic expression. Both the head noun and the complex noun phrases containing the relative clause (e.g. *the woman who moved in downstairs* in (5.36a)) may well be in the focus domain even though the proposition expressed by subordinate restrictive relative clauses is presupposed. The subordinate restrictive relative clause in (5.37a) and relative pronoun in (3.37b) are excluded from the AFD and the PFD since the proposition is always presupposed[182]. In all relative clause constructions, the asserted proposition of embedded relative clause is in the AFD in (5.37). In (5.37c), there is no overt relative pronoun, which would be a topic expression. Thus, the whole complex sentence including the relative clause, which is a sentence focus structure, is in both PFD and AFD. This shows that topic constituents may be embedded not only within other topic constituents but also within focus constituents[183].

5.3.2. Information Structure of Korean Relative Clauses

Now let's turn our interest to the information structure of Korean relative clauses, which I repeat here for convenience as (5.38).

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[182]The excludedness from the PFD of subordinate relative clauses can be accounted for with a general structural constraint governing the PFD in complex sentences (Van Valin 1993a: 121): A subordinate clause may be within the PFD if and only if it is a direct daughter of (a direct daughter of) the clause node which is modified by the IF operator.

[183]For example, the gap or resumptive pronoun is the topic or theme, and the predicate is the statement about the topic expression in subordinate restrictive relative clauses (cf. Kuno 1976). Thus, the restrictive relative clauses have a topic-comment structure (i.e. predicate focus construction), and it is represented outside of the AFD in main clause as in (5.37a).

(5.38) a. Externally Headed Relative Clause (EHRC)

Chelswu-ka [**e**$_i$ kocangna-n]$_{REL}$ **khempwuthe**$_i$- lul kochi-ess-ta
-NOM be broken -COMP computer -ACC fix-PST-DEC
"Chulsoo fixed the computer that was broken."

b. Internally Headed Relative Clause (IHRC)

Chelswu-ka [**khempwuthe**$_i$-ka kocangna-n]$_{REL}$ **kes**$_i$-ul kochi-ess-ta
-NOM computer -NOM be broken-COMP one-ACC fix-PST-DEC

Even though IHRCs and EHRCs have the same constituent and operator projection as shown in section 5.2, there is an important pragmatic difference between IHRCs and EHRCs in Korean. In EHRCs the proposition expressed in the relative clause is pragmatically presupposed. In IHRCs the propositional content of the relative clause is asserted, as in English presentational relative clauses or it only has a nonrestrictive interpretation (Dryer 1994a)[184] and the topic expression *kes* occurs outside the relative clause. However, the IHRCs are formally like an English presentational amalgam construction rather than the presentational relative clauses because there is neither a gap nor relative pronoun in the relative clauses.

Let's take Erteshik-Shir and Lappin's (1979, 1983) 'lie-test' to show that the restrictive relative clauses are presupposed in EHRCs, and the relative clauses are asserted in IHRCs as Lambrecht (in press) does to distinguish presentational and restrictive relative clause constructions. In saying that *That's not true*, the addressee would be understood as challenging only the portion of the utterance which is presented as new (i.e. asserted proposition), not the portion which is grammatically marked as to be taken for granted (i.e. presupposed proposition) (cf. Lambrecht in press: 159). If a reply *kulechi anh-ta* 'That's not true' or *sasil i ya* ? 'Is it true ?' is addressed to EHRC (5.38a), this reply challenges or re-asks the truthfulness of the proposition that Chulsoo fixed the computer, not that a computer was broken. Thus a more explicit challenge or doubt for the EHRC (5.38a) should be one of the sentences in (5.39), not one of the sentences in (5.40)[185].

(5.39) a. kulechi anh-ta. ku-nun khempwuthe-lul kochil-ci-lul mos-hay.
that not-DEC he-TOP computer-ACC fix-NMZ-ACC NEG-do
"That is not true. (I know that) He cannot fix the computer."

---

[184]Also, in Korean, the presentational restrictive relative clause is possible in the beginning of a discourse. However, I will not discuss it in this thesis.

[185]As Lambrecht (in press: 159) proposes, the answerer indicates that the proposition which the speaker is treating as known can in fact not be assumed to be known, modifying the presuppositional situation explicitly, by saying e.g. 'I didn't know that the computer was broken' or 'What are you talking about ? Which computer ?'.

b. sasil i-ya ? ku-ka khempwuthe-lul kochi-ess-tako ?
true be-Q he-NOM computer-ACC fix-PST- Q
"Is it true that he fixed the computer ? (I cannot believe it)"

(5.40) a. kulechi anh-ta. khempwuthe-nun kocangna-ci.ahn-ass-e.
that not-DEC computer-TOP broken-NEG- PST-DEC
"That is not true. The computer was not broken."

b. sasil i-ya ? khempwuthe-ka kocangna-ss-tako ?
true be-Q computer-NOM broken-PST-Q
"Is it true that the computer was broken ?"

This shows that the relative clauses are presupposed, not asserted in EHRCs. With IHRCs (5.38b), there are two propositions which are new information: one is expressed by the main clause and the other in the relative clause. Thus, if a reply *kulechi anh-ta* 'That's not true' or *sasil i ya* ? 'Is it true?' is addressed to the IHRC (5.38b), there are three possible interpretation for the challenges on the truthfulness; (i) that Chulsoo fixed the computer, (ii) that the computer was broken, iii) both (i) and (ii), that is, that the computer was broken and that Chulsoo fixed the computer. Thus it is possible to challenge or doubt the IHRC example in (5.38b) is with not only (5.39) or (5.40), but also (5.41).

(5.41) a. kulechi anh-ta. khempwuthe-nun kocangna-ci.ahn-ass-ko,
that not-DEC computer-TOP broken-NOT- PST-DEC

ku-nun kukes-lul kochici-to anh-ass-e.
he-TOP it-ACC fix-too NOT-PST-DEC
"That is not true. Not only the computer was not broken,
but also he did not fix it.""

b. sasil i-ya ? khempwuthe-ka kocangna-ss-ko
true be-Q computer-NOM broken-PST-Q

Chelswu-ka kukes-lul kochi-ess-tako ??
-NOM it-ACC fix-PST-Q
"Is it true that the computer is broken and that Chulsoo fixed it ?"

These show that not only relative clauses, but also main clauses are asserted in IHRCs.

Arguing against the position of Ohara (1994), who argues that IHRCs in Japanese are pseudo-relatives, Dryer (1994a) proposes that IHRCs in Japanese can be asserted like nonrestrictive relative clauses in English such as 'I adopted this child, which Mary gave birth to' (ibid.:(2)). It is true in that there is no nonrestrictive relative clause like English in Korean (cf. Y. Na 1986). In Korean, non-restrictive relative clauses, which are asserted, are expressed with IHRCs. It is often possible to determine the focus of a proposition by asking an information question whose WH-constituent corresponds to the presumed focus in the answer (cf. Comrie 1989:57) and Lambrecht (in press: section 5.1.1, 4.1.1, 364-65). For example, EHRC (5.38a) is a possible answer for the question 'What happened with

the computer that was broken ?'[186] while IHRC (5.38b) is appropriate for the question 'What happened ?'. This also shows that the relative clauses in EHRCs are presupposed, whereas those in IHRCs are asserted.

Lambrecht (1988b: 325) presents the pragmatic difference between restrictive relative and presentational relative clauses, showing the different behavior of the two relative clause types in conjoined coordination in English.

(5.42) Presentational Relative Clauses (Lambrecht 1988b: (24)
a. Once upon a time there was an old cockroach who lived in a paper bag and who was very poor.

b. Once upon a time there was an old cockroach who lived in a paper bag and he was very poor.

(5.43) Restrictive Relative Clauses (Lambrecht 1988b: (25))
a. I told you the story about the cockroach who lived in a paper bag and who was very poor.

b. *I told you the story about the cockroach who lived in a paper bag and he was very poor.

In presentational construction it is possible to conjoin a second clause either by repeating the relative clause (i.e. 5.42a), or by adding a coordinate main clause (i.e. 9.42b). In the restrictive relative construction (i.e. 5.43), however, only coordination of another relative clause is possible (i.e. 5.43a). He explains the difference between (5.42b) and (5.43b) in that the propositional content of the relative clause is asserted and can be coordinated with asserted main clause in presentational relative clause (5.42b), whereas the propositional content of the relative clause is presupposed in restrictive relative clause (5.43b) and thus it cannot be coordinated with asserted main clause in (5.43b) because of semantic clash between assertion and presupposition.

In Korean, relative clauses of the same type can be coordinated with coordinate conjunctive particles *-ko* 'and' as in (5.44), while the coordination of two different types of relative clauses are impossible as in (5.45).

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[186]The most appropriate answer for the question 'What happened with the computer that was broken ?' is (i), without repeating the proposition of relative clause. As we anticipate, (5.38b), which is a EHRC, cannot be an appropriate answer for 'What happend with the computer that was broken ?'.

(i) EHRC without relative clause

Chelswu-ka kukes-lul kochi-ess-ta
-NOM it-ACC fix-PST-DEC
"Chulsoo fixed it"

(5.44) a. IHRC and IHRC
Chelswu-ka [[khempwuthe-ka kocangna]$_{REL}$ -ko
-NOM computer-NOM broken -CONN

[(khempwuthe-ka) kkayci]$_{REL}$ -n] kes -ul kochi-ess-ta
shattered -COMP one-ACC fix-PST-DEC
"Chulsoo fixed the computer that was broken and that was shattered."

b. EHRC and EHRC
Chelswu-ka [[e kocangna]$_{REL}$ -ko [e kkayci] $_{REL}$]-n
-NOM broken -CONN broken -COMP

khempwuthe-lul kochi-ess-ta
computer-ACC fix-PST-DEC

(5.45) a. IHRC and EHRC
*Chelswu-ka [[khempwuthe-ka kocangna]$_{REL}$ -ko
-NOM computer-NOM broken -CONN

[e kkayci] $_{REL}$]-n khempwuthe-lul kochi-ess-ta
shattered -CONN computer-ACC fix-PST-DEC

b. EHRC and IHRC
*Chelswu-ka [[e kocangna]$_{REL}$ -ko
-NOM broken -CONN

[khempwuthe-ka kkayci]$_{REL}$ -n kes-lul kochi-ess-ta
computer-NOM shattered -COMP one-ACC fix-PST-DEC

The contrast between (5.44) and (5.45) is caused by the semantic clash between the asserted proposition of IHRC's relative clauses and the presupposed proposition of EHRC's relative clauses. Since there is no semantic clash between the same types of relative clauses, however, they can be coordinated without difficulty as shown in (5.44). These data show that there are pragmatic differences between the two types of relative clauses and indirectly support the idea that the relative clauses of IHRCs is asserted and those of EHRCs are presupposed.

The pragmatic difference between IHRCs and EHRCs can be explained by different discourse contexts. Dryer (p.c.) suggests that restrictive relative clause and non-restrictive relative clauses are used in different situations in English[187].

(5.46) a.John brought a computer and a TV to my house.
b. Chulsoo fixed the computer, which is broken.
(5.47) a. John brought two computers to my house. One of them was broken.

[187]I owe these examples to Dryer (p.c.).

b. Chulsoo fixed the computer that was broken.

In (5.46), the proposition that a computer is broken is a new information. Thus, non-restrictive relative clause (i.e. 5.46b) is appropriate to discribe a situation that Chulsoo fixed a broken computer. In (5.47), the proposition that a computer is broken is an old information. Thus, restrictive relative clause (i.e. 5.47b) is only appropriate sentence to discribe the situation that Chulsoo fixed the broken computer. In English, assertion and presupposition for a proposition is represented with restrictive vs. non-restrictive relative clauses. In Korean, this difference can be represented with different types of relative clauses, too. In the situation of (5.46), only the IHRCs such as (5.38b) are appropriate, whereas in the situation of (5.47), only the EHRCs such as (5.38a) are appropriate. This also shows that IHRCs are asserted and EHRCs are presupposed. In this sense, Korean IHRCs are similar to English non-restrictive relative clauses and Korean EHRCs are similar to restrictive relative clauses.

In the above, we showed that Korean IHRCs are analogous to English presentational (amalgam) relative clauses or non-restrictive relative clauses and that Korean EHRCs are analogous to English restrictive relative clause in pragmatic information. However, before we draw any conclusions, we should notice an important difference between Korean EHRCs and English restrictive relative clauses: the difference in the PFD. In English restrictive relative clauses, the subordinate restrictive relative clauses are always presupposed and they are excluded not only from the AFD, but also from PFD, as I proposed in (5.37). Thus, no elements of the subordinate clauses can be questioned with a WH-word. This phenomena is described as Subjacency or the WH-Island Constraint in GB. However, it has been pointed out that Korean (cf. M.O. Moon 1991; K. Choi 1989; E.J. Lee 1987) as well as Japanese (cf. Shimojo 1994) does not observe subjacency in WH-question formation[188]. In contrast to English restrictive relative clauses, some elements in the subordinate clause of EHRCs can be questioned in Korean and Japanese. Examples can be illustrated as in (5.48).

(5.48) a. Chelswu-nun [[Swunhi-ka tosekwan-eyse e_i pili-n]$_{REL}$ chayk$_i$]-ul ilk-ess-ta
-TOP -NOM library-at borrow-COMP book-ACC read-PST-DEC "Chulsoo read the book that Soonhi borrowed from the library. "

b. Chelswu-nun [[nwukwu-ka tosekwan-eyse e_i pili-n]$_{REL}$ chayk$_i$]-ul ilk-ess-ni ?
-TOP who -NOM library-at borrow-COMP book-ACC read-PST-Q "(Lit) Chulsoo read the book that who borrowed from the library ? "

c. Chelswu-nun [[nwukwu-ka eti-eyse e_i pili-n]$_{REL}$ chayk$_i$]-ul ilk-ess-ni ?
-TOP who -NOM where-at borrow-COMP book-ACC read-PST-Q "(Lit.) Chulsoo read the book that who borrowed where ? "

(5.49) a. [[dono kyoozyu-ga suisen-sita]$_{REL}$ hito]-ka saiyoo-saremasita ka

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[188]To solve this problem, Nishigauchi (1986) and Huang (1982) claim that subjacency (or ECP) is the relevant constraint at LF in Japanese and in Chinese.

which prof. -NOM recommended person-NOM was.hired Q
"(Lit.) A person that which professor recommended was hired ?"
(Hasegawa 1989: 138)

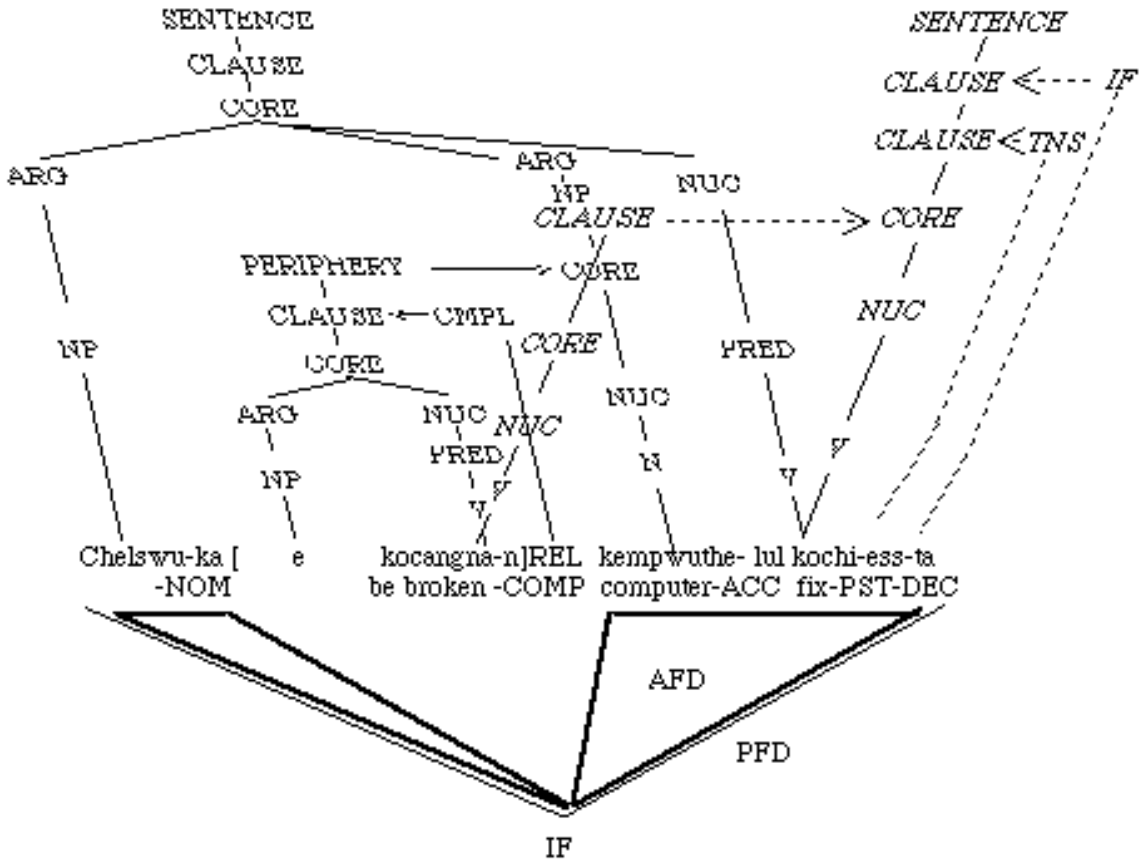
b. ken wa [dare ga motteki-ta]$_{REL}$ hon]-o karimas-ita-ka
Ken TOP who SUB bring-PST book-OBJ borrow-PST-Q
"Who did Ken borrow the book which __ brought ?" (Shimojo 1994)

The examples above suggest that the subordinate clauses of Korean and Japanese EHRCs are included in the PFD[189], unlike English restrictive relative clauses whose subordinate clauses are excluded from the PFD.

These pragmatic differences between IHRCs and EHRCs can be represented in the focus structure projection in RRG. In Korean, the PFD is the clause, as in English, since the Illocutionary Force [IF] operator has scope over simple clauses. In EHRCs, the presupposed subordinate relative clause, which is an unmarked predicate focus construction, is excluded from the AFD though it is included in the PFD. In IHRCs, the asserted subordinate relative clause, which is a marked sentence focus structures, is included in the AFD, while the pro-form *kes* , which is a topic expression, is excluded from the AFD. That is, the topic position is inside the relative clause in EHRCs, while it is outside the relative clause in IHRCs. Thus, the term 'Internally Topical Relative Clause' for EHRCs and 'Externally Topical Relative Clause' for IHRCs are valid rather than the terms used by much of the literature. Thus, different focus structure projections can be proposed for the two different types of relative clauses even though they have similar constituent and operator projections in RRG as in (5.50).

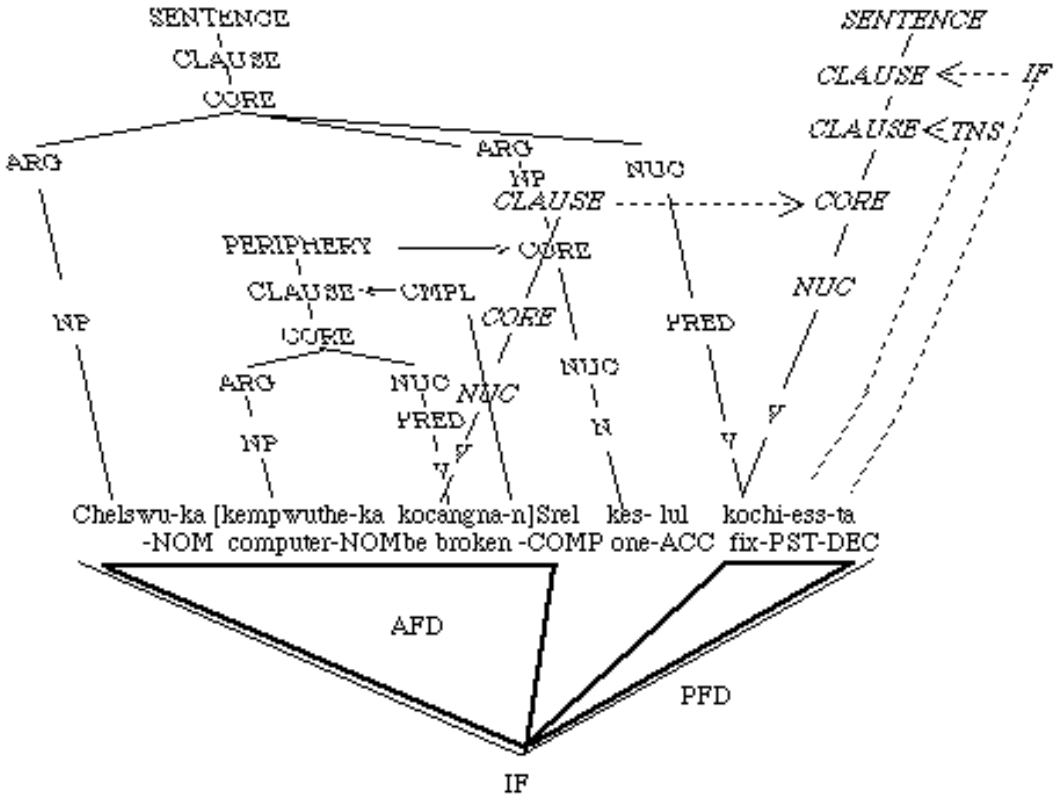
[189]It is natural that the subordinate clauses of IHRCs are included in the PFD.

(5.50) a. EHRC[190]



[190]In the focus structure projection, the unmarked predicate focus structure of subordinate relative clause in EHRCs and the marked sentence focus structure of subordinate relative clause in IHRCs cannot be represented since the IF of embedded clauses is embedded in the IF of the main sentences.

b. IHRC



With these two different information structures, we can distinguish IHRCs and EHRCs in Korean. (5.50) shows that IHRCs and EHRCs have the same clause and operator structures, whereas their information structures are different: the relative clause is in the PFD, but outside of the AFD for EHRCs, but is not only in the PFD, but also the AFD for IHRCs. Since the gap and pro-form is in the PFD, both IHRCs and EHRCs follow RRG's general restriction on extraction constructions such as restrictive relative clauses, WH-question formation, topicalization proposed in Van Valin (1993e).

(5.51) General restriction on extraction constructions: the displaced element (or the *in situ* WH-word in a language like Lakhota) must be linked to an argument position in the semantic representation of a clause within the PFD of the IF operator. (ibid.: (17))

Thus, this shows that not only syntactic and semantic information, but also pragmatic information, as in RRG's information structures, is necessary to account for some grammatical phenomena in universal grammar.

5.4. Summary

In this chapter, I have investigated two types of Korean relative clauses with respect to RRG's information structure as well as clause structure. I have argued that IHRCs and EHRCs have the same clause structure based on the following points: (i) *-(u)n* /*-(u)l* acts as COMP, not as a relative marker; (ii) *kes*, which has been analyzed as COMP,

acts as a pro-form like English *one*; (iii) there is a symmetrical relationship which the lexical head noun bears to the gap or resumptive pronoun (in EHRCs) and to the pro-form *kes* (outside IHRCs), and (iv) there is a shared argument between the subordinate relative clause and the main clause. I have claimed that the perceived difference in grammaticality between IHRCs and EHRCs is not due to a difference in syntactic structure, but to the difference in pragmatic information structure; the gap position (or resumptive pronoun position) is a topic expression and the relative clause is a presupposed predicate focus construction in EHRCs, which is excluded from the AFD, whereas the relative clause is an asserted sentence focus construction in IHRCs, which is included in the AFD. These conclusions show that a syntactic structural account alone is insufficient for the two types of Korean relative clauses and that we need an account in functional or pragmatic terms, such as information structure. In other words, the explanation of relative clauses[191] crucially involves the interaction of syntactic structure and pragmatic function. I have accounted for the difference between English restrictive relative clauses and Korean EHRCs with differences in the PFD: the former is excluded from the PFD and the latter is included in the PFD. I have proposed the new term 'Topic internal relative clause' for EHRCs and 'Topic external relative clause' for IHRCs.

[191]Van Valin (1993e) shows that the restrictions on restrictive relative clause formation as well as WH-question formation and topicalization, which are known as ‘island constraints’, ‘Ross contraints’, ‘extraction constraints’ or ‘subjacency’, can be explained with the interaction of pragmatics and syntax in RRG.

Chapter 6
Conclusion

This dissertation has tried to answer the following two related questions :

(i) Can RRG's general theoretical assumptions, as a structural-functionalist theory of grammar, account for Korean morpho-syntactic phenomena with a new perspective in general ?

(ii) Does Korean follow and support RRG's general assumptions as a theory of universal grammar ?

To answer these two questions, this dissertation presents an analysis in RRG of four morpho-syntactic phenomena of Korean, four planes in a three-dimensional grammar: psych-verb construction for 'Linking from Semantics to Clause Structure', inflectional verb morphemes for Operator Projection, clause linkage of complex sentences for Constituent and Operator Projection, and relative clause constructions for Focus Structure Projection.

In chapter 2, I studied the two types of Korean psych-verb constructions: their verb classes, lexical representation, syntactic phenomena and case-marking rules in RRG's Syntax-Semantics interface. I proposed the Korean Aspectual Verb Classification in (6.1) within the RRG framework.

(6.1) Korean Aspectual Verb Classification

Criterion	States	Achievements	Accomplish	Activities
1. Occurs with progressive form *-(u)ncwungi-ta*	NO	D: YES/P: NO	YES	YES
2. The present tense *-(nu)n-* entails action in progress/ change of state (process verbs only)	NO	YES	YES	YES
3. Occurs with adverbs like *paklyekisskey* / *himchakey* /*hwaltongcekulo/ hwalpalhi* 'vigorously', *swutasulepkey* 'actively', etc.	NO	NO	YES	YES
4. Occurs with *hansikan-tongan* 'for an hour'	YES	D: YES/ P: NO	YES	YES
5. Occurs with *hansikan-maney* 'in an hour ' and implies that an event finished in the hour	NO	D: YES/ P: NO	YES	NO
6. Selection of perfective form *-e-iss-* (intransitives only)	NO	YES	YES	NO
7. 'for an hour' entails 'at all times in the hour'	YES	D: NO/P: d.n.a	NO	YES
8. Progressive form entails*x has Øed*	d.n.a.	D: NO/P: d.n.a.	NO	YES
9. has inherent causative semantics: a. occur with causative morpheme *-i* or *-key-hata* b. locative adverbial nominals with goal interpretation and duration/frequency adverbial nominals can get accusative case.	NO	NO	YES	NO

With the proposed criterion, I showed that bare-form psych-verbs are states, and *e-ha* form psych-verbs are activities derived from stative psych verbs + *hata* 'do'. I handled three syntactic phenomena of Korean psych-verb constructions which have been treated in terms of subjecthood and case-marking rules without reference to grammatical relations. Using only the notions of macrorole and direct argument, I proposed the agreement rules and semantic case-marking rules in (6.2) and (6.3).

(6.2) The accessibility to pivot hierarchy for Korean Honorific Agreement, Reflexivization, and *myense* construction:

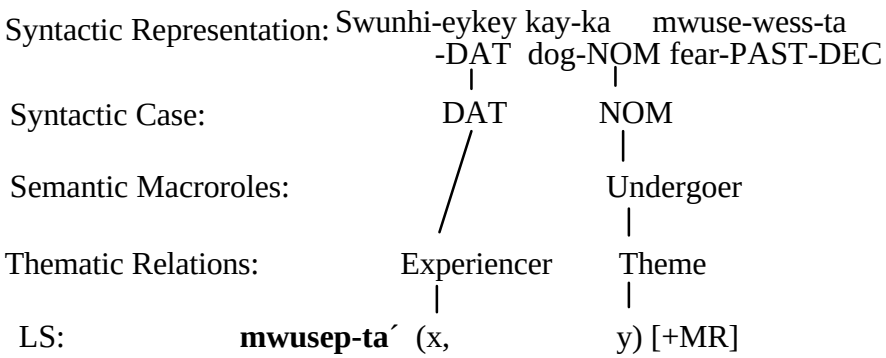
The highest ranking argument with respect to the Actor end of the Actor-Undergoer Hierarchy, regardless of whether it is a macrorole or not, is the pivot for honorification, reflexivization, and -*myense* constructions.

(6.3) Case marking rules for Korean (applied to semantic case)

a. The highest ranking macrorole takes NOMINATIVE case.
b. The other macrorole argument takes ACCUSATIVE case.
c. Non-macrorole direct core arguments take DATIVE as their default case

These case marking and syntactic agreement rules support RRG's assumption that semantic roles, not grammatical relations, are universal. Also, I showed that we need pragmatic cases for NOM-NOM case pattern of stative psych-verb constructions as well as semantic cases. Also, this supports RRG in that the explanation of Korean case marking crucially involves the interaction of syntactic structures, semantics, and pragmatics; they cannot be explained in terms of either structure alone, semantics alone, or pragmatics alone (Van Valin 1993e). Also I represented the syntax-semantics interface of Korean case-marking in the psych-verb constructions with (6.4).

(6.4) Syntax-Semantic Interface of Case Marking of DAT-NOM stative psych-verb constructions.



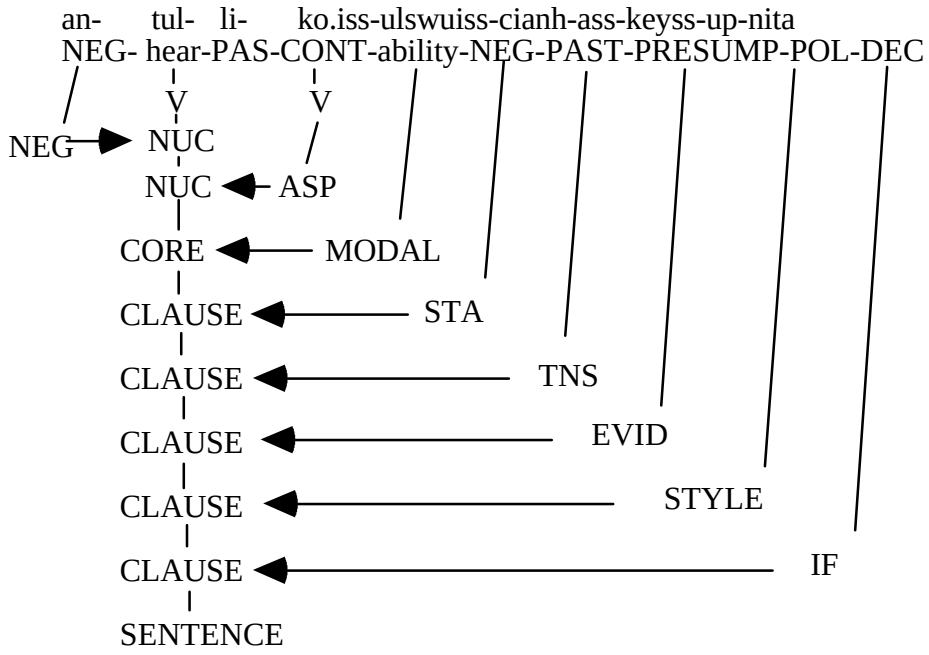
This chapter showed that RRG has excellent assumptions for Korean psych verb constructions and Korean psych verbs fully support RRG's assumptions.

In chapter 3, I investigated Korean inflectional verb morphemes within the RRG operator system. The fixed linear ordering of inflectional verb suffixes of Korean (including prefix negation *an-*) showed that the relative ordering and scope of the operators follow fully the RRG operator system and support RRG assumptions for universal grammar. I proposed the operator system in (6.5) with the operator projection in (6.6).

(6.5) Korean Operators System

a. Nuclear Operator:	Negation	Pre-verbal negation *an-*
	Aspect	Continuous (*ko-iss*), Perfective (*e-iss*)
	Directionals	Toward speaker (*-o-*), Away from speaker (*-ka-*)
b. Core operators:	Modality (e.g. ability, permission, obligation)	- *(l)swu-iss-*, *-(l)swu-eps- -ya-* (obligation)
	Internal (narrow scope) negation	*-ci-anh* (post-verbal)
c. Clausal operators:	Staus (epistemic modals, external negation)	*-ci-anh* (post-verbal negation)
	Tense	present *-(u)n-* , past *-ess*, future *-keyss*,
	Evidentials	presumptive *-keyss*, retrospective *-te-*, hearsay *-tate-*
	Speech Style	plain, formal, informal, familiar, intimate, polite *-(u)p*, *-ni-*, *-e*,
	Illocutionary Force [IF]; imperatives, propositives, interrogatives, declaratives	

(6.6) Korean Operator Projection

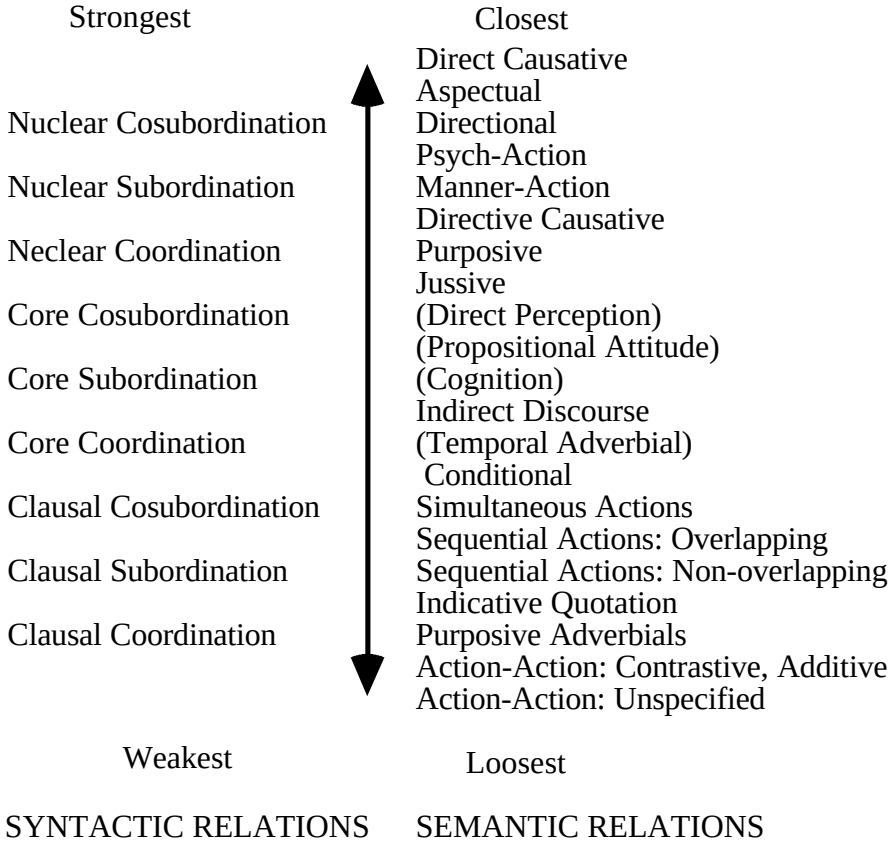


I showed that this operator projection of RRG has several advantages in providing an explanatory account for Korean verb inflectional morphemes. First, lexical causatives and passives, as well as subject honorifics, are analyzed as derivational, not as inflectional, and aspect as well as directionals are proposed as nuclear operators in the Korean operator

system. Second, the two types of negations are analyzed with three different operator types: nuclear (i.e. post-verbal negation), core (i.e. narrow scope of post-verbal negation), and clause (i.e. broad scope of post-verbal negation). Third, the presumptive suffix *-keyss*, retrospective *-te*, and hearsay *-tate* are analyzed as evidentials, for which no analysis had been proposed before. Fourth, sentence-ending suffixes such as *-ta* (declarative), *-nya* (interrogative), *-ca* (propositive) and *-la* (imperative) are analyzed as IF. Fifth, this Korean operator system satisfies RRG's assumption that "the ordering of the morphemes expressing operators with respect to the verb indicates their relative scopes" (Van Valin 1993a:9).

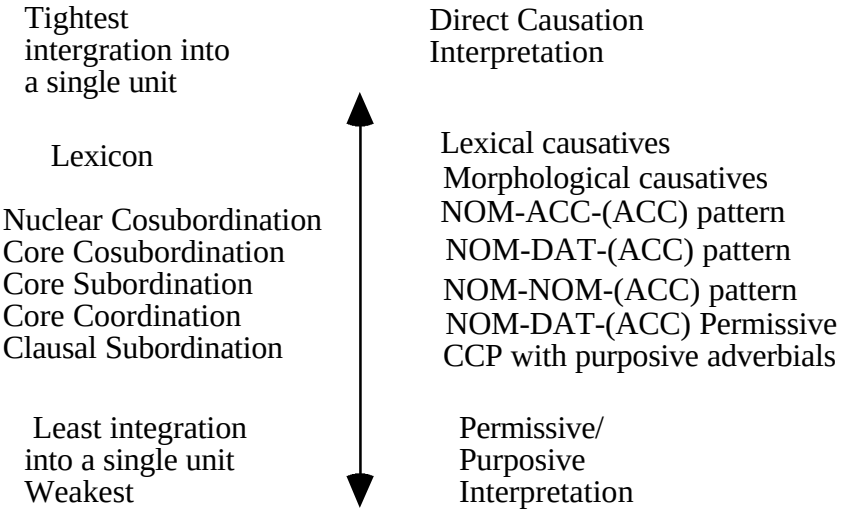
Chapter 4 was a study of the clausal constituents along with the operator projection among the four planes of a three dimensional grammar. In this chapter, I studied Korean complex constructions which consist of two or more verbs in terms of RRG's juncture-nexus types. I showed how aspect and directionals are expressed with nuclear juncture, not inflectional morphemes, and that activity psych-verbs are complex verbs analyzed as nuclear coordination. I showed that there are nine juncture-nexus types in Korean and that these Korean clause linkage types follow RRG's Interclausal Relations Hierarchy [IRH], which supports the IRH as a universal paradigm. I proposed the Korean IRH in (6.7), which follows the IRH.

(6.7) The Interclausal Relations Hierarchy in Korean



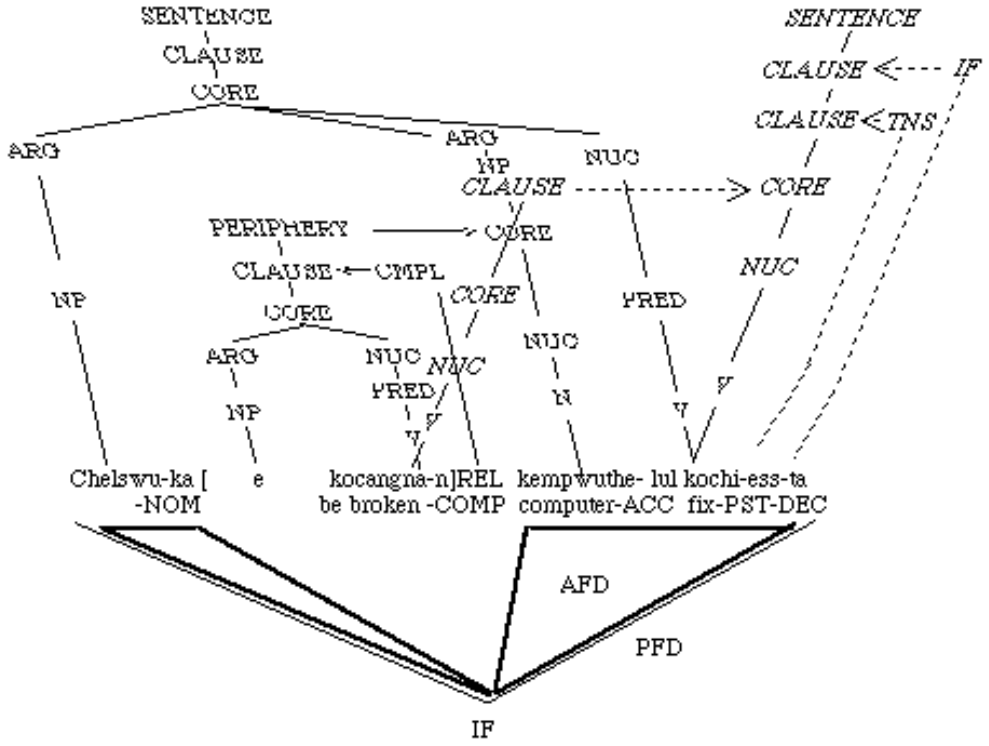
I showed that the proposed Korean IRH (6.7) accounts for some morpho-syntactic phenomena: verb complementation and the degree of causation. The syntactic and semantic relations of the three types of verb complementation such as directive causatives with complementizer *-key*, aspectual and directionals with *-e/-a* or *-ko*, and activity psych-verb constructions with *-e-ha* can be explained with different nuclear juncture types. Following the Korean IRH, I proposed the degree of causation among all causatives including lexical, suffixal/morphological causatives, and the three patterns of phrasal causatives in Korean.

(6.8) Degree of Causation between Causative Forms in Korean

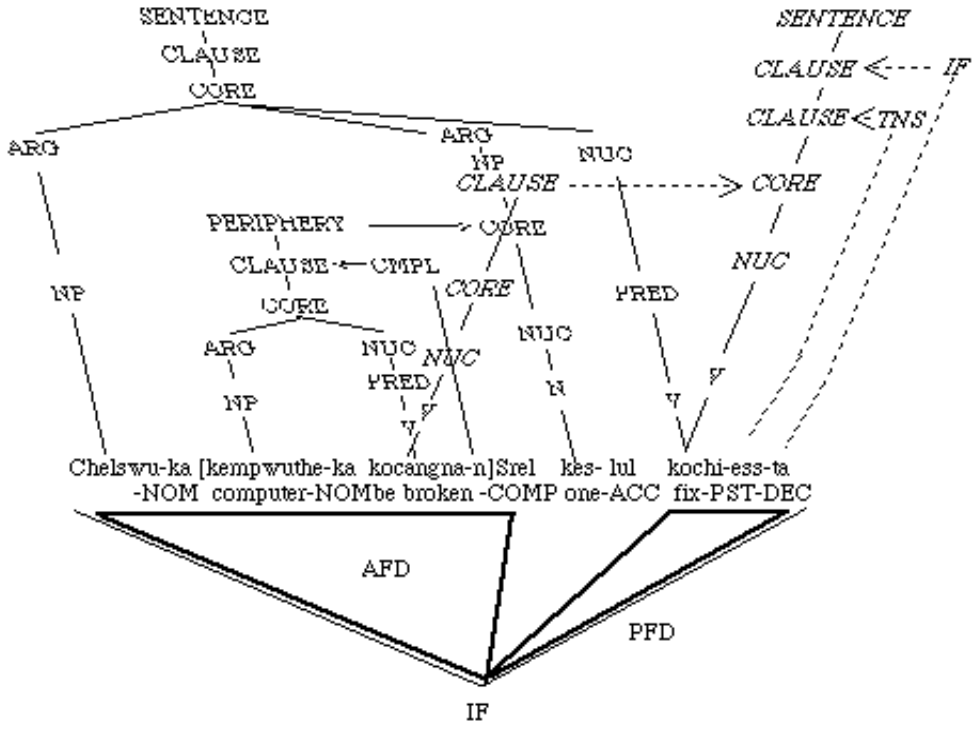


In chapter 5, I investigated two types of Korean relative clauses with RRG's information structure as well as clause structure. I have argued that IHRCs and EHRCs have the same clause structure as well as same operator projection. I claimed that the perceived difference in grammaticality between IHRCs and EHRCs is not due to a difference in syntactic structure, but to the difference in pragmatic information structure; the gap position (or resumptive pronoun position) is a topic expression and the relative clause is a presupposed predicate focus construction in EHRCs, which is included in the PFD, but excluded from the AFD, whereas the relative clause is an asserted sentence focus construction in IHRCs, which is included in both PFD and AFD. The same clause and operator structure and the perceived different information structures of the two types of relaitve clause constructions were represented as follows:

(6.9) a. EHRC



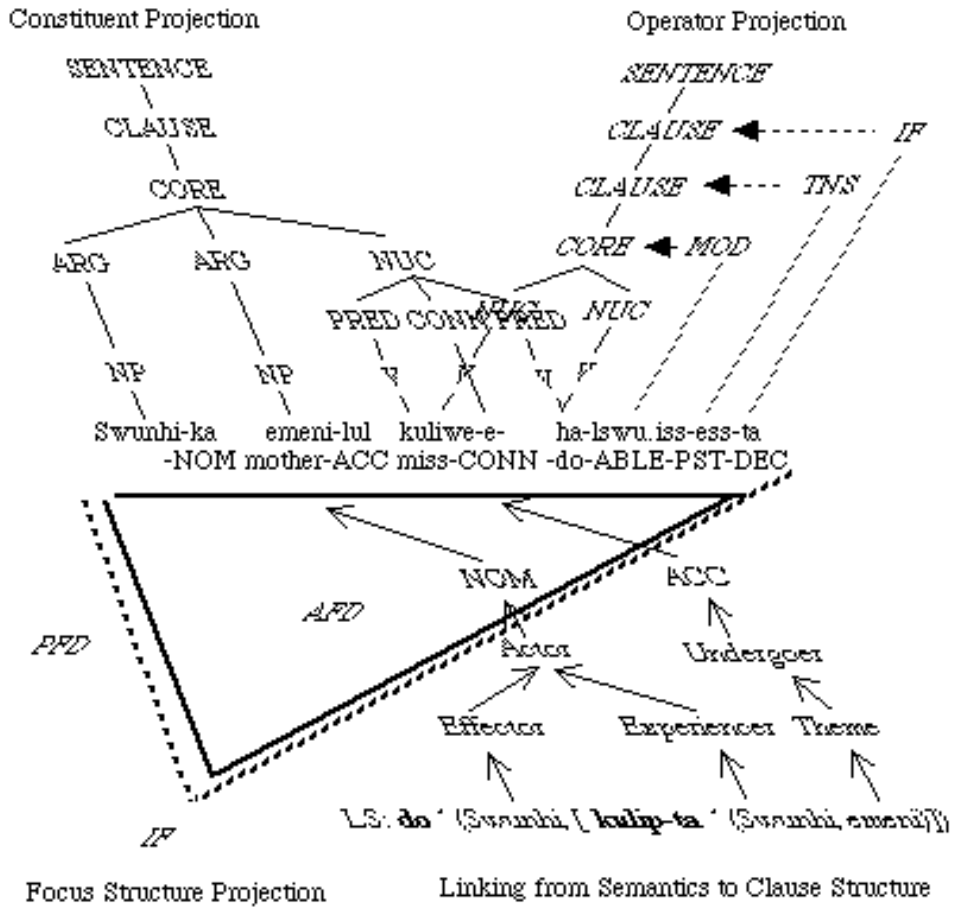
b. IHRC



These show that a syntactic structural account alone is insufficient for the two types of Korean relative clauses and that we need an account in functional or pragmatic terms, such as information structure. In other words, the explanation of grammar crucially involves the interaction of syntactic structure and pragmatic function.

From these studies, I can conclude that the four projections proposed in RRG are necessary for providing an explanatory account of grammatical phenomena. That is, to represent the grammatical structure, we need not only syntactic structure, but also semantic and pragmatic information, as RRG provides. For example, a more accurate grammatical structure of Korean activity psych-verb construction includes all four projections of the clause as follows:

(6.10) Korean activity psych verb constructions



The main endeavor here has been to apply Role and Reference Grammar to Korean in order to gain new insights into the structure and the processes of the language, and to show that RRG explains Korean morphosyntactic phenomena very well and that Korean fully follows RRG's general assumptions, which have also been supported with many other languages. In conclusion, the theory of RRG allows new insights into Korean and Korean supports RRG's theoretical assumptions. This thesis in turn shows that RRG can explain and accommodate many morpho-syntactic phenomena in Korean that must be stipulated or treated in an ad hoc way in other theories.

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