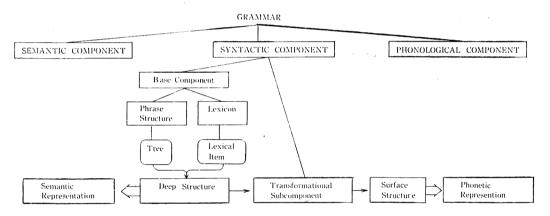
# A Fragmentary Analysis of Korean Syntax

Choong Bae Kim\*

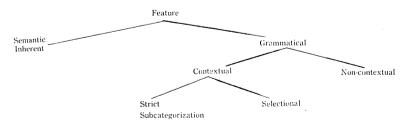
# I Introduction

1.1. The general purpose of this paper is to describe an elementary syntactic structure of Korean sentences, especially of basic sentence patterns. The analysis to be presented is by and large based upon the transformational-generative framework as proposed by Noam Chomsky in his Aspects of the Theory of Syntax. Among many others, by a generative grammar

1.2. Diagram 1. The Schema of the Grammar as Proposed by Chomsky



1.2. Diagram 2. The Lexical Features



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Chomsky means "simply a system of rules that in some explicit and well-defined way assigns structural descriptions to sentences." The specific purpose of this study is to show formalism with a limited body of data of the language in question for expressing 'the system of rules' by which the sentence is governed. The attempt to accomplish these pruposes would ultimately be to contribute to a better understanding of the native speaker's intrinsic linguistic competence, the description of which a generative grammar of the language purports.

- 1.2. Since the format and the scope of the description of the grammar adopted in this analysis can be clearly illustrated by the diagrams on the previous page a further discussion on the system of the Syntactic Component is withheld.
- 1.3. The dialect employed in this analysis is my own idiolect, much the same as the present-day standard Korean spoken in the Seoul area. Only the plain style is used and stylistic implications or speech levels of Korean are not considered. Throughout the study only the independent simplex sentences are dealt with, as kernal or non-derived sentences. The following is the complete table of systematic phonemic symbols used in this paper. Neither phonological rules nor phonemic transcriptions are given in this paper, because phonology is not our main concern.

1.3. Table 1. Phonemic Transcription of Korean

Consonants:

	P PH PP	T TH TT		K KH KK	
			C CH CC		
		S SS			н
		, · L ·	,ć		
	$\mathbf{M}$	N		ŋ	
	W		Y		
Vowels:					
	Ι	Ŧ		U	
	e	Э		O	
	æ	Α			

<sup>1)</sup> Aspects, p.8.

# I The Categorial Subcomponent

#### 2.1. Phrase Structure Rules

Given: #S2) #

①  $S \rightarrow NP (AP) (AP) VP$ 

$$\begin{array}{ccc} \text{ (DP) } & \text{(NP) } \left( \left| \begin{array}{c} \text{AP} \\ \text{INTEN} \end{array} \right| \right) \text{ V TNS MD} \\ \text{ (3) } & \text{AP} \rightarrow \left[ \begin{array}{c} \text{NP POSTP} \\ \text{(INTEN) ADV} \end{array} \right] \\ \end{array}$$

- 4 NP  $\rightarrow$  (DEMON) ( (INTEN) AT. ADJ) N (PL)
- 2.2. The Sentence of Korean may be postulated to consist of two major obligatory constituents, the Noun Phrase and the Verb Phrase, and two optional Adverbial Phrases which occur between the Noun Phrase and the Verb Phrase and are dominated by the Sentence. These 'time' and 'place' Adverbials are considered to be able to occur quite freely with various types of the Verb Phrase. There may be another optional noun phrase to which a topic marker is attached. The problem of "double subject", "double object", and "topicalization" in Korean will be considered as beyond the scope of this paper. If more than one Adverbial Phrase occurs simultaneously, unlike English, they may cooccur in any order in the surface structure.
- 2.3. The Verb Phrase is classified into the obligatory Verbal followed by the Tenseand the Mood, and the optional constituents preceding the obligatory Verbal. As we shall see in the next chapter, there are cooccurrence restrictions between the Verbal and the optional Noun Phrases, the Adverbial Phrase, and Intensifier, according to the lexical features of the Verbal. The Verbal of Korean may be subdivided into six types, primarily on the basis of the presence or absence of the Noun Phrases as well as of its other lexical features. The transitive verb must cooccur with one or two objects. The complement is necessary to the copula, but optional to the existentive verb.<sup>4)</sup> The intransitive verb and the adjective cooccur with none of them. The adjective used as a predicate needs no cooccurrence with the copula in both the deep and surface structure in Korean. The following are typical examples of basic sentence patterns.

S = Sentence; NP = Noun Phrase; AP = Adverbial Phrase; VP = Verb Phrase; INTEN = Intensifier; V = Verbal; TNS = Tense; MD = Mood; POSTP = Postposition; ADV = Adverb; DEMON = Demonstrative; AT.ADJ = Attributive Adjective; N = Noun; and PL = Pluralizer.

<sup>3)</sup> S.E. Martin, Korean Morphophonemics (Baltimore, 1954), p. 35. See also Chomsky, Aspects, pp.220-21.

<sup>4)</sup> We do not go further into the discussion of the controversial 'copula' and 'existentive verb' in Korean in this analysis. There are, as far as I know, only three copula verbs, and two existentive verbs. ANI 'be not' and  $\partial PS$  'there is/ are not' are recognized to be generated by Negation transformation.

5. NP — NP — [+V + transitive]
Cə YəCA SAKWA MəK NɨN TA
That/woman/apple/eat/Pres/Decla/
"That woman eats an apple."

The Intensifier is a specific sort of adverb which modfies only the Adverb, the Attributive Adjective, and the Verbal characterized by [+adjective]. The Tense and the Mood are by no means as simple as we will propse. Besides the major three subclasses of the Tense, there are many other tense expressions, such as the past-past and past-future tense. Between the Verbal and the Tense the auxiliary and the inflectional suffix may be inserted. The discussion of auxiliary and complicated tense expressions are not treated, because they would lead into too many details beyond the scope of this study. It is worthwhile to mention that sentence types of Korean are determined in most cases by the sentence ending, especially by the Mood. Five subclasses of the Mood, among others, will be con-

sidered in the lexicon.

- 2.4. Rule 3 classifies the Adverbial Phrase into the so-called Postpositional Phrase and the Adverb with the optional Intensifier. The Postpositional Phrase consists of the Noun Phrase and the Postposition. We shall not go into the various kinds of the Postsition, such as those of direction, source, instrument, qualification, reason and so on.
- 2.5. The Noun Phrase may be rewritten as the obligatory Noun, which is preceded by the optional Demonstrative, the Attributive Adjective, and followed by the optional Pluralizer. The Attributive Adjective, distinct from 'the adjective used as an attributive', is the adjective which is never used as a predicate in Korean. The pre-noun adjective in the surface structure is considered as derivable from the embedded sentence by using transformation. Pluralization is optional, and nouns may have plural meanings without the Pluralizer in Korean. There are many different counting 'classifiers' that co-occur with the numeral, according to the semantic features of the noun. The construction of classifiers and 'of combination' is not discussed in this analysis.

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### 3.1. The Lexicon Proper<sup>5)</sup>

Korean	English meaning	Category	Lexical Features
SALAM	human being	N	[+human  +common]
YəCA	woman	//	//
HAKSæŋ	student	" "	//
SəNSæŋ	teacher	. // /	· //
CON	John	<i>"</i>	$\begin{bmatrix} + \text{human} \\ - \text{common} \end{bmatrix}$
NA <sup>6)</sup>	I	<i>"</i>	$\begin{bmatrix} + \text{human} \\ + \text{pronoun} \end{bmatrix}$
ςN	you (sg)	//	· //
Kŧ	'3rd person'	. // /	· //
MAL	horse		-human +common

<sup>5)</sup> The account of procedures of the lexicon tabulation is omitted, because for the most part it is self-explanatory. Needless to say, this list is by no means exhaustive.

<sup>6)</sup> NA + PL = ULI(THL) 'we' NO + PL = NOHI(THL) 'you(pl)' KI + PL = KITIL 'they'

KKACHI	magpie	N	″	
PADUKI	name of dog	//	$\begin{bmatrix} -\operatorname{human} \\ -\operatorname{common} \end{bmatrix}$	
NAMU	tree	//	[+plant]	
KKOCH	flower	//	"	
SAKWA	apple	//	[+edible]	
KWACA	cake	, //		
CIP	house	<b>//</b> ·	$\begin{bmatrix} + place \\ + common \end{bmatrix}$	
HAKKYO	school	"	<i>"</i>	
TOSƏKWAN	library	" //	<i>"</i>	
SAMUSIL	office	" "//	<b>//</b>	
SəUL	Seoul	//	$\begin{bmatrix} + \text{place} \\ - \text{common} \end{bmatrix}$	
NAC	daytime	, "	[+time]	
PAM	night	//	//	
ACHIM	morning	//	//	
YəLɨM	summer	//	//	
CAYU	freedom	1//	[+abstract]	
əNəHAK	linguistics	//	e i ta di a ( <b>//</b> s, a g	
SALAŋ	love	//	//	
PAnbab	method	//	,	
KOYO	silence	//	<i>"</i>	
KəS	'(some)thing'	//	[±concrete	-(DEMON)(AT.ADJ)]
СэрСІКНА	honest	V	\[ + adjective \] \[ - stative \]	-[-human] NP—]
KIPPi	pleasant	"	+ adjective - stative	-[-human] NP
CəLM	young	"	+ adjective + stative	-[-human] NP]
əLI	young	"	+ adjective + stative	-[-animate] NP-
MINCHƏPHA	nimble	//	+ adjective - stative	-[-animate] NP-
TAL	sweet	// // // 	\[ + adjective \] \[ + stative \]	-[-edible] NP]
MəL	far	//	[+adjective +stative	$ \begin{bmatrix} -\text{place} \\ -\text{time} \end{bmatrix} $ NP—
			010	

KIL	long	// ·	[+adjective -[[+animate]] NP—] [+stative -[[-time]]
KHi	big, large	" 1 " L	[+adjective -[-concrete] NP—] +stative
PHULi	blue	<i>"</i>	[+adjective -[-concrete] NP]—] +stative
YəPPi	pretty	//	[+adjective -[-concrete] NP—] +stative
MANH	many, much	<i>"</i>	[+adjective -[-common] NP—] +stative
əLYəP	difficult	//	[+adjective -[[+concrete]] NP—] +stative -[[+time]]
AHN¢W¢¢Y	eternal	<i>"</i>	[+adjective -[+concrete] NP—] +stative
СОН	good	//	[+adjective] +stative]
KA	go	<b>//</b>	[+intransitive -[-human] NP—] -stative
TTWI	run	//	[+intransitive -[-animate] NP—] -stative
CA	sleep	<i>"</i>	[+intransitive -[-animate] NP—] -stative
NOL	play	// ·	[+intransitive -[-animate] NP—] -stative
SSəK	decay	″	[+intransitive -[+animate] NP—] +stative
NATHANA	appear	// /	[+intransitive -[-concrete] NP—] -stative
IK	ripen	<i>"</i>	[+intransitive -[-edible] NP—] +stative
SITIL	wither	″	[+intransitive -[-plant] NP—] +stative
KYəŋKWAHA	elapse	"	[+intransitive -[-time] NP—] +stative
I	'be'	//	[+equative] <sup>7)</sup> +stative]
TOI	become	<i>"</i>	[+equative] -stative
ISS	'there is/ are', exist	″	[+existentive] +stative

<sup>7)</sup> These lexical features are not enough. We must indeed consider the hierarchy or class membership of I 'be'. For the lexically permanent hierarchies, see T.G. Bever and P.S. Rosenbaum, "Some Lexical Structures and Their Empirical Validity", in R.A. Jacobs and P.S. Rosenbaum, ed., Readings in English Transformational Grammar (Waltham, Mass, 1970), pp. 7-9.

МәК	eat	//	+ transitive	-[-animate] NP- -[-edible] NP-TNS MD
PALAPO	look at	"	+ transitive	
TəNCI	throw	″	+ transitive	$-[-\text{human}] \text{ NP} \\ -\{[-\text{concrete}]\} \text{NPTNS MD} $
CAP	catch	"	$\begin{bmatrix} + \text{ transitive} \\ - \text{ stative} \end{bmatrix}$	$ \begin{array}{l} -[-animate] \ \ NP-\\ -\left[\left[-concrete\right]\right] \ \ NP-TNS \ \ MD \end{array} \right] $
COHAHA	like	//	+ transitive	-[-animate] NP- -AP-TNS MD
TALM	resemble	, , , , , , , , , , , , , , , , , , ,	+ transitive + stative	-[-concrete] NP -APTNS MD
CU	give	<i>"</i>	+ dative - stative	-[-human] NP— -[-animate] NP NP— -[-concrete] NP—TNS MD
MUT	ask	<i>"</i>	+ dative - stative	-[-human] NP— -[-human] NP NP— -[+concrete] NP—TNS MD]
KALICHI	teach	<b>"</b>	+ dative - stative	-[-human] NP— -[-animate] NP NP— -[-abstract] NP—TNS MD]
$\mathbf{e}_{\mathtt{T}}$	at, in, on	POSTP	[+temporal]	
$PUTH_{2T}$	from, since	//	"	
$KKACI_T$	till, by	//	//	
TOJAN	during	11	//	
$e_{ extbf{L}}$	at, in, on	// <sub>2</sub>	[+locational	
(e)Sə	at, in, on	//	//	
$PUTH_{2L}$	from	//	" //	
$KKACI_L$	up to	//	//	
IMI	already	ADV	[+past]	
əce	yesterday	//	, <b>//</b>	
CłKSI	immediately	//	[+temporal]	
əKCILO	forcibly	//	[+manner]	
YƏLSIMHI	arduously	//	//	
SƏŋKɨPHI	hastily	<b>//</b>	//	
COYOuI	quietly	//	· · // · · · · · · · · · · · ·	
CAL	well	//	<i>"</i>	
MæU	very(much)	INTEN		
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РНәК	very(much)	INTEN	
ACU	extremely	//	
KACAŋ	utmost, best	//	
Sæ	new	AT.AD	Г
HəN	used, old	//	[-animate]
NAL	raw	//	[+edible]
ON	whole	//	
$I_D$	this, these	DEMON	<b>I</b>
Сэ	that, those	//	
$KI_D$	'that, those'	//	
YO	this very	//	
NŧN		TNS	Present
əss		//	Past
kess		//	Future
TA		MD	Declarative
NŧNYA/NI		//	Interrogative
әLА		· · · · · · · · · · · · · · · · · · ·	Imperative
$\mathbf{C}\mathbf{A}$		//	Propositive
KUN(A)		//	Apperceptive
TIL		${ m PL}$	Plural

### 3.2. Redundancy Rules

- 1.  $[\pm human] \rightarrow [+animate]$
- $2. \ \left\{ \begin{bmatrix} + \operatorname{plant} \\ + \operatorname{edible} \end{bmatrix} \right\} \to \left[ \begin{matrix} -\operatorname{animate} \\ +\operatorname{common} \end{matrix} \right]$
- 3.  $[+place] \rightarrow [-animate]$
- 4.  $[\pm animate] \rightarrow [+concrete]$
- 5.  $\left\{ \begin{bmatrix} + \text{time} \\ + \text{abstract} \end{bmatrix} \right\} \rightarrow \left[ \begin{matrix} \text{concrete} \\ \begin{matrix} PL \end{matrix} \right]$
- $6. \quad [-\operatorname{common}] \to \begin{bmatrix} -\operatorname{DEMON---} \\ - \operatorname{PL} \end{bmatrix}$
- 7.  $[+pronoun] \rightarrow \begin{bmatrix} -AT.ADJ \\ -DEMON \end{bmatrix}$
- 8.  $\begin{bmatrix} \pm \operatorname{common} \\ \pm \operatorname{concrete} \end{bmatrix} \rightarrow [+N]$
- 9.  $\begin{bmatrix} +V \\ +adjective \end{bmatrix} \rightarrow \begin{bmatrix} -NP-TNS & MD \\ +(INTEN)-TNS & MD \end{bmatrix}$

10. 
$$\begin{bmatrix} +V \\ + intransitive \end{bmatrix} \rightarrow \begin{bmatrix} -NP - TNS & MD \\ + (AP) - TNS & MD \end{bmatrix}$$
11. 
$$\begin{bmatrix} +V \\ + equative \end{bmatrix} \rightarrow \begin{bmatrix} -AP - TNS & MD \\ +NP - TNS & MD \end{bmatrix}$$
12. 
$$\begin{bmatrix} +V \\ + existentive \end{bmatrix} \rightarrow [+(NP) & (AP) - TNS & MD \end{bmatrix}$$
13. 
$$\begin{bmatrix} +V \\ + transitive \end{bmatrix} \rightarrow \begin{bmatrix} -(AP) - TNS & MD \\ +NP & (AP) - TNS & MD \end{bmatrix}$$
14. 
$$\begin{bmatrix} +V \\ + dative \end{bmatrix} \rightarrow \begin{bmatrix} -(NP) & (AP) - TNS & MD \\ +NP & NP & (AP) - TNS & MD \end{bmatrix}$$
15. 
$$\begin{bmatrix} +V \\ + transitive \end{bmatrix} \rightarrow \begin{bmatrix} -TNS & [+imperative] & MD \\ +transitive \end{bmatrix}$$
16. 
$$\begin{bmatrix} +V \\ + stative \end{bmatrix} \rightarrow [-TNS & [-TNS] & [+imperative] & MD \\ -[+TNS] & [-TNS] & [-TNS] & MD \end{bmatrix}$$
16. 
$$\begin{bmatrix} +ADV \\ +temporal \end{bmatrix} \rightarrow [-AT.ADJ-]$$
17. 
$$\begin{bmatrix} +ADV \\ +past \end{bmatrix} \rightarrow [+temporal]$$

## IV. The Transformational Subcomponent

In the previous sections we have described a sequence of context free Phrase Structure Rules and an unordered set of lexical items represented by a matrix of lexical features, both of which form the Base Component that defines the base Phrase-markers. We have also established the Redundancy Rules in order to simplify lexical entries. In this section we shall formulate some transformational rules that apply to the deep structur eso as to derive the surface structure. Only obligatory transformations are considered in this analysis.

### 4.1. Transformational Rules

1. Subject Particle Insertion Rule

2. Object Particle Insertion Rule

$$SD: X \longrightarrow_{VP} \left[ (NP) \longrightarrow NP \longrightarrow \left[ \begin{matrix} V \\ + trans \end{matrix} \right] \longrightarrow Y \right]_{VP} \longrightarrow Z$$

$$1 \qquad 2 \qquad 3 \qquad 4 \qquad 5 \qquad 6$$

$$SC: 1 \qquad 2 \qquad 3 \# [LiL]_{ptel} \qquad 4 \qquad 5 \qquad 6$$

$$\Rightarrow oblig$$

3. Indirect Object Particle Insertion Rule

SD: 
$$X - VP \left[ NP - NP - \begin{bmatrix} V \\ +dative \end{bmatrix} - Y \right]_{VP} - Z$$

1 2 3 4 5 6

SC: 1  $2 \# [eKe]_{ptel} 3$  4 5 6

4. Complement Particle Insertion Rule

SD: 
$$X - \begin{bmatrix} NP - \begin{bmatrix} V \\ [+equat] \\ +exist \end{bmatrix} \end{bmatrix} - Y \end{bmatrix}_{VP} - Z$$

$$\begin{array}{cccc} 1 & 2 & 3 & 4 & 5 \\ & & & \Rightarrow & oblig \\ SC: 1 & 2 \# [I]_{Ptel} & 3 & 4 & 5 \end{array} \Rightarrow oblig$$

5. Tense Deletion Rule

$$SD: X - \begin{bmatrix} V \\ \begin{bmatrix} [+adjec] \\ +equat \end{bmatrix} \end{bmatrix}_{1} \\ \begin{bmatrix} [+inter] \\ +trans \end{bmatrix} \end{bmatrix}_{2} - NIN - \begin{bmatrix} MD \\ 1 \\ \end{bmatrix}_{1} \\ \begin{bmatrix} [+inter] \\ +imper \end{bmatrix} \\ \begin{bmatrix} [+inter] \\ +propo \end{bmatrix} \end{bmatrix}_{2} - Y$$

$$SC: 1 \quad 2 \quad \emptyset \quad 4 \quad 5 \quad \Leftrightarrow \text{ oblig}$$

6. Subject Deletion Rule<sup>8)</sup>

Conditions:  $2 \pm ULI$  'we', if 4 is [+propo].

### 4.2. Morphophonemic Rules

- 1. KA]<sub>Subj Ptcl</sub>  $\rightarrow$  I]<sub>Subj Ptcl</sub>/C—
- 2.  $I]_{Compl\ Ptel} \rightarrow KA]_{Compl\ Ptel} / V$
- 3. L<sub>I</sub>L<sub>]Obj Ptcl</sub> → IL<sub>]Obj Ptcl</sub>/C—
- 4. NIN] Pres TNS  $\rightarrow$  N] Pres TNS / V—

As far as the imperative mood is concerned, this transformation may be optional, if the command does not go directly to the addressee—2nd person. The 3rd person imperative is very common in Korean besides the causative form. For example: KI SALAM I KA LA "Let that man go."

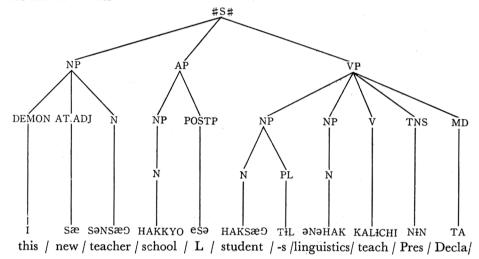
5. 
$$\partial SS]_{Past\ TNS} \rightarrow ASS]_{Past\ TNS} / {A \choose O} (C)$$

6. 
$$\partial LA]_{Imper\ MD} \rightarrow ALA]_{Imper\ MD} / {A \choose O} (C)$$

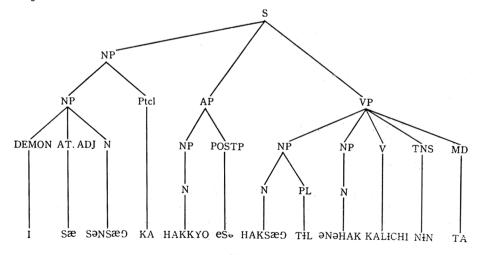
# V Sample Derivation

In this section we apply transformational rules to the deep structure strings that the Base Component determines in order to derive the surface structure strings. We may present the following deep structure as a sample.

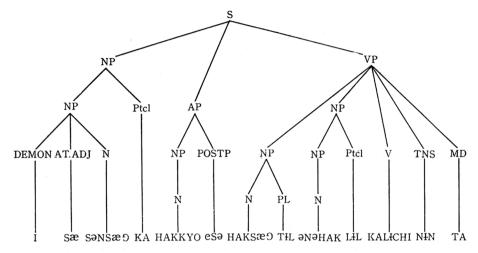
### 1. The Phrase-marker



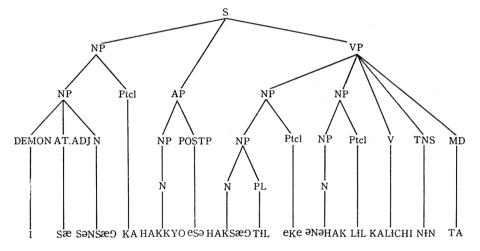
### 2. Subject Particle Insertion Transformation



### 3. Object Particle Insertion Transformation



# 4. Indirect Object Particle Insertion Transformation



After the application of Morphophonemic Rules 1, 3, and 4, we will reach the final derived structure:

I Sæ SəNSæn I HAKKYO eSə HAKSæn Til eKe əNə HAK il KALiCHI N TA. "This new teacher teaches students linguistics at school."

# **VI** Conclusion

Thus far we have tried to describe a system of rules that determine the deep and surface structures of basic sentence patterns of Korean, toward the goal to generate 'all and only'

grammatical sentences of the language in question.

As we have mentioned at the beginning of the paper, this study is merely an attempt at an elementary generative grammar that covers only a small body of corpus. There is still a great deal untouched and non-covered, and even what has been described may be misrepresented, and may not achieve 'explicitness' and 'well-definedness'. As a result we still feel obliged to assert that considerably many ungrammatical sentences may be generated, whereas considerably many grammatical sentences are predicted, with the grammar given above.

As we expand syntactic rules as well as corpus, we may expect a more correct and powerful grammar. It is hoped, however, that this study may make a contribution to our better understanding of what 'intrinsic competence' is and how it is formalized.

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# 한국어 구문의 단편적 분석

金 忠 培

### 요 약

본 연구는 한국어 문장의 초보적인 구문 구조, 특히 기본 문형을 Noam Chomsky의 1965년 Aspects의 모델, 즉 변형생성 문법 이론의 이른바 Standard Theory에 입각해서 분석했다.

Standard Theory의 문법 체계의 개요와 Lexical Feature 를 도표로 요약하고, 우리말의 기본 문형을 분류할 수 있는 Phrase Structure Rules, Lexical Features 가 명시된 Lexicon, Redundancy Rules, 몇개의 필수 적용 Transformational Rules, 그리고 Morphophonemic Rules을 설정하고 표본 derivation 과정을 제시했다.

이와 같은 한국어의 문법적인 문장은 전부 그리고 문법적인 문장만을 생성할 수 있는 기본 문형의 심층과 표면 구조를 기술하는 법칙을 형식화 함에 있어, 'explicitness'를 중시하였고, 제시된 기본적인 법칙과 corpus를 확장함으로써 보다 더 정확하고 강력한 문법을 유도할 수 있음을 보여 주었다.