

A GPSG Analysis of the *Caki* Constructions in Korean

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Generalized Phrase Structure Grammar (GPSG) has recently evoked a renewed interest in what the exact nature of natural language is. Its fundamental claim is that natural language can be described by a context-free phrase structure grammar (CF-PSG). Naturally, this claim requires ample empirical justification from diverse languages and rigorous research in those constructions which have traditionally been considered as recalcitrant to a CF-PSG, including anaphora. This paper intends to demonstrate, at least in part, that a variant of CF-PSG, as espoused in Gazdar, Klein, Pullum and Sag (1985; henceforth, GKPS), is sufficient to describe anaphora in natural language, especially a reflexive pronoun of Korean, *caki*.¹

The *caki* constructions show some peculiarities which should be accounted for in any grammatical theory. First of all, the antecedent of a *caki* is unbounded, i.e. there may be an "infinite number" of clausal categories between a *caki* and its antecedent. Secondly, it seems that scrambling affects a *caki*'s agreement possibilities. As will be shown clearly later on, this is closely related to the fact that dislocated reflexives in general agree with nominative NP's. And in some cases, a reflexive has two (or possibly more) antecedents in a particular clause. As a matter of fact, this is not a peculiarity, but a language-wide property, as I will claim.

The following sections will proceed as follows. Section 1 introduces a fragment of Korean grammar as preliminary to the analysis of the reflexive constructions. In Section 2, I will propose some theoretical mechanisms to describe the syntax and semantics of the reflexives. Section 3 discusses various peculiarities of *caki*'s and show how they could be accounted for within the GPSG framework.

1. Preliminary Rules and Restrictions

This section introduces some rules and feature conditions which will be used for the analysis of the reflexive constructions. In order to avoid a long digression from our main topic, I will deliberately omit the supportive argumentation of them; however, a reader interested in it may want to consult Yoon (1986).

¹ For a GPSG account of the English reflexive, see Pollard and Sag (1983) and Yoon (1986).

ID Rules

- R1. V2[+SUBJ] → NP[CASE NOM], H[-SUBJ]
 R2. VP → H[2] (nal 'fly', cuwk 'die'...)
 R3. VP → (PP[LOC]), H[3] (ka 'go', o 'come'...)
 R4. VP → NP[CASE ACC], H[4] (mek 'eat', cap 'grip'...)
 R5. VP → NP[CASE DAT], NP[CASE ACC], H[5]
 (cwu 'give', ponay 'send'...)
 R6. VP → S[COMP ko], H[6]
 (sayngkak-ha 'think', mal-ha 'tell'...)
 R7. VP → NP[CASE DAT], VP[COMP ko], H[7]
 (seltuk-ha 'persuade', mal-ha 'tell'...)
 R8. VP → NP[CASE NOM], H[8]
 (i 'be', toy 'become'...)
 R9. NP → (DET), H1
 R10. N1 → PP[PFORM uy], H
 R11. N1 → S[COMP nun], H[11]
 (ket 'fact, act', sasil 'fact', sayngkak 'thought'...)
 R12. V[SUBCAT α] → N[SUBCAT α], [CASE ACC], H[12]
 where [CASE ACC] is optional and α is a variable for the set {2,4,5,6,7}
 (ha)
 R13. V0[4] → A0[VMOR a], H[13] (ha)
 R14. VP → NP[DAT VACC], VP[-FIN, COMP key], H[14] (ha)
 R15. V2[αSUBJ] → X2, H[αSUBJ]/X2

LP Statement

C < H, where C is a non-head category.

FCR

1. [+SUBJ] ⊃ [SE]
2. [+FIN] ⊃ [TNS]
3. [-FIN, COMP ko] ⊃ [VMOR ra]
4. [COMP key, SUBCAT 2 V 3] ⊃ [AGR NP [ACC]]
5. [+NULL] ⊃ [SLASH]

FSD

1. ~ [COMP]
2. [+FIN]

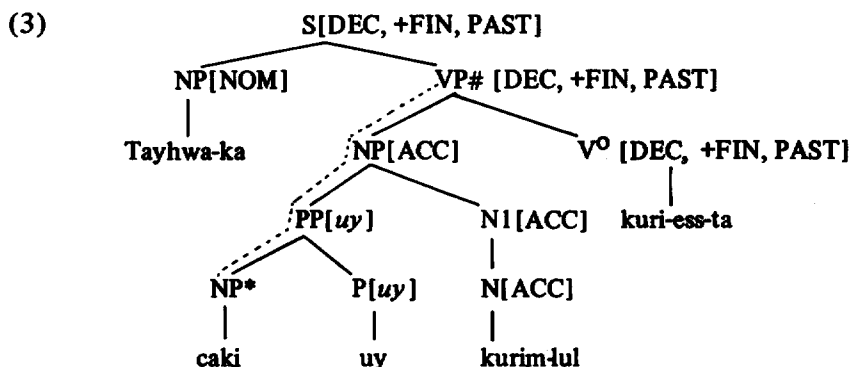
2. The Theoretical Mechanisms

This section presents an analysis of the syntax and semantics of the *caki* construction. Syntactically, a *caki* has a crucial feature REFL. This feature is defined as a foot feature which is governed by the Foot Feature Principle (FFP); and also, it counts as a control feature whose distribution on a tree is determined by the Control Agreement Principle (CAP). Whether a particular instance of REFL functions as a foot feature or a control feature, it is essentially due to the Reflexive Binding Metarule (RBM). And semantically the constructions having the feature REFL on it are translated into Intensional Logic by the joint operation of the Semantic Interpretation Schema (SIS) and a special operator, REFL'.

First of all, let us consider why REFL should be a foot feature.

- (1) Tayhwa -ka caki-lul miwe-ha-nun-ta
 T. -NOM self-ACC dislike-PRES-DEC
- (2) Tayhwa-ka caki-uy kurim-lul kuri-nun-ta
 -of picture-ACC draw

A difference between (1) and (2) is that *caki* in the latter is contained in a larger complement NP, while the reflexive in the former is the complement object by itself. To deal with this in terms of a context-free grammar, we need a sort of mother-daughter feature linking mechanism that enables a feature present at a lower local tree to become part of the higher one which is in a sister relation to the antecedent. The following tree of (2) illustrated the point.



In the above tree, we see that the information on NP* should be passed up to VP# so that *caki* can agree with *Tayhwa*. This kind of information passing-up

is the role played by FFP.²

However, if all REFL's appearing on a tree were the instantiated ones, their percolation would not stop, which is due to FFP. This necessitates a sort of constraining mechanism for REFL percolation, that is, RBM:

$$(4) X2 \rightarrow W, X2$$

$$\Downarrow$$

$$X2 \rightarrow W, X2[REFL]$$

This metarule says that if there is an ID rule which introduces a category X2 as one of its right-hand elements, then there is also a corresponding ID rule which introduces the same category X2 with the inherently given feature REFL. Note that FFP does not concern itself with the inherited foot features.

Now a question is raised: how can REFL, a category-valued feature, find its value and how can that value be matched with the appropriate antecedent? First, we will assume the free instantiation of REFL and its value; then the lexical insertion will happen only in case that the featural composition of a terminal node coincides with that of a reflexive item. Second, the inherited REFL functions as a control feature so that CAP can determine the agreement with the antecedent.³

Finally, let us consider the semantics of the reflexive construction. Explicit proposals about the semantic interpretation of the reflexive construction in English are offered by Gazdar and Sag (1981) and Pollard and Sag (1983). But as long as we follow the lines of GKPS, we cannot accept their ideas at face value. The reason is that the rule-to-rule translation which they employ

² FFP:

The foot feature specifications that are instantiated on a mother category must be identical to the unification of the instantiated foot feature specifications in all of its daughter categories.

³ CAP:

(I) The feature specifications associated with the control feature f of a control target C_i are identical to the X -specifications of the controller of C_i .

(II) The feature specifications of $\phi(C_i)$ are identical to the specifications of the control feature of the mother in the tree T and only if it has no controller among its sisters.

Control:

If ϕ is a project of R , where $R = C_0 \rightarrow C_1, \dots, C_n$, then a category $\phi(C_i)$ controls $\phi(C_j)$ in ϕ if and only if

(a) $TYP(X(\phi(C_i))) = \langle TYP(X(\phi(C_i))), TYP(X(\phi(C_0))) \rangle$, or

(b) $TYP(X(\phi(C_i))) = TYP(VF)$ and one of the types associated with the head of $\langle TYP(VF), \langle TYP(X(C_i)), TYP(VF) \rangle$.

is no longer in use in current GPSG.

The machinery I propose is composed of two main elements. First, the reflexive pronoun is translated into a distinguished NP variable. This is an adaptation of the reflexive variable proposed by Gazdar and Sag (1981) and Gunji (1981, 1984). Second, REFL as a control feature is translated into REFL', which is defined as $\mathcal{P}_r (= \lambda PP \{ r \})$. To be more precise, REFL is translated into REFL' if and only if it functions as a semantically potent feature; and a feature is semantically potent if and only if in a local tree it belongs to a daughter category but not to the mother. With these two elements in hand SIS will guarantee the IL translation of the *caki* constructions.⁴

3. The *Caki* Construction

3.1 Distinction Between Syntactic Binding and Pragmatic Binding

(5) a. Hocay_i -ka caki_i/arb -lul miwe-ha-nun-ta

H. -NOM self -ACC dislike-PRES-DEC

'Hocay dislikes self.'

b. Tayhwa_i - ka Hocay-eykey motun caysan-lul cwu-ess-ta.

-NOM H. -DAT all Fortunes-ACC give-PAST-DEC

Kurena Hocay-ka caki-lul miwe-ha-nun-ta

but H. -NOM self-ACC dislike-PRES-DEC

'Tayhwa gave all of his fortunes to Hocay.'

But Hocay dislikes self.'

In (5 a), *caki* may refer to *Hocay* or some other person in a discourse. Though the second possibility may not be clear in (5 a), (5 b) shows that the reflexive pronoun, in an appropriate context, may refer to some other person who is not mentioned in the same sentence. To deal with this phenomenon, we distinguish syntactic binding and pragmatic binding for the reflexive pronoun. The syntactically bound reflexives have the feature REFL inherently; and

⁴ The idea behind SIS is to reduce the superfluous mass of translation rules employed in Montague Grammar. GPSGians think that the semantic types given to lexical items can be used as a guide to semantic translation. For the detailed discussion of SIS, see GKPS, pp. 230-231.

the pragmatically bound ones do not have it, i.e. they remain as a free variable in the sentence level. Most of our attention in this section will be drawn to the syntactic binding of *caki*. Gunji (1983, 1984) also argued for the same distinction in his analysis of a Japanese reflexive pronoun, *sibwun*; and Park (1986 b) analyzed the English pronouns on the basis of the similar assumption.

Furthermore, there is empirical reason to draw the distinction. First, we need a certain grammatical restriction to account for the fact that *caki* may not refer to *Tayhwa* in the following sentences under any circumstances.

- (6) a. Hocay_i-ka Tayhwa_j-eykey caki_{i/*j}-nun papo i-
 H. -NOM T. -DAT self-TOP fool be-
 ess-ta-ko mal-ha-ess-ta
 PAST-DEC-COMP tell-PAST-DEC
 'Hocay told Tayhwa that self was a fool.'
- b. Tayhwa_i-nun papo i-ess-ta-ko Hocay_j-ka
 caki_{*i/j}-eykey mal-ha-ess-ta
 'Hocay told self that Tayhwa was a fool.'

Second, quantified phrases may bind reflexive pronouns sententially but not pragmatically.⁵

- (7) a. etten yeca_i-ka caki_i-uy kurim-lul kuri-ess-ta
 some woman-NOM self-POSS picture-ACC draw-PAST-DEC
 'Some woman drew self's picture.'
- b. etten yeca_i-ka Hocay_j-eykey manun ton-lul
 some woman-NOM H. -DAT much money-ACC
 cwu-ess-ta. kurena Hocay_j-ka caki_{*i/j}-lul
 give-PAST-DEC. but H. -NOM self-ACC
 miwe-ha-nun-ta

⁵ Gunji (1983, 1984) noted that the incipient idea of using quantification as an argument for the bifurcation of syntactic binding and pragmatic binding is to be found in Cooper (1979), 'The Interpretation of Pronouns', in F. Heny and H. S. Schelle (eds.), *Syntax and Semantics*, Vol. 10: *Selections from the Third Groningen Round Table*, Academic Press, New York, pp. 61-92.

dislike-PRES-DEC

'Some woman gave Hocay much money. But Hocay dislikes self.'

- (8) a. motun yeca_i-tul-i caki_i-ka miin i-ta-ko
 all woman-PUL-NOM self-NOM beauty be-DEC-COMP
 mit-nun-ta
 believe-PRES-DEC

'All women believe that self is a beauty.'

- b. motun yeca_i-tul-i Hocay_j-eykey manun ton-lul
 all woman-PLU-NOM H. -DAT much money-ACC
 cwu-ess-ta. kurena Hocay_j-ka caki_{i*}/j -lul
 give-PAST-DEC but H. -NOM self-ACC
 miwe-ha-nun-ta
 dislike-PRES-DEC

'All women gave Hocay much money. But Hocay dislikes self.'

In light of these facts, we can justifiably argue that there should be a distinction between syntactic binding and pragmatic binding for the reflexive pronouns.

3.2 Unboundedness

One of the peculiarities in the *caki* constructions is that *caki*'s antecedent may be placed far up the tree: that is, it is unbounded.

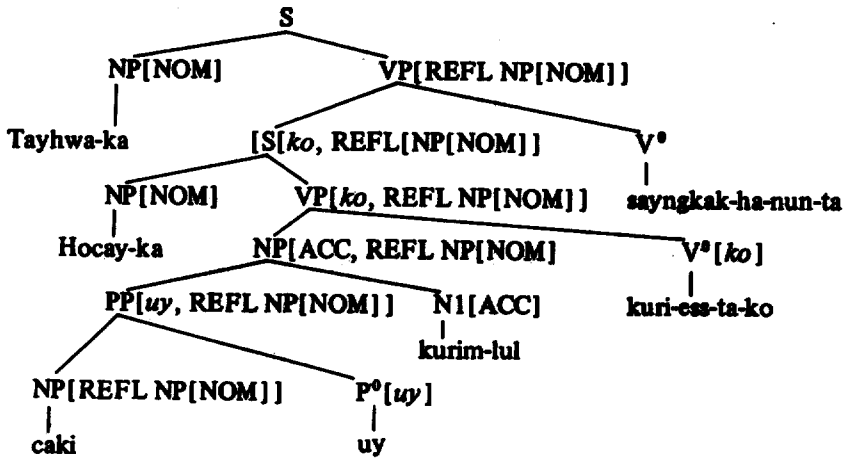
- (9) Tayhwa -ka Hocay -ka caki -uy kurim-lul kuri-
 T. -NOM H. -NOM self-POSS picture-ACC draw-
 ess-ta-ko sayngkak-ha-nun-ta
 PAST-DEC-COMP think-PRES-DEC

'Tayhwa thinks that Hocay drew self's picture.'

The following tree diagram of (9) illustrates how *caki* can agree with *Tayhwaka*; and in (11), and HL translation of the tree (10) is presented.⁶

⁶ In the following subsections, illustrations of semantic interpretation is simply omitted for the clarity of a theme under consideration.

(10)



(11)

$$\text{caki} \xrightarrow{\text{tr}} \mathcal{P}_r$$

$$\text{caki-uy} \xrightarrow{\text{tr}} \lambda \mathcal{P}_r [\text{of}(\mathcal{P}_r)]$$

$$\text{caki-uy kurim-lul} \xrightarrow{\text{tr}} \lambda \mathcal{P}_r [(\text{of}(\mathcal{P}_r)) (\text{picture})]$$

$$\text{caki-uy kurim-lul kuri-ess-ta-ko} \xrightarrow{\text{tr}} \lambda \mathcal{P}_r [\text{drew}((\text{of}(\mathcal{P}_r)) (\text{picture}))]$$

$$\text{Hocay-ka caki-uy kurim-lul kuri-ess-ta-ko} \xrightarrow{\text{tr}} \lambda \mathcal{P}_r [\text{drew}((\text{of}(\mathcal{P}_r)) (\text{picture})) (\text{Hocay}^*)]$$

$$\text{Hocay-ka caki-uy kurim-lul kuri-ess-ta-ko sayngkak-ha-nun-ta} \xrightarrow{\text{tr}} \lambda \mathcal{P}_r [\text{thinks}(\text{drew}((\text{of}(\mathcal{P}_r)) (\text{picture})) (\text{Hocay}^*))]$$

$$\begin{aligned} &\text{Tayhwa-ka Hocay-ka caki-uy kurim-lul kuri-ess-ta-ko} \\ &\text{sayngkak-ha-nun-ta} \xrightarrow{\text{tr}} \text{REFL}' (\text{thinks}(\text{drew}((\text{of}(\mathcal{P}_r)) \\ &\text{(picture)) (Hocay}^*)) (\text{Tayhwa}^*) = \text{thinks}(\text{drew}((\text{of}(\text{tTayhwa}^*) \\ &\text{(picture)) (Hoday}^*)) (\text{Tayhwa}^*)) \end{aligned}$$

3.3 An Effect of Dislocation upon *Caki's* Agreement Possibilities

R15, as presented in section 1, implies that dislocation, including constituent order variation, should be analyzed by means of the SLASH mechanism. This has an interesting consequence that we may give a simple account for another peculiarity of the *caki* constructions: that a dislocated constituent

containing a reflexive should agree with a nominative NP.⁷

- (12) a. Tayhwa_i-ka Hocay_j-ka caki_{i/j}-lul miwe-ha-nun-
 T. -NOM H. -NOM self-ACC dislike-PRES
 ta-ko mit-nun-ta
 DEC-COMP believe-PRES-DEC
 'T. believes that H. dislikes self.'
- b. Tayhwa -ka caki-lul Hocay -ka miwe-ha-nun-
 ta-ko mit-nun-ta
- c. caki-lul Tayhwa -ka Hocay -ka miwe-ha-nun-
 ta-ko mit-nun-ta
- (13) a. Tayhwa_i-ka Hocay_j-eykey caki_{i/j} -uy kurim-lul
 T. -NOM H. -DAT self-POSS picture-ACC
 kuri-key ha-ess-ta
 draw-COMP cause-PAST-DEC
 'T. made H. draw self's picture.'
- b. Tayhwa_i-ka caki_{i/*j} -uy kurim-lul Hocay_j-eykey
 kuri-key ha-ess-ta
- c. caki_{i/*j} -uy kurim-lul Tayhwa_i-ka Hocay_j-eykey
 kuri-key ha-ess-ta

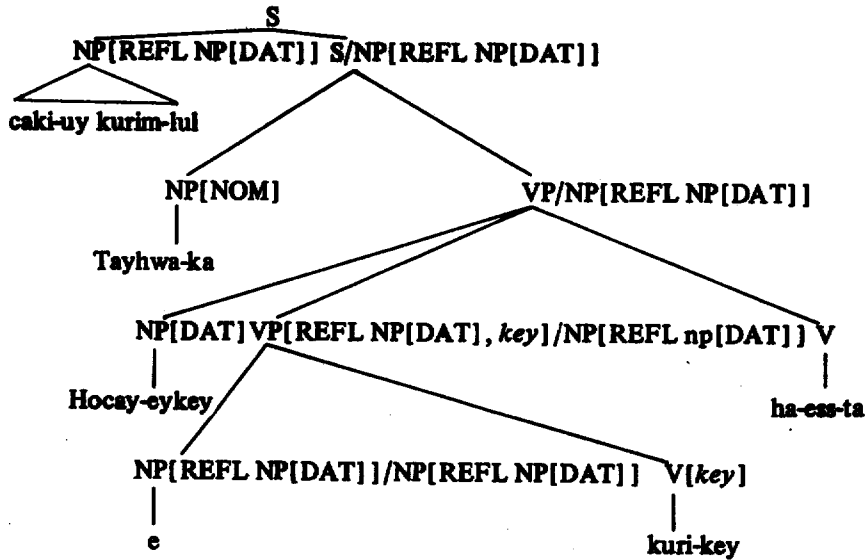
In (12), *caki* may refer to either *Tayhwa* or *Hocay*, wherever it is placed. But in (13), though *caki* may refer to either *Tayhwa* or *Hocay* in *a*, it cannot refer to *Hocay* when it is dislocated (in *b* and *c*). In general, a dislocated reflexive cannot agree with non-nominative NP's. The following FCR is proposed to account for this phenomenon.

(14) FCR 6: [SLASH NP[REFL NP[NOM]]]

This restriction says that if SLASH's value is NP[REFL], then that REFL's value must be NP[NOM]. The tree (15) of (13,c), is ill-formed because of the violations of FCR 6.

⁷ The same is also true of those NP's which have the topic marker *nun* but are syntactically identical with nominative NP's.

(15)



In contrast, in (13,a), *caki* is allowed to agree with either *Tayhwa* or *Hocay* since the sentence involves no dislocation.

3. 4 Ambiguous Control

- (16) a. Tayhwa_i-ka Hocay_j-eykey caki_{i/j}-uy sacin-lul
 T. -NOM H. -DAT self-POSS photograph-ACC
 cwu-ess-ta
 give-PAST-DEC
 'Tayhwa gave Hocay self's photograph.'
- b. Tayhwa_i-ka caki_{i/*j}-uy sacin-lul Hocay_j-eykey
 cwu-ess-ta

In (15, b), *caki* may not refer to *Hocay*. *Caki-uy sacin-lul* is not a dislocated constituent, since the LP statement allows order freedom between sister categories; then, FCR 6 alone cannot account for why *caki* agrees with *Tayhwa*, but not *Hocay*, in (15, b).⁸ In this subsection, we will discuss this problem in detail.

First of all, let me propose the definitions of ambiguous control and argument order.

(17) Ambiguous Control

If ϕ is a projection of R, where $R=C_0, \dots, C_n$, then a category $\phi(C_i)$ may or may not control $\phi(C_j)$ in ϕ , $1 \leq i, j \leq n$, if and only if the type of the head of R is $\langle \text{TYP}(\text{NP}), \langle \text{TYP}(\text{NP}), \text{TYP}(\text{VP}) \rangle \rangle$ and $\phi(C_i)'$ is the 2-argument and $\phi(C_j)'$ is the 3-argument.

(18) *Argument Order*⁹

In a local tree t, if (i) there are C_i, C_j such that $\text{TYP}(C_i) = \text{TYP}(C_j) = \text{NP}$, and (ii) C_j immediately follows C_i in t, then $C_0' = \text{FR}(\alpha_0, \{\alpha_1, \dots, \alpha_r\})$ only if C_i is the 2-argument in C_0' .

In (16,a), *Hocay-eykey* precedes *caki-uy sacin-lul*; then, the former is the 2-argument which ambiguously controls the latter, the 3-argument. This means that *caki* may refer to either *Tayhwa* or *Hocay* in (16,a). However, in (16,b), *caki-uy sacin-lul* is the 2-argument, *caki*'s referent cannot be *Hocay*.

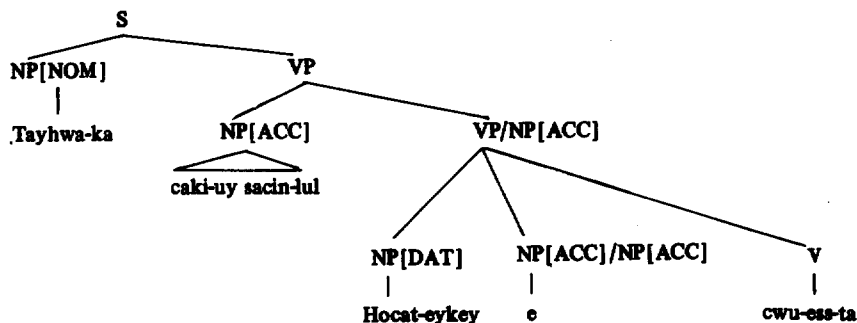
The following data reveal the same patterns of agreement.

(19) a. Tayhwa_i-ka Hocay_j-eykey caki_{i/j} -uy kurim-

T. -NOM H. -DAT self-POSS picture-

eytayhay iyaki-ha-ess-ta

⁸ There is another derivation of (44,b), as well as other sentences.



In part, this is a consequence of our indecision about constituent order variation. However, it will not affect our analysis of the *caki* constructions. Even if we are forced to admit the above tree, *caki* may not agree with *Hocay* because of FCR 6.

⁹ See GKPS, p.214.

about tell-PAST-DEC

'T. told H. about self's picture.'

- b. Tayhwa_i-ka caki_{i*}/j-uy kurim-eytayhay Hocay_j-eykey
iyaki-ha-ess-ta

If the concept of ambiguous control is introduced to deal with a peculiarity parochial to Korean, it will not be able to avoid the charge of adhocness. Interestingly enough, however, some English reflexive constructions reveal the same patterns of agreement.

- (20) a. Jim told Sandy about himself.
b. Jim told Sandy about herself.
- (21) a. Jim explained Sandy to himself.
b. Jim explained Sandy to herself.

This suggests that ambiguous control is not entirely ad hoc and parochial to Korean, but is highly functional in both Korean and English. Then we might safely be led to a tentative conclusion that there is strong empirical evidence in accepting it as a metatheoretical concept.

3.5 The Emotive Expressions

The term 'emotive expressions' refers to a class of adjectives which is related to an experiencer's emotional aspect, such as *sulpu* 'sad', *kippu* 'pleased', *culkep* 'delighted', *mwusep* 'frightened' etc. These adjectives, when combined with the causative verb *ha*, reveal an idiosyncrasy of the reflexive pronouns.

- (22) Tayhwa_i-ka Hocay_j-lul miwe-ha-nun-ta-nun sasil-i
T. -NOM H. -ACC dislike-PRES-DEC-COMP fact-NOM
caki_{i/j}-lul sulphu-key ha-nun-ta
self-ACC sad-COMP cause-PRES-DEC
'The fact that T. dislikes H. made self sad.'

In (22), *caki* may refer to either *Tayhwa* or *Hocay*, which is an experiencer of the emotion of sadness. But since both of the *caki*'s possible intrasentential referents are contained in the subject clause or, semantically, in a larger argument expression, they cannot control the predicate VP; thus, due to CAP's inability to operate in this sentence, *caki* may not refer to either of them.

which contradicts with the linguistic reality. Then, at a glance, this might cast doubt on the present analysis of the *caki* constructions, but there is good reason to argue that it is not the case.

In 3.1, we discussed that a quantified NP may bind a *caki* intra-sententially, but not pragmatically. But a quantified NP is not allowed to bind a *caki* in the emotive constructions, as the following sentences show.

- (22) a. etten yeca_i-ka Hocay_j-lul miwe-ha-nun-ta-nun
 some woman-NOM H. -ACC dislike-PRES-DEC-COMP
 sasil-i caki_{*i/j} -lul sulphu-key ha-ess-ta
 fact-NOM self-ACC sad-COMP cause-PAST-DEC
 'The fact that some woman dislikes H. made
 self sad.'
- b. Hocay_i-ka etten yeca-lul miwe-ha-nun-ta-nun
 sasil-i caki_{i/*j} -lul sulphu-key ha-ess-ta
- (23) a. motun yeca_i-ka Hocay_j -lul miwe-ha-nun-ta-nun
 all
 sail-i caki_{*i/j} -lul sulphu-key ha-ess-ta
 'The fact that every woman dislikes H. made self sad.'
- b. Hocay_i-ka motun yeca_j-lul miwe-ha-nun-ta-nun
 sasil-i caki_{i/*j}-lul sulphu-key ha-ess-ta
 'The fact that H. dislikes every woman made self sad.'

This suggests that reflexive binding in the emotive constructions may be entirely a pragmatic matter. That is, *caki* should refer to a pragmatically defined experiencer of an emotion.

In order to achieve this result, we assume that emotive adjectives have an idiosyncratic feature, EXP, whose value set is { +, - }. And EXP is defined as a head feature. The following FCR produces an effect that the syntactically bound reflexives may not appear in the emotive constructions.

- (51) FCR 7: [+EXP] ⊃ ~[REFL]

And when a sentence has the specification [+EXP], it is translated into (EXP'(x), S'), where EXP' is a contextually dependent function which picks out the experiencer of an emotion; and by a pragmatic condition, the value of EXP'

(X) binds a reflexive variable which remains free in S'.

So far, we have considered the reflexive constructions in Korean. The reflexives were dealt with by the Reflexive Binding Metarule, and the stipulation of REFL as control feature and foot feature; and they were translated into IL by an operation of REFL'. To explain their unbounded property, I proposed an FCR saying that dislocated *caki*'s must agree with nominative noun phrases. Also, the concept of ambiguous control was proposed to explicate the ambiguities of reflexive-antecedent relationships in a single clause.

All of the above mechanisms do not go against the notion of context-freeness. Viewed from a mathematical perspective, the metarule is a device to induce an expanded set of context-free phrase structure rules from a smaller set; the same is true of FCR's; and the stipulation of REFL as both a control feature and a foot feature does not affect the generative capacity of a grammar, since it merely defines characteristics of the feature under consideration. Thus unless there are any empirical counter-arguments to the present analysis, it is certain that the constructions can be described sufficiently by a CF-PSG.

However, this demonstration crucially relies on the distinction between syntactic binding and pragmatic binding for the reflexives. I presented an argument that some reflexives cannot refer to certain noun phrases under any reasonable contexts and furthermore, quantified phrases can be referred to only intrasententially. These facts suggest that the syntactic behaviors of the reflexives are distinct from their pragmatic behaviors. And whatever theoretical framework may be adopted, the above distinction should be taken into consideration, as long as our argument is tenable.

One might raise an objection that *caki*'s do not fall under the class of reflexives in a strict sense. Let us suppose that this is so and call *caki* a pseudo-reflexive. As Yang (1982) shows in detail, the syntactic behaviors of reflexive-like items differ in many respects from language to language. Then, what conditions define the true reflexivity in natural language? The answer cannot but be arbitrary as long as we should consider numerous varieties of reflexive-like forms. It seems that the lexical meaning of 'self' is a sufficient condition for defining a reflexive pronoun.

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