

Acyclic Adjunction of *Casin* as a Way of Deriving the LDB Effects of Korean Complex Anaphors

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Lee, Gunsoo. 2008. Acyclic Adjunction of *Casin* as a Way of Deriving the LDB Effects of Korean Complex Anaphors. *The Linguistic Association of Korea Journal*, 16(2), 93-124. I propose in this paper that the ambiguity of Korean bimorphemic anaphors is due to their two different syntactic/morphological structures: *procasin* and *PRO CASIN*. The former, being base-generated as one-word pure reflexive in a complement position, obeys Binding Condition A much like English *himself*. The binding behavior of the latter would be similar to Bickerton's (1987) *he himself*, which Salgueiro & Marlo (2006) analyze as a complex form that can be derived from a syntactic operation acyclically adjoining emphatic *himself* to *he* at an adjunction level. Based upon this, I argue that the indexing possibilities of *PRO CASIN* ('pronominal anaphor') should be an intersection between the set of possible indices for *PRO* and the set of possible indices for *CASIN*.

Key Words: LDB, PRO CASIN, *procasin*, reflexive, anaphor, emphatic reading, acyclic adjunction, cyclic insertion

1. Introduction

Most of both pre-minimalist (Cole et als., 1990; Li, 1993) and post-minimalist (Adger, 2003; Safir, 2004) solutions to binding phenomena generally show that only monomorphemic anaphors like *casin* manifest long-distance binding (LDB) whereas bimorphemic (complex) anaphors such as Korean *cakicasin* and English *himself* allow clause-internal local binding only as can be seen in (1) and (2).¹⁾

1) I would like to express gratitude to two anonymous reviewers of this paper for their helpful comments and suggestions. The following abbreviations and notational conventions

- (1) Jason_i said that Bruce_j introduced himself_{i/*k} to the audience.
- (2) Chelsoo_i-nun Youngsoo_j-ka cakicasin_{j/*k}/kucasin_{j/*k}-ul nemwu
 Chelsoo-Top Youngsoo-Nom selfself/himself-Acc too much
 euichihantako malhanta.
 rely on say
 'Chelsoo says that Youngsoo relays on selfself/himself too much.'

Even though Korean *cakicasin* and *kucasin* in (2) may behave exactly like English local anaphor *himself* in (1), the two anaphors seem to manifest LDB effects if they can be emphatically interpreted as in (3).

- (3) a. Tom_i-un nay_j-ka kucasin_{i/*k}-ul conkyengha-koisstako mitnunnta.
 Tom-Top I-Nom himself-Acc respect-Pres believe
 'Tom believes that I respect him himself.'
- b. Mary_i-nun Tom_j-i cakicasin_i-ul cohahantako sayngkakhanta.
 Mary-Top Tom-Nom selfself-Acc like think
 'Mary thinks that Tom likes selfself ('her herself').'

In (3a) and (3b), with the LDB reading, the bimorphemic anaphors must be translated as a pronominal element combined with an emphatic anaphor: 'him himself' and 'her herself', respectively. In (3a), there is no phi-feature-compatible clausemate coargument that can function as a potential binder for *kucasin*, and thus the only interpretation available for it is the emphatic LDB reading. For the emphatic interpretation, an extra stress is placed onto the second morpheme *casin* and a PF pause is put after the enunciation of the first morpheme *ku/caki*. With the PF pause, the relative distance in sound spectrograph between *ku/caki* and *casin* would be of impressive note, unlike the case of local reading in

are used in the paper: Top=topic marker; Nom=nominative case; Acc=accusative case; Pres=present tense; PST=past tense; Hon=honorific marker; PL=plural; Loc=locative; Comp=complementizer; Poss=possessive; Gen=genitive; *CASIN*=emphatic anaphor *casin*; *casin*=non-emphatic long-distance anaphor *casin*; *procasin*=English himself-type non-emphatic pure local reflexive (*kucasin*, *kunyecasin*, etc.); *PRO CASIN*=Korean long-distance binding emphatic or discourse-bound pronominal anaphor (KU *CASIN*, KUNYE *CASIN*, etc.); *=ungrammatical or unacceptable.

(2). Even in (2) and (3b) repeated below as (4a) and (4b), along with the non-emphatic local binding, emphatic LDB readings also seem to be readily available. This dual characteristics can be further observed in data of similar sort (5a) and (5b).

- (4) a. Chelsoo_i-nun Youngsoo_j-ka cakicasin_{i/j/*k}/kucasin_{i/j/*k}-ul nemwu
 Chelsoo-Top Youngsoo-Nom selfself/himself-Acc too much
 euichihantako malhanta.
 rely on say
 'Chelsoo says that Youngsoo relays on himself ('Youngsoo') or
 him himself ('Chelsoo') too much.
- b. Mary_i-nun Tom_j-i cakicasin_{i/j}-ul cohahantako sayngkakhanta.
 Mary-Top Tom-Nom selfself-Acc like think
 'Mary thinks that Tom likes selfself (himself or her herself).'
- (5) a. Younghee_i-nun Chelsoo_j-ka cakicasin_{i/j}-ul salangha-koisstako
 Younghee-Top Chelsoo-Nom selfself-Acc love-Pres
 mitnunta.
 believe
 'Younghee believes that Chelsoo loves selfself (himself or
 her herself).'
- b. Chelsoo_i-nun Youngsoo_j-ka kucasin_{i/j/*k}-ul cal tolpo-ntako
 Chelsoo-Top Youngsoo-Nom himself-Acc well take care of
 sayngkakhanta.
 think
 'Chelsoo thinks that Youngsoo takes good care of himself
 ('Youngsoo') or him himself ('Chelsoo').'

That the local binding cases of bimorphemic anaphors show the non-emphatic reading while the LDB cases manifest the emphatic reading can also be attested in another complex anaphor *ponincasin*, which has not been given much attention in the relevant literature. The gender-neutral form can be glossed as 'oneself' or 'one oneself' and is quite frequently used in formal discourse setting: (6). The same binding behaviors can be similarly observed for other anaphoric forms such as

kutulcasin (gender-neutral 'themselves') and *kunyetulcasin* ('themselves-female'): (7a) and (7b). On the basis of hitherto shown patterns of coreference assignment, the purpose of the present paper is to theoretically explain and derive the dual characteristics of all the Korean complex anaphors.

- (6) Mary_i-nun Bob_j-i ponincasin_{i/j/*k}-ul kwatayphyengkaha-yesstako
 Mary-Top Bob-Nom oneself-Acc overestimate-PST
 sayngkakhanta.
 think
 'Mary thinks that Bob overestimated himself ('Bob') or her
 herself ('Mary').'
- (7) a. Sensayng-nim-tul_i-un haksayng-tul_j-i kutulcasin_{i/j/*k}-ul
 teacher-Hon-PL-Top student-PL-Nom themselves-Acc
 kwatayphyengkaha-yesstako sayngkakhanta.
 overestimate-PST think
 'The teachers think that the students overestimated themselves
 ('the students') or them themselves ('the teachers').'
- b. Yesensayng-nim-tul_i-un yehaksayng-tul_j-i
 female teacher-Hon-PL-Top female student-PL-Nom
 kunyetulcasin_{i/j/*k}-ul kwatayphyengkaha-yesstako
 themselves (female)-Acc overestimate-PST
 sayngkakhanta.
 think
 'The female teachers think that the girl students overestimated
 themselves ('the girl students') or them themselves ('the
 female teachers').'

2. Structural Conditions for the Emphatic and Non-emphatic Reading

As can be shown in the following data, with proper contexts given, all the complex forms can even be discourse-bound except for *cakicasin*:²⁾

- (8) a. Kucasin/Kunyecasin/Ponincasin-un kutangsi-ey ku sasil-ul
 himself/herself/oneself-Top that time-at the fact-Acc
 moluko-issessta.
 not know-PST
 'He himself/She herself/One Oneself ('he himself' or 'she herself') was not aware of the fact at that time.'
- b. Kutulcasin/Kunyetulcasin-un kuttay ku cangso-ey
 themselves/themselves (female)-Top that time the place-Loc
 issci-an-assta.
 be-not-PST
 'They themselves/They themselves (female) were not at the place at that time.'
- (9) Na_i-nun kucasin_j/kunyecasin_j/kutulcasin_j/kunyetulcasin_j-ul
 I-Top himself/herself/themselves/themselves(female)-Acc
 salanghanta.
 love
 'I love him himself/her herself/them themselves (the person himself/herself//the people themselves, but not his/her/their wealth, his/her/their fame or his/her/their social background, etc.,).'

Under each of the discourse-bound cases, an extra stress is imposed on the second morpheme *casin* and the emphatic interpretation is the only possible reading. When sentences like (8) are further embedded inside another clause, the emphatic meaning seems to be the only possible interpretation again: (10).

- (10) a. Yeongsoo_i-ka [ponincasin_i/^{*k}-un kutangsi-ey ku sasil-ul
 Yeongsoo-Nom oneself-Top that time-at the fact-Acc
 moluko-issesstako] malhayssta.
 not know-PST said
 'Yeongsoo said that he himself was not aware of the fact at that time.'

2) As for the reason why *cakicasin* cannot be discourse-bound, see my account for data (27) in section 3.

- b. Soonhi_i-ka [Tom_j-un [Susan_k-i [kunyecasin_{i/*j/k/*l}-un kuttay
 Soonhi-Nom Tom-Top Susan-Nom herself-Top that time
 ku cangso-ey iss-esstanunkes]-ul pwuinh-ayssta-ko]
 the place-Loc be-PST -Acc deny-PST-Comp
 malh-ayssta-ko] sayngkakhanta.
 say-PST-Comp think
 'Soonhi thinks that Tom said that Susan denied that she
 herself was at the place at that time.'

In (8) and (10), the complex anaphors all occur in clause-initial subject positions whereas they are positioned in the object positions in (2) through (7) and (9). Under the ambiguous cases of (2) through (7), as should be clear by now from the foregoing accounts, the emphatic meaning is exclusively associated with LDB and the non-emphatic meaning with local binding. For (3a), the absence of potential clause-internal local binder necessitates the former reading only, resulting in the disambiguation of the sentence. With the non-availability of proper semantic antecedenthood, sentence-external licensing is the only possibility in (8) and (9). As for (10), a number of native speakers consulted showed a unanimous agreement that the bindees in embedded subject or topic positions can only be emphatically interpreted. Then, the structural conditions distinguishing the distribution of the non-emphatic local reading from that of emphatic LDB or discourse-bound reading would be:

- (11) Korean bimorphemic anaphors can function as English *himself*-type non-emphatic local reflexives if and only if they can be locally licensed by phi-feature-compatible clausemate coarguments.

What the above generalization states is that the traditional effects of binding condition A shown for English reflexive *himself* will be manifested only when *pronoun+casin*-type forms, including *cakicasin*, occur in an object position with the conditions in (11) met. In all the

other syntactic contexts such as subject position, object position but without the presence of potential clausemate local licensor, and sentence-external licensing cases, they would show the LDB emphatic effects as born out by the hitherto discussed data. This implies that the two meanings are 'complementary' with each other in distributional properties. In the next section, a precise definition of 'licensing' will be provided along with ways of theoretically deriving the dual characteristics of Korean complex anaphors.

3. *PRO CASIN* vs. *procasin*: Acyclic Adjunction and Cyclic Insertion

All the complex anaphors that have been considered so far are morphologically composed of a (pro)nominal element and monomorphemic anaphor *casin*.³⁾ I propose in this paper that the reason why the bimorphemic anaphors are ambiguous between the emphatic and non-emphatic meaning is because each one of them has two different syntactic/morphological structures and thus we are actually dealing with two different anaphoric forms: *PRO CASIN* and *procasin*. The latter is for English *himself*-type non-emphatic pure local reflexives, the distribution of which are dictated by (11), and the former for the emphatic LDB or discourse-bound cases.

The binding behavior of *PRO CASIN* is similar to English *he himself*, which Bickerton (1987) argues is an emphatic anaphoric form independent in itself that should be distinguished from local reflexive *himself*. *He himself* shows obligatory coreference with a non-local, c-commanding phi-feature-compatible antecedent. In such a case, coreference is impossible with a non-c-commanding element or a discourse element: (12) and (13B). In the absence of a potential c-commanding antecedent agreeing in phi-features, however, discourse binding and coreference with a non-commanding antecedent would be

3) *Cakicasin* can also be regarded as a combination of a pronominal element and anaphor *casin*. once again see my account for data (27) in section 3.

both allowed: (13B') and (14). These binding patterns can be likewise attested in Korean when (12) through (14) are translated word-for-word using various types of the complex anaphors with underlying syntactic structure *PRO CASIN* in Spec-TP: (12a), (12b), and (12c) translated into (15a), (15b), and (15c), using *cakicasin*, *kucasin*, and *kutulcasin* respectively; (13) into (16) using *poincasin*. As can be self-checked by any native speaker, Korean translation of (14) with *kunyecasin* (*KUNYE CASIN*: 'she herself') seems to show the same coreference possibilities with English *she herself*.

- (12) a. [Tom_i's uncle]_j believes that [he himself]_{*i/j/*k} is trustworthy.⁴⁾
 b. [Tom_i's uncle]_j thinks that [Susan]_k holds the view that [he himself]_{*i/j/*k/*s} is trustworthy.
 c. [Tom and Stephanie]_i believe that Jason_j said that [they themselves]_{i/*j/*k} are trustworthy.
- (13) A: How is Stephanie_i going to do in the driving test?
 B: I am not sure, but Melanie_j thinks that [she herself]_{*i/j} can pass.
 B': I am not sure, but [she herself]_i thinks that she can pass.
- (14) Freshman Composition teacher, Stephanie_i, discussed writing skills with two smart students, Melanie_j and Debbie_k, and all three of them agreed on what the contents of a good essay should be like. However, the essays that Melanie_j wrote for Debbie's_k review were things that [she herself]_{i/j/k} attached little importance to.
- (15) a. [Tom_i-uy samchon]_j-un [cakicasin]_{*i/j/*k}-i mitulmanhatako
 Tom-Poss uncle-Top *PRO CASIN*-Nom trustworthy
 mitnun_{ta}.
 believe

4) The fact that *he himself* behaves differently from regular pronoun *he* can be shown in the following data.

Every boy_i thinks that he_{i/j}/[he himself]_{i/j} is intelligent.
 Both discourse reading and distributed reading are possible for *he* whereas *he himself* only allows the latter interpretation.

- b. [Tom_i-uy samchon]_j-un [Susan]_k-i [kucasin]_{*i/j/*k/*i}-i
 Tom-Poss uncle-Top Susan-Nom PRO CASIN-Nom
 mitulmanhatanun kyunhae-lul gajigoisstako sayngkakhanta.
 trustworthy view-Acc have think
- c. [Tom gwa Stephanie]_i-nun Jason_j-i [kutulcasin]_{*i/*j/*k}-i
 Tom and Stephanie-Top Jason-Nom PRO CASIN-Nom
 mitulmantako malhattako mitnunta.
 trustworthy said believe
- (16) A: Stephanie_i-ga unjeonmyunhyeo siheom-ul etteoke
 Stephanie-Nom driving license test-Acc how
 bogetsseumnika?
 take
- B: Chal morugeteoyo. geureotchimman Melanie_i-ka
 well not know but Melanie-Nom
 [ponincasin]_{*i/j}-un pass-halsuisstako sayngkakhaeyo.
 PRO CASIN-Top pass can think
- B': Chal morugeteoyo. geureotchimman [ponincasin]_i-un
 wiell not know but PRO CASIN-Top
 pass-halsuisstako sayngkakhaeyo.
 pass can think

PRO CASIN, then, as was argued for English *he himself* in Bickerton (1987), seems to show the same hybrid properties of both pronominals and anaphors. It behaves like a pronoun but unlike a pure anaphor in that it can be discourse-bound, bound by a non-c-commanding element, or must be bound by a non-local antecedent (Condition B effects). In the presence of a potential phi-feature-compatible c-commanding antecedent, it must be sentence-internally bound like pure anaphors but unlike pronouns.⁵⁾ This shows that a simple compositional account cannot be provided for *PRO CASIN*, for it can be collapsed neither into the category of pronouns nor into the category of anaphors, having properties of 'pronominal anaphor.' The mixed nature of its status as a

5) What I mean by a 'pure anaphor' is an anaphoric expression without any pronominal property.

pronominal anaphor can be further illustrated in the following data.

- (17) [Sue_i's mother]_j thinks that Stephanie_k underestimated
 her_{i/j/*k/l}/herself_{*i/*j/k/*l}/[her herself]_{*i/j/*k/*l}.
- (18) [Sue_i-ey eomony]_j-nun Stephanie_k-ka kunyecasin_{*i/j/k/*l}
 Sue's mother-Top Stephanie-Nom kunyecasin/KUYNE CASIN
 -ul gwasopyungkaha-esstako sayngkakhanta.
 -Acc underestimate-PST think
 '[Sue_i's mother]_j thinks that Stephanie_k underestimated
 herself_{*i/*j/k/*l}/[her herself]_{*i/j/*k/*l}.'
- (19) [Sue_i-ey eomony]_j-nun Stephanie_k-ka kunye_{i/j/*k/l}/casin_{*i/j/k/*l}.
 Sue-Poss mother-Top Stephanie-Nom her/self
 -ul gwasopyungkaha-esstako sayngkakhanta.
 -Acc underestimate-PST think
 '[Sue_i's mother]_j thinks that Stephanie_k underestimated her_{i/j/*k/l}
 /self_{*i/j/k/*l}.'

In (17) through (19), the bindees all occur in embedded object positions. Pronouns *her* and *kuyne* in (17) and (19) can be discourse-bound or bound by both c-commanding and non-c-commanding elements with local obviation effects (Condition B). English local anaphor *Herself* in (17) and Korean long-distance anaphor *casin* in (19) show obligatory sentence-internal c-commanding co-indexations: local licensing only for the former and both local & non-local licensing for the latter. As was the case in (4) through (7), *kunyecasin* in (18) is ambiguous between *procasin* ('herself') and *PRO CASIN* ('her herself' in (17)). Under the latter interpretation, it shows Condition B effects like regular pronominals and unlike anaphors, but must be compulsorily sentence-internally licensed by c-commander *Sue-ey eomony* ('Sue's mother') like an anaphor but unlike a pronoun.

With the condition in (11) satisfied, *kunyecasin* again would be interpreted as local reflexive *procasin* subject to traditional Binding Condition A: a reflexive must be locally bound inside a minimal tensed IP. Its equivocality between the two readings would always necessitate

two different English translations of sentences like (18). With the indexation of *j*, what we are dealing with is pronominal anaphor *PRO CASIN* (*him himself, her herself, he himself, and she herself, etc.*) and with index *k* strictly local reflexive *procasin* (*herself, himself, etc.*).

Let us now theoretically derive the dual characteristics of Korean complex anaphors. Before I present my analysis, I would like to briefly go over Salgueiro and Marlo's (2006) treatment of English *he himself*. Salgueiro and Marlo (2006) (henceforth S&M), rather than postulating *he himself* as a lexical item with idiosyncratic properties, instead argue that its properties follow from more general properties of the grammar.⁶⁾ According to S&M, *he himself* is a complex form that can be derived from a syntactic adjunction operation adjoining *himself* to *he* at a certain point in the syntactic derivation. Accusative *himself* would be required to have its case feature checked since the Minimalist notions of Checking theory and Full Interpretation demand that only interpretable features remain in the LF representation.⁷⁾ However, the accusative case cannot be checked in the domain of nominative subject *he himself*. The way out of this problem of possible derivation crash at LF would be to say that the attachment of *himself* to *he* is an adjunction operation. S&M provide the following data as evidence that DP adjuncts need not have any case features checked, leaving the sentences still grammatical even without relevant case checking.

- (20) a. I saw the movie [the other day].
 b. He wrote the paper [three times].

S&M go on and assume two different stages in coreference assignment related to cyclic insertion and acyclic adjunction. The indexing possibilities for the elements cyclically inserted in the

6) If the properties of *he himself* can be derived from some general properties of the grammar without any ad hoc stipulation, the relevant theory would be more simplistic.

7) For this, please look at various works within the minimalist framework: Radford (2004); Hendrick (2003); Seuren (2004); Hinzen (2006); Hornstein (2001).

8) See S&M, Uriagereka (1998), and Lebeaux (1988) for the nature of cyclic insertion and acyclic adjunction.

derivation would be evaluated according to traditional binding principles A, B and C whereas other coreference principles would apply for the elements inserted through acyclic adjunction.⁹⁾ They provide the following data in support of the two different sets of binding conditions operative at two different derivational levels.

- (21) a. John_i took a picture [of him_{*i}/himself_i].
 b. John_i read a book [about him_i/himself_i].

In (21a) the pronoun/reflexive is part of a complement inserted cyclically by the operation Merge while it is part of an 'acyclic' adjunct in (21b). In the former case, coindexation is not allowed between *John* and *him*, and in the latter case, both the pronoun and the reflexive are possible. For S&M, this means that conventional "Binding Theory as formulated does not readily extend to make predictions about pronouns or reflexives inserted by adjunction, or contained in a syntactic category that is inserted by adjunction." Similar but interesting binding patterns can be found when (21) is translated into Korean and when the translated clauses are embedded in matrix sentences: (22) & (23).

- (22) a. John_i-un ku_{*i}/kucasin_i-uy sajin-ul jjikessta.⁹⁾
 John-Top him/himself-Gen picture-Acc took
 'John took a picture of himself(procasin)/him.'

9) I admit that there are variations (ideolectal or dialectal) in grammaticality judgment among native speakers for all the Korean data used in this paper. The native speakers consulted by the author, however, have shown their judgmental consistency compatible with the accounts proposed in the present work. Korean is a head-final language unlike English, so genitive phrase *picture of him* must be translated as possessive phrase *ku-uy sajin*. Here I am assuming that both possessive and genitive phrases are complements rather than adjuncts as in DP phrase *John's criticism of the novel in a peculiar way*: *John's* and *of the novel* would be the results of Merge (complements cyclically inserted) while *in a peculiar way* is an adjunct acyclically adjoined. A number of native speakers, along with the author, have differentiated between Genitive marker *-uy* in (22a) and adjunct marker *-etehan* in (22b), and informed me that the former induces *procasin* reading and the latter *PRO CASIN* reading only.

- b. John_i-un ku/kucasin_i-etehan chak-ul ilessta.
 John-Top him/himself-about book-Acc read
 'John read a book about him himself (PRO CASIN)/him.'
- (23) a. Tom_i-un John_j-i ku_{i/*j/k}/kucasin_{i/j/*k}-uy sajin-ul
 Tom-Top John-Nom him/himself-Gen picture-Acc
 jjikesstako hassta.
 took said
 'Tom said that John took a picture of him
 /himself(John-procasin) or him himself(Tom- PRO CASIN).'
- b. Tom_i-un John_j-i ku_{i/j/k}/kucasin_{i/j/*k}-etehan chak-ul
 Tom-Top John-Nom him/himself-about book-Acc
 ilesstako hassta.
 read said
 'Tom said that John read a book about him/him himself(Tom
 or John-PRO CASIN).

(22) shows the same binding behavior as (21) except that *kucasin* is interpreted differently between the two sentences: In (22a) *kucasin* is *procasin*, being part of a complement, and in (22b) being contained inside an adjunct, it is interpreted exclusively as *PRO CASIN* with no Condition B effects. When the two sentences are embedded, however, *kucasin* in (23a) shows the ambiguity between *procasin* (index j-local binding) and *PRO CASIN* (index i-LDB). In (23b), the only interpretation the bimorphemic anaphor has is *PRO CASIN* with both indices i (LDB) and j (local reading) allowed, and does not show Condition B effects as is the case for pronoun *ku* in the same sentence and (22b). The non-ambiguity of *kucasin* shown in (23b) unlike other previously discussed data involving clause embedding also show that adjuncts are to be treated differently from the elements inserted cyclically in the derivation as S&M argue in relation to (21b). In view of (22) and (23), the condition governing the distribution of *procasin* proposed in (11) should be revised as:

- (24) Korean bimorphemic anaphors can function as English

himself-type non-emphatic local reflexives (*procasin*) if and only if they can be locally licensed by phi-feature-compatible clausemate coarguments. A locally licenses B if and only if A c-commands and is coindexed with B, and A and B are in the same minimal tensed IP. A and B are coarguments to each other if and only if A and B or a syntactic category containing either one of them as a complement are theta-selected by the same verb.

Kim (1999), in line with Baker and Hale (1990), assumes that *-self* and *-casin*, the second components of local reflexives *himself* and *kucasin* are of affixal character and incorporated into pronominal parts *him* and *ku* in the process of word formation.¹⁰⁾ Following Kim (1999), I propose that non-emphatic local reflexive *procasin* should be treated in the same manner and that reflexive feature is assigned to it in the lexicon before any syntactic derivation takes place.¹¹⁾ After the affixation of *-casin* onto *pro* in word formation, the resulting nominal

10) Kim (1999) considers *kucasin* only as a local reflexive.

11) (24) would roughly the case of Reinhart & Reuland's (1993) binding condition A of reflexive-marking a predicate, which ensures compulsory local licensing of *himself*. A predicate reflexive-marking means that the theta-role born by *himself* disappears and an A-chain is formed between the reflexive and its antecedent in the minimal domain. If *himself*, reflexive-marking a predicate, is a theta-role eliminating operator that changes a transitive predicate into an intransitive one as they claim, the reflexive feature must be an uninterpretable feature to be immediately deleted upon being checked. The deletion of this feature would be directly related to the elimination of the object theta-role in the A-chain formation after 'pre-LF' feature-checking. The emphatic feature assigned to *PRO CASIN*, however, would simply be an interpretable feature that is visible and survives at LF, being checked or not.

12) This question is modelled after the same question originally posed by S&M for English *he himself*. As mentioned, pronouns are not subject to traditional binding condition B at the level of acyclic adjunction. The issue of what is the set of coreference principles regulating the pronominal elements at the adjunction level is beyond the scope of the present paper. The purpose of this work is to identify the set of coreference principles governing two anaphoric elements [*PRO CASIN*] and *procasin*, and to see whether there are any differences between the two Korean forms and their English counterparts [*he/him himself*] and *himself*.

structure is such that the two morphemes are fused together as one lexical item *procasin*, and this would reflect the fact that there is no PF pause between the two and no stress is placed on either one of them, unlike the case of two-word *PRO CASIN* as was discussed in section 1. Contrary to *PRO CASIN* (pronominal anaphor) showing Condition B effects with its pronominal properties, the issue of local obviation would not arise for *procasin* since it does not have any pronominal property, being a pure reflexive with its reflexive feature. As for the absence of Condition B effects in (22b) and (23b) unlike (23a) and the other data involving *PRO CASIN*, whatever theoretical reason is responsible for the lack of local obviation phenomenon for *him* inside the adjunct phrase ('about him') adjoined acyclically later in the derivation of (21b) must also be responsible for such absence. Then, traditional binding principles A and B, in line with S&M, would be operative only within the structural configuration of 'clausemate coargument' or 'theta-selection by one and the same verb' defined in (24). With the notion of theta-selection intended to exclude adjunct phrases like *about him/himself*, the question is what is the set of coreference principles regulating the anaphoric and pronominal elements inserted through acyclic adjunction and what structural relations are relevant at this second stage.¹²⁾

Reflexive *procasin*, the distribution of which is dictated by (24), only occurs in an object position or in a complement position embedded inside an object, which are all cyclically inserted (theta-selected). As such, it is subject only to conventional principle A. Turning now to index assignment of *PRO CASIN*, I propose that binding possibilities of *PRO*, the first element of the complex form, are evaluated first when it is cyclically inserted and that the indexing possibilities of the entire

13) The analysis of acyclic adjunction of emphatic anaphor *CASIN* onto the pronoun is not as strongly motivated as in S&M's treatment of English *he himself* since *CASIN* of *PRO CASIN* in subject position is not accusatively case-marked unlike *himself*. As explained in relation to (20), the adjunction analysis for English is based on the claim that DP adjuncts need not have its case feature checked. Despite the difference between the two languages, there is nothing that will prevent us from going ahead with the proposed account, if it leads to correct theoretical results.

form are evaluated after the acyclic adjunction of *casin* (*CASIN*) onto *PRO* later in the derivational process.¹³ Paying attention to specific examples, let me now show how coreference assignment takes place in the data hitherto discussed: (25) and (18) & (4b) repeated as (26) and (27).

- (25) [Tom_i-uy samchon]_j-un [kucasin]_{*i/j/*k}-i choego-irako
 Tom-Poss uncle-Top PRO CASIN-Nom best-be
 sayngkakhanta.
 think
 'Tom's uncle thinks that he himself is the best.'
- (26) [Sue_i-ey eomony]_j-nun Stephanie_k-ka kunyecasin_{*i/j/k/*}
 Sue's mother-Top Stephanie-Nom procasin/PRO CASIN
 -ul gwasopyungkaha-esstako sayngkakhanta.
 -Acc underestimate-PST think
 '[Sue_i's mother]_j thinks that Stephanie_k underestimated
 herself_{*i/j/k/*}/[her herself]_{*i/j/k/*}.'
- (27) Mary_i-nun Tom_j-i cakicasin_{i/j}-ul cohahantako sayngkakhanta.
 Mary-Top Tom-Nom selfself-Acc like think
 'Mary thinks that Tom likes himself (procasin) or her herself
 (PRO CASIN).'

For the unambiguous (25), the sentence would be first generated without *casin* (*CASIN*), at the point of which binding principle B is evaluated for cyclically inserted pronoun *ku* (*PRO*), and the resulting coreference possibilities for it would be *ku(PRO)_{i/j/k}*. Now *CASIN* (*casin*) acyclically adjoins to *PRO* (*ku*) creating the following structure in Spec-TP:

- (28)
- $$\begin{array}{c}
 \text{PRO (PRO CASIN}=\{\langle \underline{\text{ku}}, \underline{\text{ku}} \rangle, \{\text{ku}, \text{casin}\}\}) \\
 \swarrow \quad \searrow \\
 \text{PRO}_{i/j/k}(\text{ku}) \quad \text{CASIN}_j(\text{casin})
 \end{array}$$
-

As *casin* (*CASIN*) adjoins to *PRO*, *PRO* does not c-command *casin* (*CASIN*) since only one of the segments of *PRO* does, so *casin* (*CASIN*) cannot get its reference from *PRO* and thus cannot inherit the indices born by the pronominal form.¹⁴⁾ This entails that it must seek an independent reference from elsewhere in the sentence. Since the binding behavior of *casin* is always such that it obligatorily requires a sentence-internal c-commander (either local or long-distance) as its antecedent as was shown in (19), the only candidate as its referent in (25) is [*Tom-uy samchon*]_j.¹⁵⁾ Assuming that *PRO CASIN*, showing the hybrid properties of 'pronominal anaphor,' should be assigned indices that satisfy both of its pronominal and anaphoric aspects at the same time, its indexing possibilities would be an intersection between the set of possible indices for $PRO_{i/j/k}$ (*ku*) and the set of possible indices for $casin_j$ (*CASIN*). Then, the logical conclusion for its coreference assignment will be [*PRO CASIN*]_j in (25) and it can bear the j index only. In (26), *kunyecasin* is ambiguous between *procasin* ('herself') and *PRO CASIN* ('her herself'). Being base-generated as one-word pure reflexive through cyclic insertion in the theta-selected object position, the former obeys binding condition A (index k only).¹⁶⁾ For the latter, the same account given for (25) should be provided. *Kunye* (*PRO*), before acyclic adjunction of *CASIN* (*casin*), as a pronoun, can be discourse-bound (index l) or bound by either c-commanding or non-commanding antecedent (indices i&j) with the impossibility of index k (Condition B). Acyclically adjoined *CASIN* allows either local (index k) or long-distance c-commander (index j) as its antecedent. Then the intersection between the set of possible indices for $PRO_{i/j/l}$ (*kunye*) and the set of possible indices for $casin_{j/k}$ (*CASIN*) is index j. Hence, the

14) *CASIN* exclusively refers to Korean emphatic anaphor while *casin* is used as a cover term for both long-distance and emphatic anaphors.

15) For the binding behavior of mono-morphemic forms like *casin* and *caki*, See Park (1988) and references cited therein.

16) The term reflexives, as used in this paper, refer to only those that obey traditional binding condition A, and by anaphors I mean any nominal expressions with anaphoric properties including reflexives. Hence the set of the former is a proper subset of the set of the latter.

coreference assignment for the complex form is [*PRO CASIN*]_j again.

The picture is somewhat more complicated for (27). As in (26), *cakicasin* shows the same type of double meaning. When interpreted as *procasin*, the same account given for (26) can be provided (index j). Its status as *PRO CASIN* requires an analysis on the binding behaviors of *caki* and *casin*, both of which are known as long-distance anaphors in the relevant literature. As mentioned above in relation to (19), *casin* must be sentence-internally bound by either local or long-distance c-commander. *Caki*, as is the case for *casin*, must be bound by a sentence-internal c-commander with discourse binding disallowed (unlike pronominals). Unlike the latter, however, it also shows some pronominal properties in that it is subject to Condition B effects. Its such properties can be manifested when it is substituted in place of sentence-initial *PRO CASIN* in the topic positions of (8) and in place of *casin* in (19). *Caki*, then, would belong to some 'transitional' category between the category of regular pronouns and the category of anaphors. Thus, it may be also regarded as a pronominal anaphor in a slightly different sense in that it shows local obviation effects like pronominals but unlike anaphors and disallows sentence-external binding like anaphors but unlike pronominals.¹⁷⁾ Substituting it in (8) results in ungrammaticality, and its substitution in (19) makes the coindexation with local subject *Stephanie* and non-c-commanding NP *Sue* unacceptable, leading to LDB by [*Sue-ey eomorŋ*] as the only option unlike *casin*.

For the complex *cakicasin* as *PRO CASIN* in (27), indexing possibilities would be evaluated first for cyclically inserted *caki_i* (*PRO*) and the entire form would be evaluated later after the adjunction of *casin* onto *caki*. Since the intersection between the set of possible indices for *caki_i* and the set of possible indices for *casin_{h/j}* is index i, the coreference assignment for the complex form is [*CAKI CASIN*]_i. As readers can check for themselves, the accounts given for (25), (26) and (27) can be analogously provided for the allowable binding options in (3), (4), (5), (6), (7), (10), (15), (16B), and (18).¹⁸⁾

17) See Lee (1988) for the binding behavior of *caki*.

18) The binding behavior of *ponin* seems to be similar to that of *caki* in that it shows

In (22a) and (23a), *kucasin* occurs as a cyclically inserted complement contained inside the object (see footnote 9). For (22a), both *procasin* and *PRO CASIN* may be theoretically possible. As non-emphatic pure reflexive *procasin* base-generated in the complement position, it obeys traditional binding condition A. For its interpretation as *PRO CASIN*, as usual, pronoun *ku* is cyclically inserted first, followed by the acyclic adjunction of *casin*. With condition B effects as in (21a), at the stage in which *ku* is inserted, it cannot bear the index *i* and allows discourse-binding only. *Casin*, later adjoined, must bear index *i* since its referent has to be a sentence-internal c-commander. Then, the intersection between the set of possible indices for ku_k and the set of possible indices for $casin_i$ would be a null set (a case of index mismatch), leaving the complex *PRO CASIN* 'referenceless.' This would be the reason why only the former reading (local reflexive), but not the latter reading of pronominal anaphor, is available in (22a). For (23a), the reading of *procasin* is readily available in the same manner as in (22a): index *j* (Condition A). Unlike the case of (22a), however, in the clause-embedding case of the sentence, *PRO CASIN* is also available because the intersection between the set of possible indices for ku_k (*PRO*) and the set of possible indices for $casin_{kj}$ (*CASIN*) is not null but $[KU CASIN]_i$, hence its LDB by matrix subject *Tom_i*.

As predicted by (24), *kucasin* in (22b) and (23b), being inside the adjunct, does not have the meaning of *procasin* but only of *PRO CASIN*. Under this reading, in both sentences there would be two instances of acyclic adjunction. The adjunct phrase headed by *etehan* ('about') is first adjoined without *casin* (*CASIN*), which is adjoined onto *ku* (*PRO*) later in the derivation. Since conventional binding principle B would not apply to an adjunct or an element embedded inside an adjunct as in (21b), *PRO* (*ku*) in the two sentences, before the second adjunction, does not show local obviation and permits local

condition B effects and disallows sentence-external binding. When it is substituted for *ponincasin* in (6), discourse reading is not allowed with binding by the matrix subject strongly preferred. Then, the account proposed for the *PRO CASIN* reading in (6) will go through with no difficulty.

subject *John* as its licenser. This leads to the intersection between $ku_{i/k}$ and $casin_i$ as $[PRO\ CASIN]_i$ in (22b) and the intersection between $ku_{i/j/k}$ and $casin_{i/j}$ as $[PRO\ CASIN]_{i/j}$ in (23b). So the complex form can be bound by the local subject in (22b) and by both local and matrix subject in (23b) under the 'uni-reading' of pronominal anaphor.

Turning now to discourse-binding cases with the non-existence of potential sentence-internal licenser as in (8) and (16B'), as stipulated in (24), the condition for the availability of *procasin* reading is not met (Condition A violation) and thus the only interpretive option is of *PRO CASIN*. Occurring in the sentence-initial positions, *PRO*, prior to the adjunction of *CASIN*, can be bound by any discourse antecedent. On the other hand, *CASIN*, always requiring a sentence-internal c-commander as its index-assigning binder (shown in (19)), would be simply 'indexless' because there is no potential element that can c-command it. As explained in view of the structure in (28), it is not c-commanded by *PRO*. Here I propose that later adjoined *CASIN*, only when it is indexless, can as a default option take on whatever index the pronominal form carries. Then, the intersection of indices between $PRO_{\text{discourse-binder}}$ and $CASIN_{\text{discourse-binder}}$ would be the one born by the same sentence-external licenser, leading to the discourse-binding of entire form $[PRO\ CASIN]_{\text{discourse-binder}}$.

For the type of discourse reference in (9), the non-emphatic meaning of pure local reflexive (*procasin*) is not available as correctly predicted by (24) again. The complex forms, even as *PRO CASIN*, would be referenceless due to the same sort of index mismatching as in (22a). Cyclically inserted *PRO* must be bound by a discourse antecedent with a person-feature mismatch with the subject *Na* and acyclically adjoined *CASIN* must bear the same index as the c-commanding subject, resulting in the intersection of indices between the former and the latter being another null set. This would wrongly predict contra what is true that the emphatic discourse reading is not present in (9). Please note that in (22a) the index mismatch is caused by *PRO*'s being subject to Condition B while it is triggered solely by the phi-feature disagreement in (9) with local obviation only marginally relevant. The Principle of

Full Interpretation of the Minimalist programs in general requires that all interpretable elements including nominal expressions & their categorial and phi-features are visible and to be interpreted at LF provided that they conform to derivation-level-specific grammatical conditions such as the Binding Conditions. Then, Condition B enforced for *PRO* would make the index mismatch 'irreversible' in (22a), leaving Condition A-conforming *procasin* to be the only interpretable option. In (9), however, the index mismatch for *PRO CASIN*, conforming to the related grammatical conditions, can be made 'reversible' by the Principle of Full Interpretation (PFI), while the interpretative option of the bimorphemic forms as local reflexive (*procasin*) is barred independently by Condition A defined in (24). Here I propose that when the intersection of indices between *PRO* and *CASIN* is null, the PFI, rather than leaving the complex form referenceless, opts to make it interpretable by such means as 'random' upward feature-percolation. Under the structure (28), taking *kucasin* in (9) as an example, *ku* will upward-percolate its third person singular features to {*ku*, *casin*}, and *casin*, being completely void of phi-features, will vacuously upward-percolate its featureless property to the adjoined structure.¹⁹⁾ This will enable the entire complex [*KU CASIN (PRO CASIN)*] to carry phi-features {3rd, sg, male}, which will in turn create another feature mismatch with the first person subject at a higher syntactic level. As a consequence, it has no choice but to be sentence-externally licensed, bearing the same index as that of a discourse-antecedent, and this would be how the proper emphatic reading is allowed in (9). The PFI, as a last resort, renders the alternative meaning through the reversal of index mismatch under the non-availability of the other interpretive option *procasin*.

19) That *casin* is completely void of phi-features can be seen in the following data showing that it can be bound by any person, gender, and number antecedents.

Na_i/Neo_i/Ku_i/Kunye_i/Kutul_i-un casin_i(-tul)-man-ul sangkakhanta.

I/You/He/She/They-Top casin(-PL)-only-Acc think about

'I/You/He/She/They only think about myself/yourself/himself/herself/themselves.'

4. Cross-linguistic Differences between English and Korean

Under S&M's treatment of English *he himself* as cyclic insertion of *he* followed by later adjunction (acyclic) of *himself* onto *he* under a structure analogous to (28), the accounts given for Korean *PRO CASIN* can be similarly provided for English data (12), (13), (14), and (17). English *himself*, *herself*, and *themselves*, when cyclically inserted as a complement as in (1), obey traditional Binding Condition A, which Korean local reflexive *procasin* is also subject to in the uniform manner explicated above. When acyclically adjoined, as mentioned in the previous section, they would be governed by a separate coreference principle. This can be further illustrated by the following data:²⁰⁾

(29) Cyclic Insertion

- a. Tom_i said that John_j took a picture of himself_{i/j}.
- b. * Tom said that Susan took a picture of himself.

(30) Acyclic Adjunction

- a. Tom_i said that John_j read a book about himself_{i/j}.
- b. Tom_i said that Susan_j read a book about himself_{i/sj}.
- c. [Tom_i's father]_j said that Susan_k read a book about himself_{i/j/*k/*i}.

Himself in (29) conforms to Condition A. Thus it refers only to local subject *John* in (a), and the sentence (b) simply becomes unacceptable in the absence of phi-feature-compatible local licenser. In case of (30), it selects as its referent the closer of the two phi-feature-matching c-commanders (*Tom* and *John*), namely *John* in (30a). In (30b), it selects *Tom* as its antecedent, the only feature-matching element. With its contrastive behaviors between (29b) and (30b), the independent coreference principle operative at the later derivational stage would be: English *himself*, acyclically adjoined, is governed by the principle of 'closest feature-matching search (henceforth PCFMS).' *John* and *Tom*

20) I would like to thank the native speakers at Korea Maritime University for providing acceptability judgments on the English data used in this paper.

are the closest feature-matching c-commanders in (30a) and (30b), respectively. As can be seen in (30c), the notion of sentence-internal c-command is crucial again, for *himself* can be bound by neither *Tom* nor a discourse-antecedent.

Coming back to the case of complex forms [*he himself*], [*she/her herself*], and [*they themselves*] in (12) through (14) and (17), their allowable binding options can be correctly derived from the following calculation on the intersection of indices between the pronominal elements and the *self*-forms:

- (31) Pronouns cyclically inserted → regulated by Condition B
 Self-forms acyclically adjoined → regulated by PCFMS
- (12a): $he_{i/j/k}$ and $himself_j$ → [*he himself*]_j
 - (12b): $he_{i/j/l}$ and $himself_j$ → [*he himself*]_j
 - (12c): $they_{i/j/k}$ and $themselves_i$ → [*they themselves*]_i
 - (13B): $she_{i/j}$ and $herself_j$ → [*she herself*]_j
 - (13B'): she_i and $herself_{indexless}$ → [*she herself*]_{i-discourse binder}
 - (14): $she_{i/j/k}$ and $herself_{indexless}$ → [*she herself*]_{i/j/k}
 - (17): $her_{i/j/l}$ and $herself_k$ → [*her herself*]_{index mismatch}

As readers are able to check and do the calculation for themselves, the accounts to be given for (31a) through (d) can be provided in a straightforward manner. For (31e) and (f), *herself* would be indexless pretty much for the same reason that *CASIN* in (8) and (16B') is indexless, and thus takes on as a default option whatever index the pronominal form *she* carries, leading to the intersection of indices between the two forms as *i* in (e) and *i/j/k* in (f): discourse-binding of *she herself*.

Even though *himself* in (21a)&(29a) and (21b)&(30a) is all bound by local subject *John*, the conditions regulating the binding behavior are different in the two cases. In the first two sentences, it is a result of rigid application of Condition A operative at the level of cyclic insertion, whereas for the latter two sentences, the regulator is the PCFMS operative at the adjunction level. The PCFMS results in another index

mismatch for *her herself* in (17) as shown in (31g).²¹⁾ *Her* can bear indices i, j, and l, but not k (Condition B), and *herself* must bear the same index as *Stephanie*, the closest feature-matching c-commander. Then the intersection would be null again, counter-factually leaving *her herself* uninterpretable. Here the mismatch would be a conspiracy between two 'culprits,' namely Condition B and the PCFMS. The following patterns can be obtained upon summarizing all the cases of index mismatch that can be potentially troublesome for my theory:

- (32) a. (22a): culprit -> Condition B [*PRO CASIN*]
 availability of alternative interpretation -> *procasin*
 b. (9): culprit -> phi-feature disagreement [*PRO CASIN*]
 availability of alternative interpretation -> none
 c. (17): culprit -> Condition B and PCFMS [*her herself*]
 availability of alternative interpretation -> none

The difference between Korean *casin/CASIN* and English emphatic *herself*, is that the latter obeys the PCFMS, while the former shows the same compulsory sentence-internal coindexation (either local or long-distance) regardless of whether it is of cyclic insertion (sentence (19)) or acyclic adjunction as in the translation of (30c): [*Tom_i-ey abeoji*]_j *Susan_k-i casin_{i/j/k}-etehan chak-ul ilesstako hassta*.²²⁾ With the former's wider range of indexing possibilities, it (*casin/CASIN*) is a pro-index matching collaborator whereas the latter is a anti-matching culprit with its narrower options imposed by the PCFMS. It is then in this sense that there would be only one culprit for *PRO CASIN* in (9)&(22a) and two for *her herself* in (17). In view of the three cases, I

21) For Bickerton (1987), complex forms *she herself* and *he himself* only occur in nominative positions. S&M provides data like (17) where the anaphoric expression comes in an object position (*her herself*). Accusatively case-marked *him himself* and *her herself* seem to be far 'rarer' than the nominative versions at least in English. The native speakers consulted by the author accepted the type of sentences as in (17) as well-formed and hence the relevant binding (im)possibilities beg some explanation.

22) The precise reason why this difference holds is beyond the scope of this work. See section 5 for some related issues and points.

propose the following conditions on the basis of the notion of PFI that whatever potentially interpretable elements there are in a given derivation are visible and to be fully interpreted at LF.

- (33) Conditions on the Reversal of Index Mismatch: The PFI is satisfied if and only if all potentially interpretable elements are fully interpreted at LF and remains unsatisfied otherwise. The PFI allows culprit 'acquittal' to occur as a last resort for its satisfaction. The culprits operative on from the stage of Merge (cyclic insertion) are non-candidates for the reversal-initiating acquittal. The reversal of index mismatch takes the form of upward categorial- & phi-feature percolation preceded by the nullification of indices born by both candidate and non-candidate.²³⁾

In (22a), the reversal would not be initiated since the culprit, *PRO*'s being subject to Condition B, is a non-candidate for being operative from the level of syntactic Merge. Therefore the mismatch is irreversible for *PRO CASIN*, leaving *procasin* to be the only interpretable option. In (9), the only culprit, phi-feature disagreement, is a candidate for acquittal (see footnote 23). The reversal takes place in two steps: the nullification of indices for both *PRO* and *CASIN* followed by upward feature percolation to the adjoined structure. After the second step, the categorial- and phi-features the complex form carries will, by the interpretative schemes of PFI, be the union of features carried by both components, namely [pronominal, anaphoric, 3rd, sg, male] for [*KU CASIN*]. The PFI will then force upon [*PRO CASIN*] a meaning compatible with its features by newly assigning an

23) Here I distinguish between strong and weak culprits. The former are those operative for a longer duration, effective on from the stage of Merge, such as binding condition B. The latter are those operative for a shorter duration, effective only from the level of adjunction, such as PCFMS. I am assuming that only weak culprits are candidates for acquittal. As mentioned at the end of section 3, phi-feature disagreement is a non-grammatical condition unlike binding conditions and thus it should be regarded as a weak culprit.

index, namely a discourse index. In (17), out of the two culprits, only the PCFMS is the qualified for acquittal, and one candidate would be enough to initiate the reversal process. After the nullification of indices of non-candidate $her_{i/j}$ and candidate $herself_k$ as $[\{her\}_{null}, \{herself\}_{null}]$, $[her\ herself]$ carries whatever features are up-transferred to it from its lower two constituents: [pronominal, anaphoric, 3rd, sg. female]. The PFI, once again, rather than leaving the index-null complex form referenceless, opts to make it interpretable by assigning an index compatible with its features. The only feature-compatible antecedent for the 3rd person female pronominal anaphor is *Sue's mother* in (17) because coindexation with the matrix subject is the only sentence-internal way of concurrently 'saturating' both of its pronominal (Condition B) and anaphoric (c-commanding licenser) features along with the phi-features.²⁴ There would be another way of having all the categorial-& phi-features concurrently saturated; that is, by 'cancelling off' (a) feature(s). In (9), the anaphoric feature dictates the presence of c-commanding licenser, which is in conflict with the semantic demand of pronominal-& phi-features.²⁵ In such cases, the PFI, for a maximum self-satisfaction, would take a drastic measure of dispensing with the 'interpretation-unfriendly' anaphoric feature to enforce the interpretability of *PRO CASIN*.

There is one major difference between English and Korean in multiple embedding cases. The difference arises due to the above-mentioned contrastive behaviors of two emphatic anaphors *CASIN* and English *-self* forms. The data to be considered in this regard are (10b) and its

24) The present analysis for (17) predicts that when the sentence is further embedded inside another clause led by matrix subject such as *Mary*, *her herself* would allow both *Sue's mother* and *Mary* as its antecedent, unlike the case of nominative *she herself* in (34) and *he himself* in (35a-b), in which only the closest matching c-commanders function as the antecedents. Whether or not this subject-object asymmetry is a genuine phenomenon in English remains to be seen by collecting and evaluating more data like (17).

25) In the context of unembedded simple sentence (9), 'pronominal' dictates the enforcement of condition B while 'anaphoric' demands the existence of sentence-internal binder. It is in this sense that the anaphoric feature is in conflict with the pronominal feature.

English translation (34).

- (34) Soonhi_i thinks that Tom_j said Susan_k denied that [she herself]_{*i/*j/k/*i} was at the place at that time.

PRO CASIN (*kunyecasin*) in (10b) can be bound by *Soonhi* or *Susan* while *she herself* in (34) only allows *Susan* as its antecedent. This contrast can be straightforwardly explained given the nature of the two adjoined elements. *Herself* is subject to the PCFMS unlike *CASIN*, which permits both local and non-local c-commanding coindexation. This will make the intersection of *she*_{i/k/l} and *herself*_k be [*she herself*]_k in (34) and the intersection of *PRO*_{i/k/l} and *CASIN*_{i/j/k} be [*PRO CASIN*]_{i/k} in (10b), deriving the correct results in both sentences. A similar pattern can be observed in data slightly modified from S&M's quoted as (35a), (b) and (c), and their translations provided as (36).

- (35) a. [John_m's brother]_n said that [Bill_i's brother]_j believes that [he himself]_{*m/*n/*i/j/*k} is smart.
 b. Which man_i/Who_i did Michael_j say t_i believes that [he himself]_{i/*j/*k} is smart?
 c. Which girl_i did Michael_j say t_i believes that [he himself]_{*i/j/*k} is smart?
- (36) a. [John_m-ey hyung]_n-un [Bill_i-ey hyung]_j-i
 John's brother-Top Bill's brother-Nom
 [KU CASIN]_{*m/n/*i/j/*k}-i ttokttokhatako mitnuntako malhassta.
 PRO CASIN smart believe said
 b. Etten namja_ai/Nwu_i-ka Michael_j-un t_i [KU CASIN]_{i/j/*k}-i
 which man/who-Nom Michael-Top PRO CASIN-Nom
 ttokttokhatako mitnuntako malhassta.
 smart believe said
 c. Etten yoja_a-ka Michael_j-un t_i [KU CASIN]_{*i/j/*k}-i
 which woman-Nom Michael-Top PRO CASIN-Nom
 ttokttokhatako mitnuntako malhassta.
 smart believe said

Both *he himself* in (35c) and *KU CASIN (PRO CASIN)* in (36c) must be bound by *Michael*, the only feature-matching subject. The explanation given for (34) and (10b) can be analogously provided for the difference between (35a) and (36a): [*he himself*]_j and [*PRO CASIN*]_{n/j}. Unlike English, Korean is one of the *wh*-in situ languages, which optionally allows *wh*-scrambling. In (36b), regardless of whether the *wh*-phrase is in-situ or *wh*-scrambled to the sentence-initial position, *PRO CASIN* allows both feature-matching embedded and matrix subjects as its licensor. *He himself* in (35b) only allows *t_i* as its antecedent. This difference, once again, would be due to the same contrastive nature of the two adjoined elements *himself* (PCFMS) and *CASIN*, resulting in two different intersectional sets: [*he himself*]_i and [*PRO CASIN*]_{i/j}.

5. Concluding Remarks

The following paradigm holds in summarizing the hitherto shown distributional similarities and differences between English *he/him himself* and Korean *PRO CASIN* on one hand, and between English *himself*-type forms and Korean *procasin* on the other.

Table 1. Comparison between PRO CASIN and he/him himself

	PRO CASIN	he/him himself
Formation	Syntactic Adjunction	Syntactic Adjunction
Adjoined Emphatic Anaphor	CASIN (either local or non-local c-commander)	himself (PCFMS)
Distribution	Complement or Adjunct	Complement or Adjunct ²⁶⁾
Binding Property	Any non-local c-commander or discourse reference	Closest non-local c-commander or discourse reference
Definition of Locality	(24) with adjuncts excluded	(24) with adjuncts excluded

26) That *he/him himself* can occur in an adjunct position can be illustrated by the following data.

Tom_i said that John_j read a book about [himself]_{n/j}.

Table 2. Comparison between *procasin* and *himself*

	<i>procasin</i>	<i>himself</i>
Formation	Affixation in the process of word formation	Affixation in the process of word formation
Meaning	non-emphatic	non-emphatic or emphatic
Distribution	Complement	Complement or Adjunct
Binding Property	Condition A	Condition A or PCFMS

Looking at the two tables, one question remains to be answered: that is, why is it the case that *procasin* is restricted to complement position while *himself* can occur in either complement or adjunct position. The answer to the question can be found in the fact that Korean is richer than English in its anaphoric system. In Korean lexicon, two forms *casin* and *procasin* exist, and thus there is a stronger degree of one-to-one correspondence between form and function. The latter, being cyclically inserted only (complement), functions exclusively as a pure reflexive subject to Condition A whereas the former is able to function as an (emphatic) anaphor upon acyclic adjunction. In English lexicon, the 'impoverished' system, without its mono-morphemic counterpart, has *himself*-type forms only and thus this has to perform double-functions, playing sometimes as a pure local reflexive (as a cyclically inserted complement) and sometimes as an (emphatic) anaphor (obeying PCFMS as an acyclically adjoined adjunct). This account answers another question of related nature; namely, why is it the case that English does not allow nominative form *heself*. *Heself*, if possible at all, should occur as a cyclically inserted subject, and as such, it must be subject to Condition A as a pure reflexive. Since there is no way for it to obey Condition A as the clause-initial nominative NP, only *himself*, but not the subjective version (**sheself*/**theyselves*), is allowed in the language.²⁷⁾ In this regard, there is a striking similarity between English

The adjunction analysis hitherto given predicts that *him himself* in the above sentence can be bound only by *John*, the closest matching c-commander, as is the case in (34) and (35a-b): subject-adjunct symmetry. The native speakers consulted seem to agree to this.

reflexives and Korean *procasin* in that both are barred in subject position and must occur in non-nominative complement position.²⁸⁾

Throughout the foregoing discussions, I have been assuming that emphatic anaphor *CASIN* is adjoined to *PRO* but not the other way around. The evidence for this can be found in data like (18) under the emphatic reading (*KUYNE CASIN* = 'her herself'). If *PRO* (*KUYNE*) is adjoined to *CASIN*, binding possibilities would be evaluated first for *CASIN* as indices *j* and *k*. Acyclically adjoined *PRO* would be given indices *i*, *j*, *l*, and even *k* because traditional Binding Condition B is not operative at the adjunction level. Then the intersection of indices between the two would be *j* and *k*, yielding an incorrect result by counter-factually allowing both LDB and Local reading for *PRO CASIN*. Likewise, for *her herself* in (17), under the assumption of cyclic insertion of emphatic *herself* (subject to Condition A) followed by later adjunction of *her* (Condition B inoperative), the intersection of indices between $her_{i/j/k/l}$ and $herself_k$ would be *k*, yielding an incorrect local binding of the complex form by embedded subject *Stephanie*. Simply because *PRO CASIN* in (18) and *her herself* in (17) show local obviation effects, to correctly derive the allowable binding options, we have to assume that the emphatic anaphors are adjoined to the pronouns but not vice versa.²⁹⁾

In this paper, I have provided a theory on the dual nature of Korean bimorphemic anaphors on the basis of S&M's analysis of the properties of English *he himself*. S&M explained their analysis for the re-theorization of Binding Principles within the Minimalist Program under its general emphasis on derivational approach to syntax. They related the otherwise 'idiosyncratic' properties of *he/him himself*, *she/her herself*, etc., to general syntactic phenomena such as acyclic

27) One remaining question is why the language does not allow forms like *hisself*.

28) Here, English reflexives only refer to those cyclically inserted that obey traditional binding condition A. As shown in Table 1, PCFMS is the binding property of English emphatic anaphor *himself* acyclically adjoined, while "closest non-local c-commander or discourse reference" refers to the binding property of complex form *he/him himself*.

29) S&M's accounts for binding options in data like (17) and of which form is adjoined to which remain somewhat dubious, which I have attempted to clarify here.

adjunction derivationally preceded by the operation Merge (cyclic insertion). S&M's work dealt mainly with English data and their analysis left some binding patterns unclearly explained or unresolved including binding options of accusative *her herself/him himself*, precise indexing mechanism for discourse reference, and the non-existence of nominative *heself*, all of which I have provided the theoretical accounts for along with Korean *PRO CASIN* and *procasin* in the present work.

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