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**A New Phase-based Analysis of English
Reflexives: Is the game not over until it is over?
It depends.**

Sung-Bong Kim

(ksbac@yahoo.co.kr)

1. Introduction

Reflexive binding phenomena were relatively successfully accounted for by Binding Condition A (BCA) of the Binding Theory¹⁾ in the theory of Government and Binding (GB). As we see footnote 1, the GB-style BCA, however, turns out to rely too heavily on such GB concepts as government, reconstruction, levels of representation, and indices, which are taken to be not only conceptually but empirically unnecessary in the framework of the Minimalist Program (MP).

Consequently, it's natural that the GB-style BCA should be replaced with a desirable minimalist BCA without any reliance on the above-

1) Chomsky's (1981: 188) Binding Theory in GB and Auxiliary Definition

- (i) Binding Theory
 - a. Binding Condition A
An anaphor is bound in its governing category.
 - b. Binding Condition B
A pronominal is free in its governing category.
 - c. Binding Condition C
An R-expression is free.
- (ii) Binding
 - α binds β iff α c-commands and is coindexed with β .

mentioned GB-concepts. To achieve this aim, this paper falls into 4 sections. Section 2 presents a new phase-based analysis of English reflexives, faithfully subject to the minimalist spirit. Section 3 discusses Hasegawa's (2009) recent multiple Agree analysis of English reflexives and the difference between his and mine. Section 4 regards the empirical coverage of my new analysis. Section 5 comes up with the conclusion of this paper.

2. A New Phase-based Analysis of Reflexives

2.1. A Phase-based Derivational Process²⁾

Since it was introduced to reduce the computational burden or complexity by Chomsky (2000: 106), the notion of phase seems to me to have played the most important role in minimalism. The so-called phase-based derivational process is outlined below.

(1) The Phase-based Derivational Process

- a. Lexical subarrays (LSAs) needed to form phases are extracted from a lexical array (LA) needed to derive a complete sentence.
(Based on Chomsky 2000: 106)
- b. When the LSA of a given phase is exhausted, the computation may proceed if possible; or it may return to the LA and extract another LSA needed to form the next higher phase, proceeding as before, until the LA is exhausted.
(Based on Chomsky (2000: 106))
- c. All syntactic operations involve an Agree relation between a probe P and a local goal G which is sufficiently close to the probe (or, in the case of a multiple Agree³⁾, a relation between a

2) See Kim (2010a) <http://ling.auf.net/lingbuzz/001165>

3) See Kim (2010a), Radford (2004: 304), and Sigurðsson (1996).

probe and more than one local goal). (Based on Chomsky (2000: 122ff), Chomsky (2001b: 9, 13), and Radford (2004: 381))

- d. Defective Intervention Constraints (DIC)
 - $\alpha > \beta > \gamma$, where $>$ is c-command, β and γ match the probe α , but β is inactive so that the effects of matching are blocked. (Based on Chomsky (2000: 123))
- e. Once all the syntactic operations needed to apply within a given phase have been completed⁴⁾, the internal domain of the phase is simultaneously transferred to the phonological and semantic components and then becomes impenetrable to further syntactic operations⁵⁾. (Based on Chomsky (2000: 108, 2001a: 13))
- f. Phase heads (PHs), v^* and C, have ϕ -features⁶⁾ and edge-features (EF). IM will satisfy EF only for a phase head (PH).
- g. V and T inherit ϕ -features from v^* and C, respectively, and then they, serving as probes, peruse their internal domains in search of their active goals. Once they find their active matching goals, the uninterpretable, hence unvalued, features of both the probes and the goals are checked/valued and deleted for Full Interpretation (FI).
- h. EFs of v^* and C play two roles at the same time. Based on their own EFs, v^* and C themselves, on the one hand, probe their internal domains. Once finding their goals, their very EFs may raise their goals to SPECs of PHs. Based on the EFs inherited from v^* and C, respectively, on behalf of their PHs, V and T, on the other hand, probe for their active matching goals.

4) We can assume that unless the syntactic operations needed to apply within a given phase have been completed, the internal domain of the phase may not be transferred to the phonological and semantic components until those operations needed to apply have been completed.

5) Phase Impenetrability Condition (PIC)

- a. In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations. (Chomsky 2000: 108)
- b. The domain of H is not accessible to operations outside HP; only H and its edge are accessible to such operations. (Chomsky 2001a: 13)

6) PH C also has a tense feature which is inherited by T.

Once finding their goals, the very EFs of V and T raise their goals to SPECs of V and T, respectively. The syntactic operations in which EFs of v^* and C synchronously play two roles are called “parallel movement” operations. (Based on Chomsky (2004: 15), Chomsky (2005: 6, 14, 27), and Richards (2007: 17))

2.2. Assumptions Concerning English Reflexives

As there were no reflexive forms in Old English, Middle English, and even Early Present English, simple objective forms were used even when reflexive pronouns were needed⁷⁾, as shown in (2).

- (2) If you submit ***you*** to the peoples voices
*If you submit **yourself** to the peoples voices'*
 (Coriolanus, written by Shakespeare between 1605 and 1608)

Reuland (1990, 2006: 263) refers to English-type reflexives as complex anaphors composed of two components, the pronominal component and the self component. Hasegawa (2000, 2009) also assumes that a reflexive like *himself* can be analyzed into the pronoun part (*him*) and the self part⁸⁾.

7) Of course, in Old English, emphatic reflexive pronouns '*self person*' were used.

(i) þā ādrencte he ***hine selfne***
'then he drowned himself'
 (The Story of Cædmon)

8) Hasegawa's (2000) Assumptions

- (i) A reflexive like *himself* can be analyzed into the pronoun part (*him*) and self.:
- (ii) The pronoun part (*him*) functions as an argument, and must be interpreted as a “bound variable” in the sense of Reinhart (1983) (and thus must have a c-commanding binder).
- (iii) The self part functions as a “mobile index”, which moves to the closest INFL at LF (thereby designating the binder of the reflexive), constrained by locality conditions on movement. The self part not being an argument, the resulting

Based on Reuland (1990, 2006) and Hasegawa (2000, 2009), let's make the following assumptions in (3).

- (3) a. A reflexive like *himself* consists of two components: the pronominal component (PC) (*him*) and the self component (SC).
- b. PC has an uninterpretable, hence unvalued, Case feature.
- c. SC has an uninterpretable, hence unvalued, referential feature [R].

Chomsky (2005: 8, 11, 13) argues that Binding Condition C could be formulated as a probe-goal relation, taking the c-commanding pronoun X to be a probe, and that SPEC itself can be a probe. If Chomsky is on the right track, Chomsky's argument can be extended to BCA. Therefore we can make the following assumptions regarding PC in (4) and SC in (5), based on Chomsky's (2005) argument and Chomsky and Lasnik's (1993, 1995: 211) interpretive version of BCA⁹.

- (4) a. PC, serving as a goal, has both interpretable ϕ -features and an uninterpretable, hence unvalued, Case feature to be valued by its probe.
- b. V with the ϕ -features inherited from v^* , serving as a probe, peruse its internal domain, finding its active matching goal, PC, with an unvalued Case feature, and valuing it as accusative¹⁰.
- (5) a. SC, serving as a goal, has an uninterpretable, hence unvalued, referential feature [R] to be valued by its probe.
- b. SPEC- v^* , namely the external argument (EA) of v^* , as well as V, inherits uninterpretable, hence unvalued, Φ -features from PH,

⁹“chain” is not a true chain and does not conform to LF conditions on chains (such as the ECP).

⁹ If α is an anaphor, interpret it as coreferential with a c-commanding phrase in D.

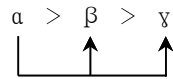
¹⁰ Based on the data provided in the history of English, I propose that PC have an accusative Case, whereas it was regarded as a bound variable by Hasegawa (2000) and Reinhart (1983).

v^* . SPEC- v^* , therefore, has its own Φ -features, which allow it to serve as a goal, and the other unvalued Φ -features inherited from v^* . It's the unvalued Φ -features that enable SPEC- v^* , serving as a probe, to peruse the internal domain of v^* . Once the probe, SPEC- v^* , finds its goal with [R] and it is interpreted as coreferential with the reflexive containing SC within the same phase¹¹⁾, it values and deletes [R] of SC of the reflexive for FI¹²⁾.

3. Hasegawa (2009)

Hasegawa (2000, 2009) attempts to incorporate Chomsky's (1993: 40, 1995: 208) movement analysis of reflexives into the minimalist framework. Hasegawa (2009) adopts Hiraiwa's (2001) argument that a probe can agree with multiple goals in certain cases, as shown in Hasegawa's (2009: 91) (8), reproduced in (6).

(6) Multiple Agree as a single simultaneous operation



Agree (α , β , γ) where α is a probe and both β and γ are matching goals for α .

11) In this paper, the clausemate principle, advanced by Postal (1974: 61), Lasnik and Saito (1991), and Lasnik and Hendrick (2003: 132), is reduced to the phasemate principle. This supposition is also based on Chomsky's (1993: 40, 1995: 208) so-called "LF cliticization" in which the anaphor or part of it covertly raises by an operation similar to cliticization. According to Hornstein et al (2005: 266), the intuition is that anaphors can only refer if they agree with their antecedents; under the assumption that agreement involves a local relation, anaphors must then move prior to LF to a position where they establish such an agreement. The actual choice between the two possibilities of chain reduction will then depend on covert anaphor movement.

12) As a matter of fact, we don't have to take SPEC-T into consideration, because the original position of SPEC-T, under the predicate-internal subject hypothesis, is that of SPEC- v^* , in all the cases other than expletive constructions and some constructions containing the so-called picture NP reflexives to be dealt with in subsection 4.2,

Hasegawa stipulates the following in (7).

(7) Multiple Agree is not restricted by the DIC¹³.

Hasegawa also makes the following assumptions in (8)

- (8) a. A reflexive DP, in addition to the uninterpretable Case feature¹⁴, has another uninterpretable feature Ref.
- b. The head *v* agrees with the object DP *himself*, *v* acting as a probe and *himself* as a goal. The uninterpretable features of *v* (ϕ') and *himself* (Case) are checked and deleted.
- b. The formal feature Ref enables the reflexive to act as the goal of the agreement with T (which multiply agrees with the binder of the reflexive, namely the subject), even after the agreement of the reflexive with *v* as its objects¹⁵.

Hasegawa derives a canonical BCA-related example in Hasegawa's (2009: 91) (10), reproduced in (9).

(9) John_i criticized himself_i.

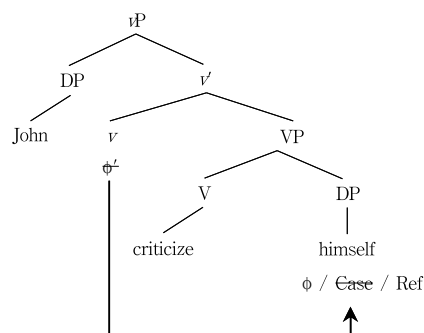
At the *v*P level, the head *v* agrees with the object DP *himself*, *v* acting as a probe and *himself* as a goal. The uninterpretable features of *v* (ϕ') and *himself* (Case) are checked and deleted, as shown in Hasegawa's (2009: 92) (11), reproduced in (10).

13) See (1d).

14) Hasegawa seems to abandon his earlier claim that PC is a bound variable. He instead seems to me to assume that the whole reflexive has the two above-mentioned features. (See footnote 8.) In contrast, what I mean by Case is the accusative Case of PC. (See (2), (4b), and foot note 7.) Therefore, my claim is radically different Hasegawa's.

15) Hasegawa argues that this assumption is based on Chomsky's (2001a: 14) supposition, to which we will return in (15).

(10)



In (10), the reflexive *himself* is still “active” due to the uninterpretable Ref feature remaining even after agreement with *v*: *v* can delete only one of the uninterpretable features of *himself*, namely the Case feature.

At the TP level, the head T “multiply agrees” with two goals, namely *John* and *himself* (the latter being still active due to the remaining uninterpretable feature Ref, as noted above).

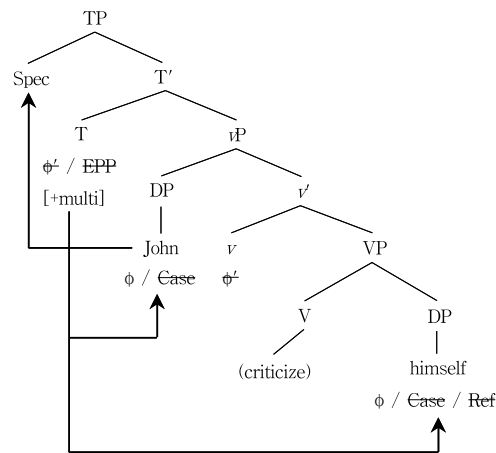
Hasegawa makes the following assumptions in (11) to derive (9).

- (11) a. The head T in this structure has uninterpretable ϕ' features with the property of inducing “multiple agreement” (indicated as [+multi]), and only the head T with this property can license reflexives.
- b. Agreement between T and the reflexive in the complement position of V is not blocked by the Phase Impenetrability Condition.

Hasegawa argues that it's thanks to the assumption in (11b) that agreement between T and *himself* is not blocked by the Phase Impenetrability Condition, even though *himself* is contained within *vP*. The uninterpretable features of the probe T (ϕ') and those of the two goals *John* (Case) and *himself* (Ref) are checked and deleted. *John*, which is closer to the probe T, is moved to the Spec of TP position in order to

check and delete the EPP feature of the head T, as shown in Hasegawa's (2009: 93) (12), reproduced in (12).

(12)

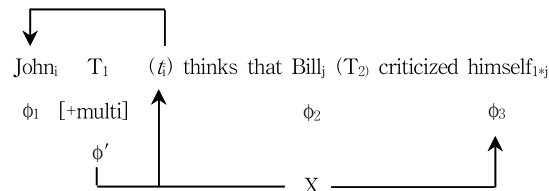


He claims that this “multiple agreement” between the probe T and the two goals (*John* and the reflexive *himself*) induces the binding relation between these two goals. In order for such (multiple) agreement to be possible, the reflexive must be sufficiently close to the probe T, hence to its binder. Thus, the locality requirement on reflexive binding is reduced to the locality requirement on agreement.

Now let's consider how Hasegawa derives his (13), reproduced in (13).

(13) a. John_i T₁ (t_i) thinks that Bill_j T₂ (t_j) criticized himself_{i/*j}

b.



The well-formed derivation, where *himself* is bound by *Bill*, is unproblematic. T_2 should have the property [+multi] in this case, and T_2 multiply agrees with *Bill* and *himself*, after which *Bill* is moved to the Spec of T_2 position.

The problem is how binding of *himself* by *John* is blocked. In order for such binding to be potentially possible, the uninterpretable features of T_1 would have to have the property [+multi].

There is no problem with T_1 agreeing with *John*. Can T_1 agree with *himself*? Note that the DP *Bill* intervenes between the probe T_1 and the goal *himself*, and the features (ϕ') of *Bill* match the features (ϕ') of the probe T_1 . Such agreement is prohibited by the Defective Intervention Constraint, where the intervening $\beta(= \textit{Bill})$ blocks agreement between the probe $\alpha(=T_1)$ and the goal $\gamma(=\textit{himself})$.

Let's elaborate Hasegawa to fit well with our new phase-based analysis of reflexives. As we see Hasegawa's derivation of the example in (9), his analysis needs two phases to value the unvalued features of one word, the reflexive *himself*. In contrast, my new analysis needs just one phase to do it, if we adopt (4) and (5). Moreover, if we adopt (5), Hasegawa's stipulation in (7) proves to be unnecessary. Remember that, within the framework of the MP, the fewer the stipulations are, the better the account is. Thus, my new phase-based analysis is thought to be more desirable than Hasegawa's from the minimalist point of view.

In addition, if we adopt Chomsky's feature inheritance hypothesis in (1g-h), T can't have a [+multi] feature on its own. If we can account for the derivations of BCA-related constructions without any reliance on the [+multi] feature in (11a), our account can be regarded as more principled and economical from the minimalist perspective.

Finally, Hasegawa's stipulation in (11b) also seems to me to be unnecessary. Hasegawa argues that his assumption is based on Chomsky's (2001a: 14) following supposition in (15)¹⁶.

$$(15) [_{\text{ZP}} Z \dots [_{\text{HP}} \alpha [H \text{ YP}]]] \text{ (HP and ZP strong)}$$

16) See footnote 12.

Suppose that the computation L, operating cyclically, has completed HP and moves on to a stage Σ beyond HP. L can access the edge α and the head H of HP. But the PIC now introduces an important distinction between $\Sigma = \text{ZP}$ and Σ within ZP, for example, $\Sigma = \text{TP}$. The probe T can access an element of the domain of HP; the PIC imposes no restriction on this.

The supposition in (15), however, contradicts Chomsky's more recent one in (1g), although I don't know whether Chomsky states (15) with Multiple Agree in mind. If Chomsky's more recent assumption in (1g) is on the right track, we can dispense with both Hasegawa's stipulation in (11b) and his Multiple Agree analysis in (6), argued to be needed in accounting for the derivations of BCA-related constructions.

4. Consequences of A New Phase-based Analysis

4.1. Non-Picture NP Reflexives

4.1.1. Canonical BCA-related Examples

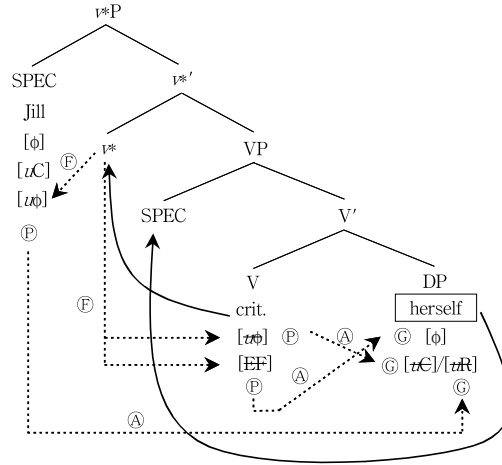
Let's apply our new phase-based analysis, presented in section 2, to the following canonical BCA-related example.

- (16) a. John_i criticized himself_i¹⁷⁾.
 b. ν^*P Phase¹⁸⁾

17) For expository purposes, indices are used. It's assumed that T, with both Φ -features and a finite tense features inherited from PH C, values the unvalued Case of DP as nominative whereas V with Φ -features inherited from PH ν^* , values the unvalued Case of DP as accusative.

18) Abbreviations Conventions Used in This Paper

Φ -features: Agree features {[person], [number], [gender]}; EF: [edge]; \mathcal{U} : unvalued; \mathcal{F} : feature inheritance; \mathcal{A} : Agree, \mathcal{P} : probe; \mathcal{G} : goal; C: Case; \emptyset : null; R: referential



Once $C_{HL}^{19)}$ builds the first phase, v^*P , as shown in (16b), V and $SPEC-v^*$ simultaneously inherit Φ -features from their PH, v^* .

V , serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *herself* it is local and active, and it has both interpretable Φ -features and an uninterpretable, hence unvalued, Case feature to be valued. An Agree relation holds between V , serving as a probe, and its goal, *herself*. The unvalued Φ -features of V and the unvalued Case feature of PC of *herself* are checked/valued and deleted for FI. V , on the other hand, inherits EF from v^* , finding and raising its active goal, *herself* to $SPEC-V$.

$SPEC-v^*$, serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *herself* it is local and active, and it has an uninterpretable, hence unvalued, R-feature of SC of *herself* to be valued. An Agree relation holds between $SPEC-v^*$, serving as a probe, and its goal, *herself*. The unvalued Φ -features of $SPEC-v^*$ and the unvalued R-feature of SC of *herself* are checked/valued and deleted for FI. Thus, *John* and *herself* are judged to be phasemates within

feature; crit.: criticize, features with a strikethrough: features checked/valued and deleted

19) Computational procedures for human language

the same phase. Consequently, if we restrict our task to the valuation of the unvalued features of the reflexive, we succeed in fulfilling it.

Let's discuss the derivation of the following example, which is yielded by the application of additional merge operations to (16), as shown in (17).

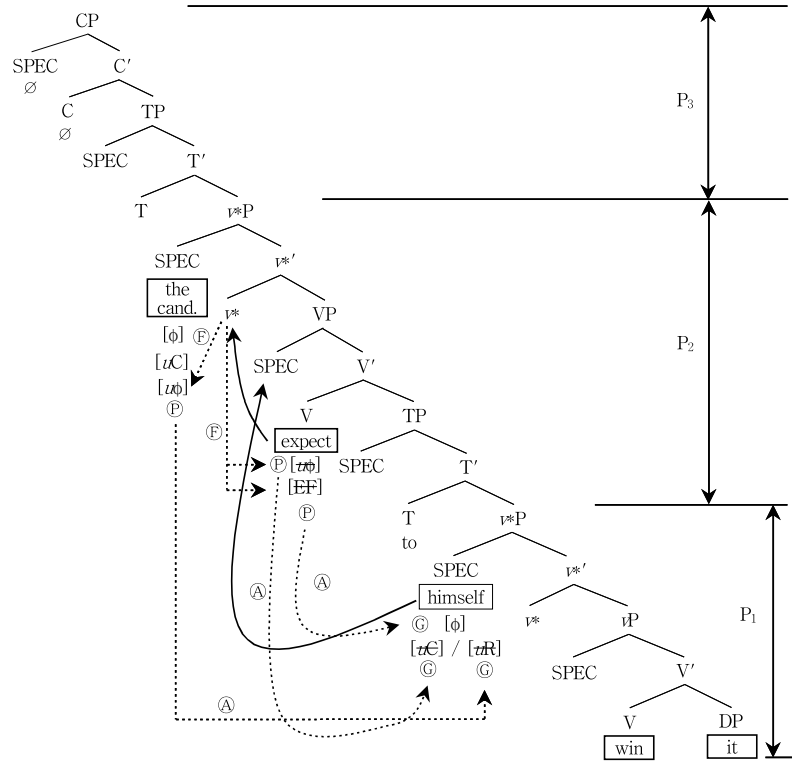
- (17) a. *John_i said that Jill_j criticized himself_i.
 b. the embedded v^*P phase: *[_{v^*P} Jill_j [_{v^*} [_{VP} criticize himself_i]]]

Based on the derivational process of (16b), upon seeing the first phase, the underlined embedded v^*P phase in (17b), we can know that (17a) is ungrammatical without needing to check any further derivational process, because *Jill* and *himself* can't be phasemates within this v^*P phase. Consequently, if we restrict our task to the valuation of the unvalued features of the reflexive, we succeed in fulfilling it.

4.1.2. BCA-related Exceptional Case Marking (ECM) Constructions

Let's apply our new phase-based analysis, presented in section 2, to the following BCA-related ECM constructions in which the above-mentioned clausemate principle is also reduced to the phasemate principle.

- (18) a. The candidate expected himself to win it.
 b.



All we have to do to effect our purposes is pay attention to phase 2, namely the matrix v^*P phase, at which the unvalued features of *himself* are valued.

Once C_{HL} builds the second phase, the matrix v^*P phase, as shown in (18b), V and SPEC- v^* simultaneously inherit Φ -features from their PH, v^* .

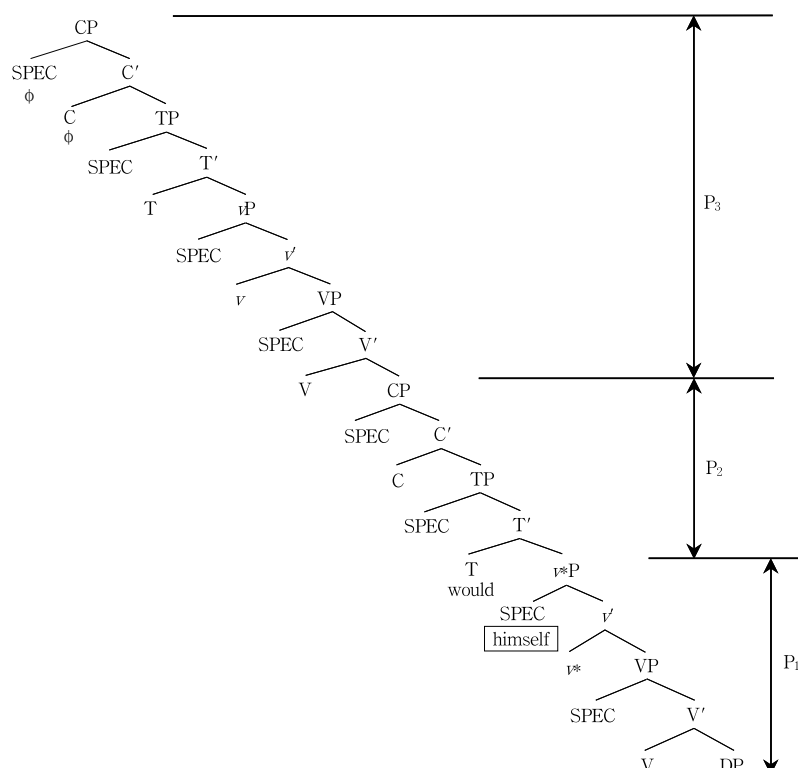
V, serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *himself* it is local and active, and it has both interpretable Φ -features and an uninterpretable, hence unvalued, Case feature to be valued. An Agree relation holds between V, serving as a probe, and its goal, *himself*. The unvalued Φ -features of V and the unvalued Case feature of PC of *himself* are

checked/valued and deleted for FI. V, on the other hand, inherits EF from v^* , finding and raising its active goal, *himself*, to SPEC-V.

SPEC- v^* , serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *himself* it is local and active, and it has an uninterpretable, hence unvalued, R-feature of SC of *himself* to be valued. An Agree relation holds between SPEC- v^* , serving as a probe, and its goal, *himself*. The unvalued Φ -features of SPEC- v^* and the unvalued R-feature of SC of *himself* are checked/valued and deleted for FI. Therefore *the candidate* and *himself* are judged to be phasemates within the same phase. The PIC prevents *himself* from entering into any further Agree relation. Consequently, if we restrict our task to the valuation of the unvalued features of the reflexive, we succeed in fulfilling it.

- (19) a. *The candidate expected that himself would win it.

b.



What we have to do to achieve our purposes is pay attention to phase 1, namely the embedded v^*P phase. At this phase level, as *himself* has no probes that can value its unvalued Case feature and its unvalued R-feature within the same phase, the derivation is judged to crash at this phase level. Consequently, if we restrict our task to the valuation of the unvalued features of the reflexive, (19a) is judged to be ungrammatical, as the first phase, namely the v^*P phase, is not convergent, as shown in (19b).

4.2. Picture NP Reflexives

As pointed out by Asudeh and Keller (2001), due to their peculiar binding quality, the so-called picture NP reflexives, which have the following configuration in (20), should be treated differently from the ordinary ones, which can be referred to as non-picture NP reflexives we have already discussed in subsection 4.1.

(20) $[_{DP} [_{D'} D [_{NP} \text{picture of reflexive pronoun}]]$

The reflexive pronoun in (20) is different from the ordinary one, referred to as the non-picture NP reflexive, in that the Case feature of PC of the former is valued by the preposition whereas the Case feature of PC of the latter is valued by V which inherits Φ -features from v^* .

To accommodate the peculiarity of these picture NP reflexives, let's make the additional assumptions specific to picture NP reflexives in (21).

(21) Assumptions Specific to Picture NP Reflexives

- a. SPEC-T, as well as T, inherits uninterpretable, hence unvalued, Φ -features from PH, C, when the complement of T is not v^*P but vP . Then SPEC-T, serving as a probe, peruses its internal domain.
- b. No phase is transferred until the R-feature is valued and deleted for FI⁽²⁰⁾.

20) See footnote 4. This assumption can be made, because no one has postulated that all the phases must be transferred. In other words, if features are not valued and deleted within a given phase, the phase, especially the phase with a picture NP reflexive, cannot be transferred until the remaining unvalued features are completely valued and deleted. If this assumption turns out to be on the right track and we take into account the difference between a whole sentence and its phases constituting it, we can tentatively propose that terminal phases and non-terminal phases should be distinguished. This strategy can be extended to Binding Condition B.

(i) $Mary_i$ said that $[_{TP} \text{John supported } her_i]$

Let's account for the derivation of the following example containing a picture NP reflexive in (22).

(22) John_i wondered which picture of himself_{i/j} Bill liked_j.

(22) is ambiguous, in that the embedded subject reading and the matrix subject reading are both possible. If we apply the copy theory of movement to (22), we can get the simplified representation in (23).

(23) [_{CP} [_{C'} ∅ [_{TP} John_i wondered [_{CP} [which picture of himself]_k [_{TP} Bill [_{T'} -ed [_{v*P} Bill_j liked [which picture of himself_{j/*i}]_k]]]]]]]]].

In the simplified representation in (23), it's the underlined embedded *v*P* phase to which we need to pay attention. Let's restrict ourselves to the valuation process of the unvalued R-feature of SC of *himself* and put aside all the syntactic operations other than that process.

Once C_{HL} builds the first phase, *v*P*, SPEC-*v**, serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *himself* it is local and active, and it has an uninterpretable, hence unvalued, R-feature of SC of *himself* to be valued. An Agree relation holds between SPEC-*v**, serving as a probe, and its goal, *himself*. The unvalued Φ-features of SPEC-*v** and the unvalued R-feature of SC of *himself* are checked/valued and deleted for FI. In this case, *himself* should be interpreted as coreferential with *Bill*, not *John*. We therefore get the embedded subject reading. In other words, *Bill* and *himself* are judged to be phasemates within this phase.

If *himself* fails to be interpreted as coreferential with *Bill*, the embedded *v*P* phase and the embedded CP phase can't be transferred because they still have the unvalued R-feature of SC of *himself*. In that case, we should disregard the lower copies in the embedded clause. We should instead consider the highest copy within the underlined matrix CP phase,

We'll put aside the derivational process of (i) for reasons of time and space.

as shown in (24).

- (24) [_{CP} [_{C'} \emptyset [_{TP} John_i wondered [_{CP} [which picture of himself]_k [_{TP} Bill [_{T'} -ed [_{IP} Bill_j liked [which picture of himself_{j/i}]_k]]]]]]]]²¹⁾.

Once C_{HL} builds the third phase, the matrix CP phase, SPEC-T, serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *himself* it is local, and active, and it has an uninterpretable, hence unvalued, R-feature of SC to be valued. The PIC doesn't prevent [which picture of himself] from entering into any further Agree relation, because it is at the edge of the embedded CP phase. An Agree relation holds between SPEC-T, serving as a probe, and its goal, *himself*. The unvalued Φ -features of SPEC-T and the unvalued R-feature of SC of *himself* are checked/valued and deleted for FI. In this case, *himself* should be interpreted as coreferential with *John*, not *Bill*. We therefore get the matrix subject reading. In other words, *John* and *himself* are judged to be phasemates within this phase. I sum, we can successfully account for the ambiguity of (22).

Let's account for the derivation of another example containing a picture NP reflexive in (25), which has been known to pose a serious problem.

- (25) John_i thinks a picture of himself_i is on sale.

According to Chomsky (2005: 17), what holds for *wh*-movement should extend to A'-movement generally. Suppose that the edge-feature of the phase head is indiscriminate. Take, say, Topicalization of DP. EF of PH can seek any DP in the phase and raise it to SPEC-PH. If we adopt Chomsky's argument, we can take [a picture of himself] to be topicalized and moved to SPEC-C, as shown in (26).

21) EFs of PHs, ν^* and C, allow [which picture of himself] to be moved from their original position, namely the complement position of V, to the SPECs of ν^* and C. For convenience' sake, however, the copy of [which picture of himself] in SPEC- ν^* is omitted.

- (26) [_{CP} [_{C'} ∅ [_{TP} John_i thinks [_{CP} [a picture of himself_i]₃ [_{TP} [a picture of himself_i]₂ [_{T'} is [_{PP} [a picture of himself_i]₁ on sale]]]]]]

In (26), all the copies of [a picture of himself] are numbered. Of course, the original position of [a picture of himself] is, under the predicate-internal subject hypothesis, that of Copy 1. If Chomsky's (2005) parallel movement supposition in (1h) holds in (26), [a picture of himself] simultaneously moves to the position of Copy 2 as SPEC-T and to that of Copy 3 as SPEC-C. As the highest copy, namely Copy 3, is at the edge of the embedded CP phase, the PIC doesn't prevent it from entering into a further Agree relation.

To confirm how the R-feature of SC of *himself* can be valued and deleted, let's consider the underlined terminal phase in (27).

- (26) [_{CP} [_{C'} ∅ [_{TP} John_i thinks [_{CP} [a picture of himself_i]₃ [_{TP} [a picture of himself_i]₂ [_{T'} is [_{PP} [a picture of himself_i]₁ on sale]]]]]]

Once C_{HL} builds the terminal phase, the matrix CP phase, SPEC-T, serving as a probe, peruses its internal domain in search of a suitable goal, finding its active matching goal, *himself*. The PIC doesn't prevent it from entering into any further Agree relation: it is local, and active, and it has an uninterpretable, hence unvalued, R-feature of SC of *himself* to be valued. An Agree relation holds between SPEC-T, serving as a probe, and its goal, *himself*. The unvalued Φ-features of SPEC-T and the unvalued R-feature of SC of *himself* are checked/valued and deleted for FI. In this case, *himself* should be interpreted as coreferential with *John*. In other words, *John* and *himself* are judged to be phasemates within this phase. We therefore get the result, as desired.

5. Conclusion

This paper discusses the possibility of coming up with a new

phase-based analysis of English reflexives, without any reliance on such GB concepts as government, reconstruction, levels of representation, and indices, which are taken to be conceptually and empirically unnecessary in minimalism. To achieve this aim, a new analytical model is formed, based on assumptions revolving around the phase theory. As it turns out, the new phase-based analytical model can account for the derivations of problematic examples containing picture NP reflexives as well as the canonical and ECM-related reflexives. This paper reveals that the clausemate principle can be reduced to the phasemate principle, and that the grammaticality of the sentences containing non-picture NP reflexives can be determined even before the whole derivation has been completed whereas that of the constructions containing picture NP reflexives can not. Admittedly, this analysis can be elaborated and extended to account for Condition B- and Condition C-related binding phenomena.

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