

‘Chain Reaction’ in the Computation^{*}

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Jo, Jung-Min. 2004. ‘Chain Reaction’ in the Computation. *Linguistic Research* 21, 97-119. Korean has a so-called ‘Case-stacking’ phenomenon, which is apparently in conflict with some of the principles assumed in Principles and Parameters theory and recent minimalist program, e.g., Case Filter, Chain Condition and Last Resort. This paper briefly examines some of the previous analyses which amount to admitting the Korean Case stacking as exceptional to those principles or postulating the dual or triple functions of Case particles as structural Case and semantic/discourse particles. On the contrary, this paper tries to account for the Case stacking phenomenon with the Case-related principles kept intact. In particular, I propose the possibility of introducing an uninterpretable feature in the process of derivation, ‘activating an inactive element’ in the computation, while it keeps in accord with conditions/principles, in particular, Inclusiveness Condition, postulated in the minimalist program (Chomsky 1995, 2000, 2001). (Kyung Hee University)

Keywords chain reaction, computation, case stacking, structural case, semantic/discourse particles, activating an inactive element, inclusiveness condition

1. Introduction

Korean has so-called ‘Case-stacking’ nominals, which have been quite a puzzle for more than a decade among (Korean) linguists (Gerdt & Youn 1988, 1999; Youn 1990; J. Yoon 1996, 2001; Schütze 1996, 2001; D-W Yang 1999; J-M Jo 2001 among others). This puzzle lies in its idiosyncratic properties that are distinguished from the well-established cross-linguistic generalization in the tradition of Principles and Parameters theory and recent minimalist program, in the guise of Chain Condition, Last Resort, etc. For instance, the Experiencer Subject may have inherent Case (Dative) but instead have structural Case (Nominative), as shown in (1a) and (1b),

^{*} This paper came out of my attempt to understand Chomsky 2000 & 2001, in particular, “Case under Agree”, by applying it to Korean Case-stacking, and was presented in the syntax seminar in 2002 at the linguistics department, the University of Illinois at Urbana-Champaign. The analysis presented in the paper may have glitches here and there due to my incomplete understanding of the system, for which I’d only ask for readers’ understanding and appreciate

respectively.¹ Interestingly, however, both inherent Case and structural Case may be marked on the Experiencer Subject as shown in (1c). The grammaticality of sentence (1a) clearly suggests that inherent Case-marked Subject in (1a) trivially satisfies the Case Filter. Hence additional Case assignment to the Subject apparently violates Chain Condition and Last Resort if we assume that the particle *-ka* on top of Dative marker is morphological realization of Nominative Case. In parallel, accusative Case-stacking is also observed. Due to the problem just mentioned, some researchers (Schütze 1996, 2001, inter alia) claim that the particle *-ka* in (1c) is not a Case marker but a Focus marker due to Focus interpretation of Case-stacking nominals, consequently maintaining Chain Condition and Last Resort. The same argument applies to accusative Case-stacking so that the particle *-lul* is treated as Focus marker in the relevant context.²

- (1) a. Chelswu-**eykey** holangi-ka mwusep-ta
 C-Dat tiger-Nom afraid-Decl
 ‘Chelswu is afraid of a tiger’
- b. Chelswu-**ka** holangi-ka mwusep-ta
 C-Nom tiger-Nom afraid-Decl
 ‘Chelswu is afraid of a tiger’
- c. Chelwu-eykey-ka holangi-ka mwusep-ta
 C-Dat-Nom tiger-Nom afraid-Decl
 ‘It is Chelswu who is afraid of a tiger’

On the contrary, while it assumes that the particles *-ka* and *-lul* are grammatical Case only, following previous researches (J. Yoon 1996, J-M Jo 2001 among others), the current

their constructional criticisms.

¹ The concepts of “inherent/structural Case” should be understood as in Chomsky 1981, 1986, that is, θ -related (lexically determined) and structurally determined, respectively. Since inherent Case is lexically determined, the lexical item already Case-marked enters the syntactic computation, contrary to the nominal with structural Case, which is determined in the process of computation.

² Schütze (2001, section 5) further claims that particles *-ka* and *-lul* also function as Topic markers in multiple nominative construction as in (i) and in ECM/SOR construction as in (ii), in addition to Focus and Case markers:

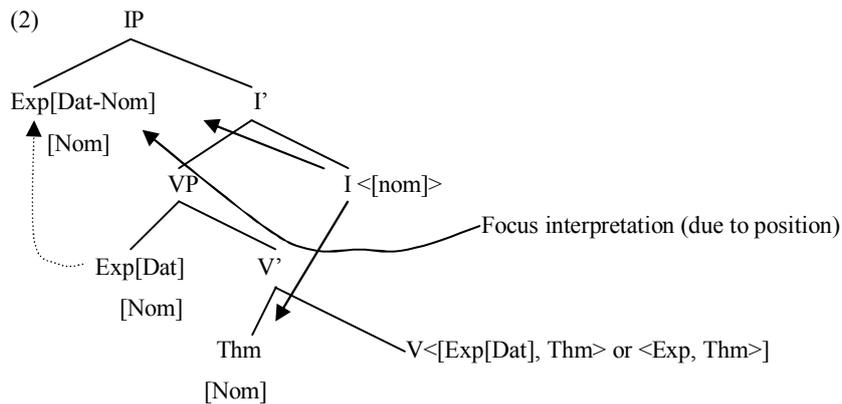
- (i) pihayngki-**ka** 747-I khu-ta
 airplane-Nom 747-Nom big-Decl
 ‘As for airplanes, the 747 is big.’
- (ii) na-nun Yenghi-**lul** apeci-ka pwuca-la-ko sayngkakhanta
 I-Top Y-Acc father-Nom rich.person-Decl-Comp think
 ‘I consider Yenghi’s father a rich man.’

study tries to provide systematic answers to the problems raised above under the minimalist program, at the same time pointing out the problems of previous researches. In particular, this paper pursues the possibility of introducing an uninterpretable feature in the process of derivation, 'activating an inactive element' in the computation, while it keeps in accord with conditions/principles, in particular, Inclusiveness Condition, postulated in the minimalist program (Chomsky 1995, 2000, 2001). Hence this paper tries to get as closely as possible to the minimalist desiderata (no optionality/Last Resort). In so doing, we reach the unexpected but desirable conclusion that sentences containing 'Case-stacking' nominals are not any special kind of constructions but one that derives as a result of the articulation of (Topic and) Focus configuration in the narrow syntax.

2. Previous Approaches and Problems

2.1 Case Stacking under Movement (J. Yoon 1996, 2001; J-M Jo 2001)

While providing the various empirical evidence for Case particles to function as grammatical Case only, J. Yoon and J-M Jo claimed that Case-stacking arises as a result of the movement, consequently weakening the original Chain Condition and invalidating the Last Resort. That is, as shown in the following illustration, which is drawn from J. Yoon (2001), for Nominative Case-stacking, inherently Case-marked Experiencer Subject moves to the Spec of IP, in which it is assigned Nominative from the Infl head. In addition, the Spec of IP is claimed to be the position of Focus interpretation (so is called Constructional Focus), giving rise to Focus interpretation of the Case-stacking nominal.



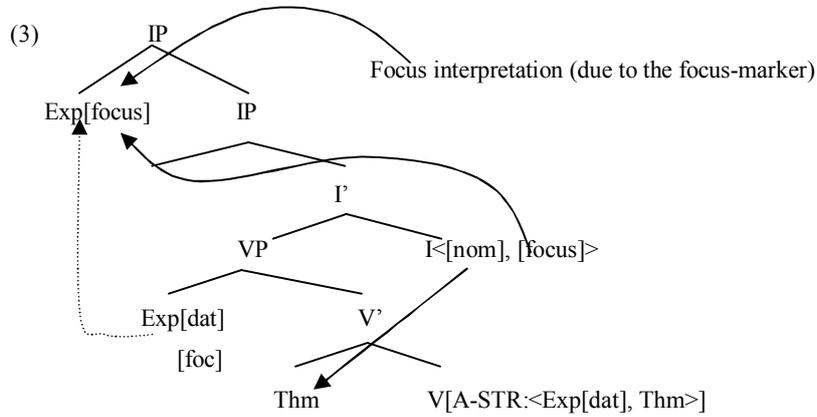
Several questions arise from this account, though. First, why does the Experiencer

nominal move to the Spec of IP in the first place? It is inherently Case-marked (Dative) and trivially satisfies the Case Filter. Therefore it cannot be a Case-seeking movement. If it is Case-seeking, it clearly violates the Last Resort. Secondly, then, does it move due to Focus? If yes, it amounts to claiming that Nominative particle (by extension, Accusative as well) has a dual function as Focus marker. But there is ample evidence that Case particles are dedicated to grammatical Case only, not Focus markers (see J-M Jo 2001; J. Yoon 2001). Even in the account of Focus interpretation as a result of movement (i.e., Constructional Focus) it is not clear why it should coincide with the position of the Nominative Case assignment. It just remains a coincidence. Furthermore, for Accusative Case stacking, it needs to posit a separate Constructional Focus position, which happens to coincide with the position of the Accusative Case assignment. This results in the proliferation of Constructional Focus positions (probably along with Topic positions). Also as shown in the diagram, this account assumes non-uniform Nominative Case assignment, which is of course not to be ruled out since there may be languages truly implementing the assumed mechanism. However, it would be better to account for the idiosyncratic facts about Case-stacking along with uniform Case assignment mechanism, which this paper is trying to come up with. As clear from the diagram, this account assumes that the Nominative Case can be assigned VP-internally, following Koopman and Sportiche (1991). Indeed, Theme argument is assigned Nominative from Infl. Hence the Experiencer Subject in the Spec of VP may get Nominative structural Case from Infl unless it is inherently Case-marked. Therefore it is possible in principle for a nominal in the Spec of VP to be assigned structural Case from the Infl head. This is also pursued in Chomsky (2000, 2001) under “Case under Agree”, which is also crucial to the analysis proposed in this paper. Finally whether the inherently Case-marked nominal shows Case-stacking or not depends on the optional movement of the nominal to the Spec of IP. Therefore optionality resides in the computation, which violates the minimalist desiderata since the MP has no room for optionality in the process of derivation.

2.2 Dual Function of Case Particles as Focus Markers (Schütze 1996, 2001)³

As shown in the following illustration, Schütze claims the dual functions of Case particles as Focus along with Case.

³ In fact, he claims triple functions of Case particles as Case, Focus, and Topic as pointed out in



This analysis trivially observes the Chain Condition and Last Resort since the particle *-ka* attached to the Dative-Case marked Experiencer is not a structural Case but Focus marker like other discourse particles like *-nun*, *-to*, *-man*, *-ya*, etc. However, it also faces empirical and theoretical challenges. Hence particles *-ka* and *-lul* cannot be Focus markers according to the convincing argument presented by J. Yoon (2001) and J-M Jo (2001), which this paper assumes is right. It is worth keeping in mind that as Schütze, J. Yoon and J-M Jo observed, the Case-stacking nominals are clearly Focus-related.

2.3 Compromised Approach to Case-Stacking (D-W Yang 1999; K-S Park 1995)

D-W Yang (1999) and K-S Park (1995) may be in the middle of the above two opposing views since they take particles *-ka* and *-lul* obligatorily specified as Nominative and Accusative, respectively, and optionally specified as Focus feature. Hence these are obligatorily Case particles, but at the same time partially responsible for Focus interpretation.

2.4 Goals of Current Study

Since this paper assumes that particles *-ka* and *-lul* function as grammatical Case only, following J. Yoon and J-M Jo, the burden of explanation in this paper lies in the following: How to get Focus interpretation? How to motivate the movement if movement is the

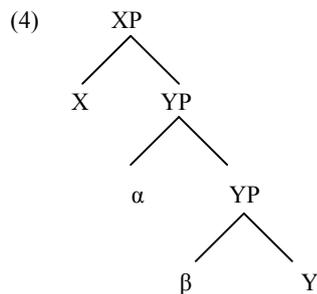
the note 2.

indispensable property of Case-stacking? How to cope with problems pointed out in section 2.1, in particular, apparent optionality? Is Focus interpretation of Case-stacking nominals construction-specific? Or does it arise from the general process of derivation? This paper tries to address these questions and come up with systematic answers to them.

3. Proposal: ‘Chain reaction’ in the Process of Syntactic Computation

I assume that all structural Cases are assigned/checked VP-internally⁴ and hence there is no Case-seeking movement in Korean. This is also an underlying assumption in Chomsky 2000, 2001 of “Case under Agree”.

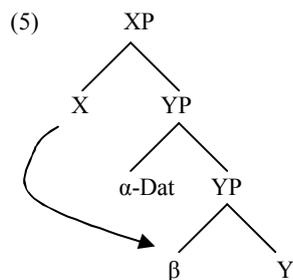
Suppose in (4) X is a Nominative Case assigning head or matching head for α and β for Agree (in the sense of Chomsky 2000, 2001). Since Korean is a language allowing multiple Nominative and multiple Accusative Case-marked nominals as Schütze also admits, X may agree with both α and β , which the MP system allows since both arguments are within the same projection and hence both equally local to the head X.⁵



⁴ This possibility for some languages was independently proposed earlier in Koopman and Sportiche (1991).

⁵ Since Chomsky (2000, 2001) unifies Case/Agree by proposing the same mechanism as ϕ -feature agreement (of subject and verb (T)) for Case assignment (checking), hence Case under Agree, the possibility of multiple nominative and accusative assignment seems to suggest that Case be different from Agreement contrary to Chomsky’s proposal since probe T does not enter multiple ϕ -feature agreement relations with more than one goals. For instance, for honorific agreement in Korean, only an Experiencer argument enters the agreement relation with I (T), irrespective of its Case marking (Dative or Nominative), although honorific agreement may be, in essence, different from ϕ -feature agreement. I will put this issue aside, though it is an important question to address whether it is really feasible to collapse Case/Agreement under Agree mechanism. I simply assume the system proposed by Chomsky since the main focus of this paper is on Case, not on Agreement.

Suppose in the same configuration α is inherently Case-marked (thematic Case, e.g., Dative) and β still needs to be assigned Nominative Case.



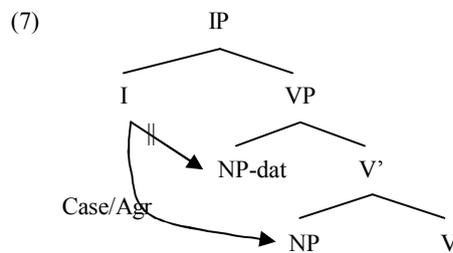
In a 'normal' derivation, since α trivially satisfies the Case Filter, it is not visible to X as for Agree and hence X looks down to β and Agrees with it.⁶ Consequently Nominative Case is realized on β . The case in point would be languages like German, Russian, Icelandic, etc.

- (6) a. Mir gefallen diese Bücher (German)
 I.dat like.pl these books
 'I like these books'
- b. Mne nravjatsja knigi (Russian)
 I.dat like.pres.3pl.refl book.pl
 'I like books'
- c. Henni voru gefnar bækurnar (Icelandic)
 she.dat were.3pl given book.nom.pl
 'She was given books'

Chomsky (2000: 102) notes that 'neither T nor v assigns inherent Case: other light verbs may, as may substantive categories.' If this is the correct generalization, the source of the dative Case for the Subject in the above sentences should come from 'other light verbs' or 'substantive categories.' Let's assume the latter. So the simple configuration we can think of would be as follows before the derivation getting to the

⁶ The relation of Agree between X and β in (5) should not be established due to the intervening α (a la defective intervention constraints, Chomsky 2000: 123). As long as α moves out of YP to satisfy EPP feature of X, however, this intervention effect would not arise since only the head of an A-chain, not trace, blocks matching (see Chomsky 2001: 16). I will further discuss this issue

final surface word order. The head of IP is assumed to have uninterpretable agreement and interpretable nominative features (Chomsky 2000), which triggers search for the nominal with matching (interpretable) features for agreement, while the nominal looks up for I (T) due to its uninterpretable Case feature.⁷ Given that the nominal in the Spec of VP is inherently Case-marked (Dative), in the above types of languages, it doesn't seem to be 'active' for establishing the relation (Case/agreement) with the head of IP (while it may be active for satisfying EPP feature). Hence the probe head further looks down to search for the matching Goal, which is here the complement of V, and establishes Case/Agr relation with it.⁸



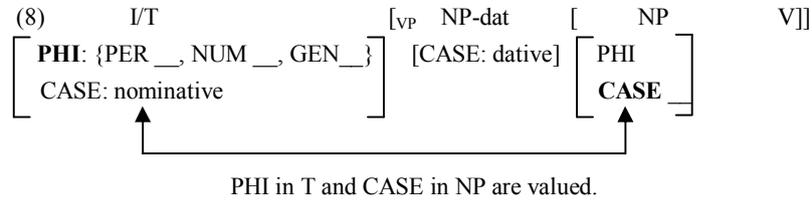
This state of affair is schematically represented in (8), in which bold-faced ones are uninterpretable features, which make the entity with them 'active' for computation (a system interpreted in terms of Chomsky 2000). In this picture, the Dative Case-marked nominal, which probably underwent only (Selection and) Merge as far as syntactic computation is concerned, is inactive since it has no uninterpretable feature in it. Hence I (T) and a lower NP get into Probe-Goal relation for agreement and (Goal-Probe relation for) Case. Accordingly, uninterpretable features in I (T) and NP are valued (deleted under matching).⁹

later with regard to Korean Case-stacking nominals.

⁷ It is very doubtful that I (T) has an interpretable matching Case feature, considering the fact that structural Case is a kind of formal feature, not semantic feature (see Enç 1991 for the semantic effect of Case, though) and Case is morphologically realized on the nominal. Hence understandably this idea is given up in Chomsky 2001 and T is assumed to have no Case feature whatsoever. ϕ -complete T and v are assumed to assign Nominative and Accusative, respectively, to relevant goals. This latter position is assumed in this paper but just for the ease of illustration, since Agreement (hence ϕ -completeness) is not a main issue of this paper, Case feature is presumed to reside in I (T) or v to be discharged.

⁸ Again, intervention effects do not arise since the dative NP is dislocated to be re-merged to IP to satisfy an EPP feature of I.

⁹ Uninterpretable features may be understood as features which lack values in a lexical item. That's why the lexical items with those features are 'active' in the syntactic computation, i.e., requirement for their unvalued features to be valued in the narrow syntax. According to this

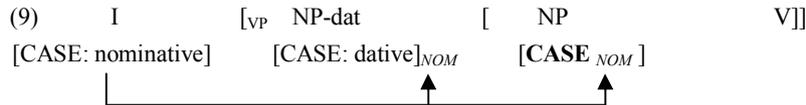


Here one may ask whether there may be languages in which the Dative-marked nominal in the Spec of VP may participate in Case/Agr relation with the head of IP.¹⁰ At least the locality consideration doesn't exclude this possibility at all. Secondly, with regard to the computation, it is not a 'costly' process, considering the fact that nominals in the Spec of VP and the complement position are within the same search space of the Probe I (T) with the proviso of 'equidistance' (Chomsky 2000: 122) and that Korean is a language allowing multiple nominative/accusative constructions. However, it has a conceptual difficulty as well. First, a nominal in the Spec of VP is inherently Case-marked and hence inactive so why is it allowed to enter the checking relation to begin with? Before raising the why question, it seems to be legitimate to ask yes/no question first, i.e., should an inherently Case-marked (e.g., dative) nominal check its Case or be subject to Case Filter? Probably yes and so in a 'normal' computational process, nothing would happen since it trivially passes the Case checking due to its inherent Case. Consequently no structural Case should be assigned to the inherently Case-marked nominal. Questions arise only if structural Case is assigned to the inherently Case-marked nominal. Hence it might be an instance of 'imperfections' to the extent that 'double' Case marking gets away from 'good design' specifications. From this situation, three possible scenarios seem to arise. First, as far as the state of derivation stays as it is, it should crash. Second, it is a genuine instance of 'imperfections.' Third, it may be just an apparent imperfection and hence turns out one of the ways of satisfying design specifications. Putting aside the second response, which is not interesting at all, to the extent that one is able to find some empirical evidence for the first and third response, the apparent imperfection eventually may turn out supporting evidence for the strong form of minimalist thesis that 'language is an optimal solution to legibility conditions' (Chomsky 2000: 96).

Now, focusing on Case, suppose Case feature value from I (T) is assigned to the

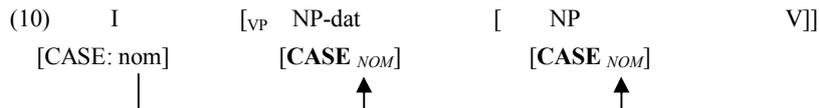
interpretation of 'uninterpretable' features, EPP cannot be a feature or must be a very special kind of feature since it doesn't seem to have the relation of feature and feature value. Instead it looks just like a selectional diacritics, which requires a certain category, not values.

nominal in the Spec of VP in addition to the complement NP as shown in (9).



Does this derivation violate any assumptions given for the probe-goal system (Chomsky 2000: 122)? It doesn't. One of the conditions for matching (Agree) is feature identity, i.e., elements which enter probe-goal relation should share the same feature but do not have to have the same value. Hence the picture depicted above does not violate this condition since both nominals have the same feature (Case). What about locality condition? As already pointed out, it does not violate the locality condition as well since both nominals are equally local to I (T). Also note that the nominal which obligatorily enters the checking relation, i.e., the complement NP is c-commanded by both I and Dative NP. Hence locality does not block the probe-goal relation of I and Spec of VP. However, since operation ('checking') applies to the element which is already satisfied with it and hence inactive, it violates some of theoretical assumptions in MP, in particular, 'least effort' conditions and Last Resort.

Before addressing this problem, let's turn to another possible approach to the issue. Suppose that the inherent Case and the structural Case are different kinds and for the purpose of Agree, the inherent Case is 'invisible'. Then for the checking relation between I (T) and inherently Case-marked nominal, the latter should be assumed to carry uninterpretable feature as shown in (10).



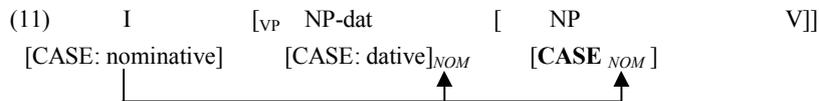
Plausible as it seems initially, the possibility alluded in Chomsky (2000: 127-28 and note 87), it is also problematic. First one may wonder whether this approach violates one of the minimalist desiderata (i.e., no optionality), considering the fact that inherently Case-marked nominal does not always enter the checking relation for structural Case. There doesn't seem to be any problem in this respect since optionality does not lie in computational system (narrow syntax) but in a lexical item, for which

¹⁰ Tamil or Icelandic may be one of those languages (Cedric Boeckx, p.c.).

the system does not prevent optional specification of some features. Once a lexical item is specified for a certain uninterpretable feature, it is obligatorily 'activated' in the computational system. Hence the inherently Case-marked nominal with additional uninterpretable Case feature obligatorily enters the checking relation with the head which has matching interpretable feature. Hence the above proposal does conform to the minimalist desiderata. Therefore by treating inherent Case and structural Case as features of a different kind, this account at least does not violate any minimalist assumptions.

However, it also raises questions the given account should answer to. Since inherently Case-marked nominal is assumed to be optionally specified for uninterpretable structural Case, if it is not specified for the latter feature, then the inherent Case should be the same kind of feature as structural Case in order to observe the Case Filter, though the feature value is different. Therefore inherent Case optionally may or may not be the same kind of feature as structural Case depending on the additional feature specification, which is undesirable consequence. Furthermore it needs to explain how two features are different. To the extent it cannot cope with these problems, it just remains as a stipulation that inherent Case and structural Case are features of a different kind. Also it doesn't predict that nominals within the VP should have any special interpretive property. In particular, it predicts that the nominal in the Spec of VP should have an equal status irrespective of whether it is doubly Case-marked (Dative-Nominative stacking), or not (Nominative or Dative alone), since an inherent Case 'Dative' is invisible for computation. Consequently it cannot account for why 'Case-stacking' nominals in languages like Korean have special interpretive property, i.e., Focus. Therefore the treatment of inherent Case and structural Case as a different kind, appealing as it looks initially, turns out not working. This leads to the conclusion that inherent Case and structural Case should be the same kind of feature while the difference lies just in feature values.

The above conclusion leads us back to the derivation depicted in (9), repeated here.



However, as already pointed out, this derivation violates 'least effort' conditions and Last Resort. In particular, problem of optionality, which did not arise in the approach with regard to (10), undesirably arises in this approach. That is, it assumes

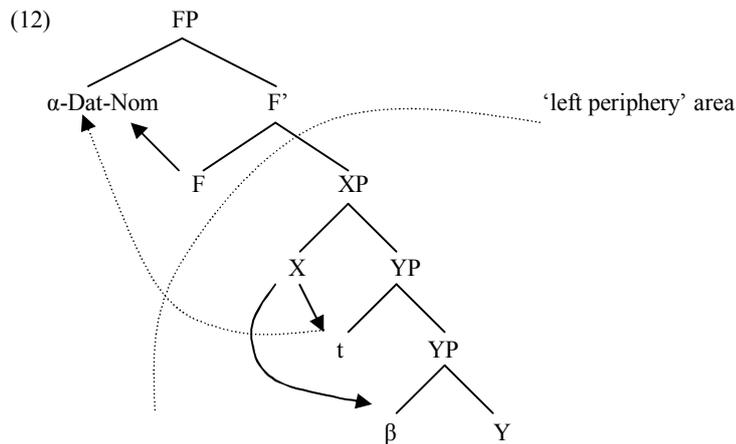
the optional checking relation between I (T) and Spec of VP since in a ‘normal’ derivation, inherently Case-marked nominal is not assigned structural Case. This is obviously violation of the minimalist desiderata (no optional operation) since, contrary to the derivation discussed with regard to (10), the optionality resides in the computational system. Therefore as it stands, it is in conflict with important conditions assumed in the MP. If it is to be in accord with the MP system, it is expected that the given derivation should crash or have a surface (semantic) effect, consequently giving rise to a desirable result that the operation is in essence not optional. This is the conclusion this paper is trying to reach.

First I hypothesize that launching probe-goal relation to ‘inactive’ goal turns it into ‘active’ goal. That is, assigning structural Case from I (T) to inherently Case-marked nominal turns its status into ‘active’ one, which is otherwise inactive.¹¹ Hence it has the very same effect of assigning an uninterpretable feature in the computation, though it doesn’t actually assign any feature since the relevant feature, i.e. Case, is already available without violating Inclusiveness Condition. (Note that both inherent Case and structural Case are claimed to be the same feature in the previous discussion.) According to this hypothesis, it is expected that the newly ‘activated’ goal would crash in the derivation unless it is ‘deactivated’, similarly to the derivational crash which results from the failure of deleting uninterpretable features. If this hypothesis is correct, then the apparent optional operation turns out to be a trigger of the Last Resort operation for convergence, which is the desirable result in accordance with the leading ideas in the MP.

It is worth noting that previous researches on Case-stacking as reviewed in section 2 appeal to movement in one form or another. For instance, Schütze (1996, 2001), Yoon (1996, 2001), J-M Jo (2001) have all in common that (Case) particle *-ka* in Case-stacking nominals arises as a result of movement, which Schütze takes as Focus marker, the latter two as Case. Hence the particle *-ka* is responsible for Focus interpretation of Case-stacking nominals in Schütze, while the position to which a nominal moves is responsible for Focus interpretation in J-M Jo and J. Yoon and so this single position (Spec of IP) is the source of both Focus and Case. Hence these studies suggest that Case-stacking has ‘dislocation’ property and surface semantic effect (Focus), which is illuminating for the hypothesis posited above that newly ‘activated’ goal in the computation should be ‘deactivated’ and one way of

¹¹ Therefore, Case-stacking arises in-situ under the current proposal adopting “Case under Agree” in Chomsky (2000, 2001), not by movement.

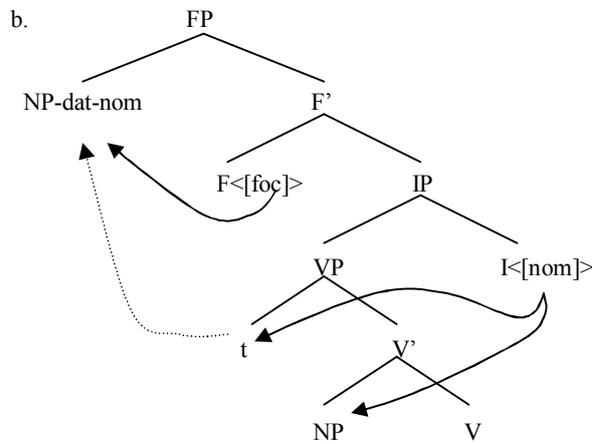
implementing this idea is to associate uninterpretable feature with dislocation (cf. Chomsky 1995, 2000). Since this paper assumes that following J. Yoon and J-M Jo and contrary to Schütze, particles *-ka* (and *-lul*) function only as a morphological realization of structural Case, and also due to problems pointed out for J. Yoon and J-M Jo in section 2.1, it is necessary to dissociate between Case and Focus. Therefore I conclude that the source of Case and Focus cannot be the same head, i.e. I (or T). There are 'left-periphery' positions in Korean as independently identified in J-M Jo (2000, 2002), which is associated with (Topic-)Focus interpretation (cf. Rizzi 1997). Following J-M Jo, I assume that the position from which Focus interpretation arises is the Spec of FP whose head is assumed to have Focus-inducing feature (interpretable Focus feature). Hence the proposed derivation may be schematically represented as in (12).



As is clear from the tree diagram, the head X assigns Nominative Case to inherently Case-marked nominal α in addition to β and as discussed above, the former assignment has the very same effect of an uninterpretable feature assignment, hence turning α into being 'active'. Unless further operation applies to 'deactivate' α , the derivation would crash, similarly to the derivation crash which results from the failure of deleting uninterpretable features. Hence for the convergent derivation, α is dislocated to the Spec of FP as a Last Resort, giving rise to Focus interpretation. Since the additional feature value assignment induces an extra operation for convergence in the computation, this state of affair may be called 'chain reaction'.

According to the given proposal, the derivation of the sentence (13a) can be represented as in (13b).

- (13) a. Yenghi-eykey-ka holangi-ka mwusep-ta
 Y-Dat-Nom Tiger-Nom afraid-Decl
 ‘It is Yenghi who is afraid of a tiger’

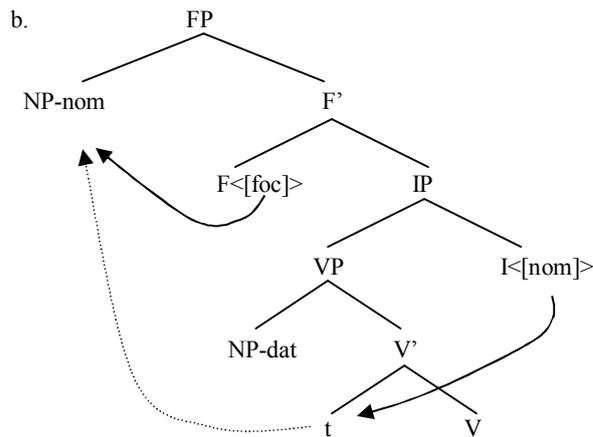


Both Dative Case-marked Subject nominal and Object nominal are assigned structural Case (Nominative) from the head I. Since a Subject nominal trivially satisfies the Case Filter due to its inherent Case, this additional structural Case assignment has an effect of assigning an uninterpretable feature by the assumption proposed in the hypothesis above. Hence ‘chain reaction’ follows. That is, for the convergent derivation, the Subject nominal should further undergo operation in order to deactivate its active status in the computation, resulting in dislocation to the Spec of FP, in which the Subject gets Focus interpretation. (Hence movement is motivated by Greed in the sense of Chomsky 1995.) Due to its occupying the Focus position and hence Focus interpretation, it has the special prosody on it (pitch accent), as expected.

Suppose the structural Case is not assigned to the Dative Subject nominal but only to the Object nominal, as ‘normal’. Then the derivation will converge as long as other conditions are met. Further suppose that this derived syntactic object is merged with the head F of FP, which has a Focus feature and an EPP feature. Therefore an element should be merged with FP to satisfy EPP feature. The only option available is Merge

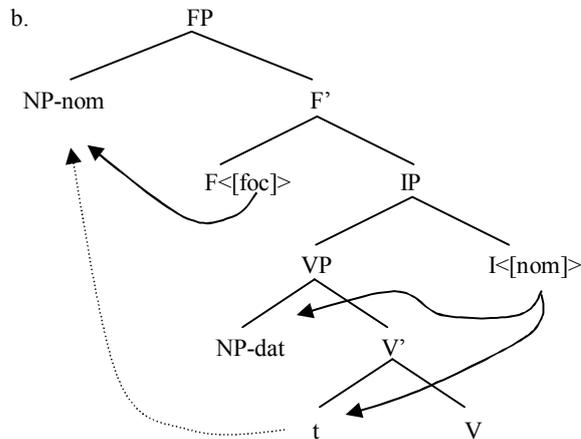
by Move since Korean does not have an expletive and even in case it has one, the expletive cannot be selected by pure Merge since the expletive cannot have Focus interpretation. Therefore an element in the lower domain should be re-merged by dislocation. (Hence this movement is the case of Enlightened Self-Interest (Lasnik 1995a,b) or Suicidal Greed (Chomsky 2000).) Since neither Subject nominal nor Object nominal has 'active' status, either nominal can be fronted to satisfy the EPP feature of F, giving rise to the Focus interpretation of the chosen nominal along with pitch accent on it. The following derivation represents the dislocation of the Object nominal.

- (14) a. HOLANGI-ka Yenghi-eykey mwusep-ta
 tiger-Nom Y-Dat afraid-Decl
 'It is a tiger that Yenghi is afraid of'



Now suppose that an inherently Case-marked nominal is assigned structural Case but it remains in-situ and the Object nominal is dislocated instead to satisfy the EPP feature of the head F, as shown in the following derivation.

- (15) a. *HOLANGI-KA Yenghi-eykey-ka mwusep-ta
 tiger-Nom Y-Dat afraid-Decl
 'It is a tiger that Yenghi is afraid of'



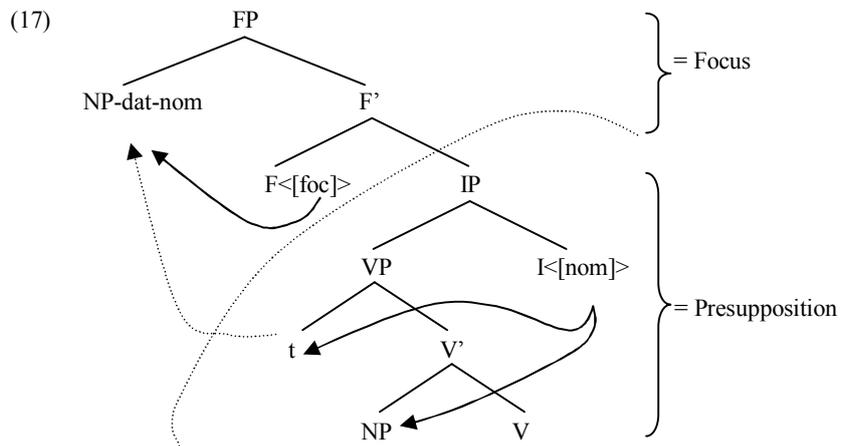
As shown in this derivation, the Subject nominal remains in situ, hence predicted to crash unless further operation applies to deactivate the Subject nominal, in which case the derivation will end up with multiple Focus interpretations. This prediction is borne out as the contrasts in sentences (16) suggest.

- (16) a. *HOLANGI-KA Yenghi-eykey-ka mwusep-ta
 tiger-Nom Y-Dat afraid-Decl
 ‘It is a tiger that Yenghi is afraid of’
 b. HOLANGI-KA YENGHI-EYKEY-KA mwusep-ta
 c. YENGHI-EYKEY-KA HOLANGI-KA mwusep-ta
 ‘YENGHI is afraid of a TIGER’
 (For x being afraid of y, x = Yenghi , y = tiger)

With regard to semantics of the sentences with Case-stacking nominals, as J. Yoon (2001) pointed out, it requires a specific discourse context for the given sentence to be felicitous. This specific context can be reinterpreted as a presuppositional context. That is, except for the information conveyed by Case-stacking nominal, the rest of the sentence should be presupposed or otherwise pragmatically accommodated (cf. Lewis 1979, Lembrecht 1994). Hence as far as semantics is concerned, a sentence containing a Case stacking nominal is very reminiscent of the Cleft constructions (J-M Jo 2002).

According to J-M Jo, there is a direct mapping from syntactic structure to LF for semantic interpretation (cf. Diesing 1992), which is expected in the MP system, in

which LF is the only interface level within the narrow syntax. In particular, as long as Topic or Focus is configurationally derived by dislocation, there is semantic partition of the derived syntactic object such that the elements outside IP (TP) are mapped to Topic or Focus (see J-M Jo 2002 for the argument for the postulation of the functional head for the Topic), and the rest of the sentence, i.e., IP, is mapped to *given* information (roughly the same as Tail in Vallduvi (1992)), which is interpreted as presuppositional information. For instance, suppose an inherently Case-marked Subject nominal is dislocated, i.e., the derivation discussed with regard to (13b), which is repeated here, in which a dotted line stands for the boundary of semantic partition in LF.



Hence the Subject nominal dislocated to the Spec of FP is mapped to Focus in LF for semantico-pragmatic interpretation and the rest of the sentence is mapped to *given* information, which is assumed to be known information among discourse participants, i.e., presupposition.¹² Hence we reach the unexpected and interesting conclusion. Seemingly unrelated constructions (Cleft constructions (Topic-Focus constructions in general) and Case-stacking construction) turn out to have a lot in common, constructions arising as a result of the articulation of Focus (Topic) configuration in the narrow syntax.

Two questions may arise from this account. First if Focus interpretation is derived

¹² F or FP should be understood as an umbrella functional projection for left periphery positions in the sense of Rizzi (1997). F is assumed to consist of an interpretable feature (e.g., Focus), and

by semantic partition of the derived sentence in LF, it doesn't seem necessary to postulate F (FP) which is assumed to contain an interpretable feature along with EPP feature. Hence one may claim that the F with EPP feature would be sufficient. There seem to be two responses to this question. One is theory-internal. That is, categories lacking interpretable features are assumed to be disallowed since the deletion of uninterpretable features results in the projection without a label, which is an ill-formed syntactic object (see Chomsky 2000: 138-39). The other response is both theoretical and empirical. Before Spell-Out, the exact nature of Focus should be determined in the narrow syntax so that the relevant particle would be able to be morphologically realized. Hence depending on the nature of the Focus interpretation (hence an interpretable Focus feature), different particles can be attached to the Focus nominal. Hence in (18a) no particular Focus interpretation is determined and hence the nominal can have either Contrastive or Exhaustive Focus interpretation without any dedicated Focus particle attached, resulting in Case stacking, accompanied by pitch accent only. In (18b-d), however, a particular Focus (or Topic) interpretation is assigned to the nominal, which is morphologically realized by dedicated particles. Since Case particles and discourse particles (so-called Z-lim) occupy the same morphological slot (cf. Cho & Sells 1995), the latter particles are realized as shown in (18b) and (18d). To the extent both Case and discourse particles are compatible due to occupying the different morphological slots, both particles can be realized as shown in (18c).¹³

- (18) a. Yenghi-eykey-ka holangi-ka mwusep-ta (Contrastive/Exhaustive)
 Y-Dat-Nom
 'It is Yenghi who is afraid of a tiger'
- b. Yenghi-eykey-nun holangi-ka mwusep-ta (Contrastive Topic)¹⁴
 Y-Dat-Cont
 'A tiger is scary to Yenghi (probably not to others)'
- c. Yenghi-eykey-man-i holangi-ka mwusep-ta (Exhaustive Focus)
 Y-Dat-only-Nom
 'Only Yenghi is afraid of a tiger'

an uninterpretable selectional feature (i.e., EPP), which must be deleted by Merge.

¹³ I assume late lexical insertion, following Distributed Morphology (Halle and Marantz 1993).

¹⁴ Discourse particle *-nun* can function as either non-contrastive or contrastive Topic (C-M Lee 2001).

- d. Yenghi-eykey-to holangi-ka mwusep-ta (Scalar Focus)
 Y-Dat-even
 ‘A tiger is scary even to Yenghi (as well as to others)’

If Focus interpretation is solely determined in LF by semantic partition of the derived sentence, it is ‘too late’ to transfer the relevant information to PF (or Morphological Structure) for selecting appropriate particles. Hence I conclude that it is necessary to postulate the functional head F which has both interpretable and uninterpretable EPP features.

One may still raise another question. Even admitting the need to postulate the functional head which has both interpretable and EPP features, it doesn’t have to be separate from I (or T). That is, why not assume that Infl head has those features? Hence the Spec of IP or adjunction to IP will do what F (FP) does. This might work but basically there are two reasons that I reject this option as well. First this will have the result of dumping too much features into a single head (note that Infl head is already responsible for Case and Agreement), which is of course yet to see whether it is desirable or not but I assume it is not. Secondly not just Focus but also Topic is identified (and assumed here) as a left periphery position in J-M Jo (2002). For this speculation to be tenable, it should also assume that Infl head is responsible for Topic interpretation. This adds further complexity to the feature composite of the Infl head and necessitates multiple Specs or adjunction to IP. The problem is this does not account for the order of Topic-Focus configuration unless the system posits some other way to derive the order, e.g., Informational Component independently of LF as in Vallduvi (1992). What is worse is that Infl would end up with a contradictory feature complex (+topic and +focus). Therefore I conclude that it is necessary to posit the F, which has an interpretable Focus feature and an uninterpretable EPP feature, along the line with Rizzi (1997) and probably contra INT rubric of Chomsky (2001).¹⁵

The proposed account for Nominative Case-stacking can be further extended to Accusative Case-stacking with the familiar assumption that the transitive verb projects the light verb (Larsonian VP Shell) and that the light verb is the head responsible for Accusative Case, which establishes checking relation with the Object of an transitive verb whose uninterpretable Case feature deletes under Agree. Hence in a ‘normal’ derivation, the light verb does not assign Accusative Case to inherently

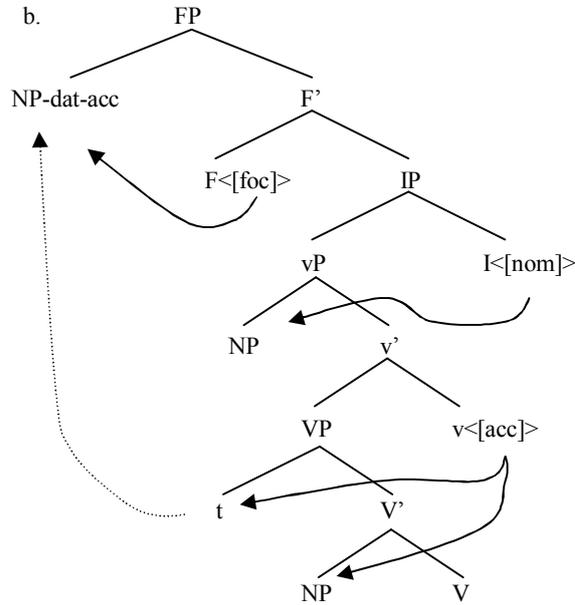
¹⁵ J-M Jo (2002) claims the postulation of TopP in Korean independently of FocP as in Rizzi (1997) and Whitman (2001).

Case-marked Indirect Object, while it must if the Indirect Object does not have inherent Case, as shown in (19a) and (19b), respectively.

- (19) a. Yenghi-ka Chelswu-eykey senmwul-ul cwu-ess-ta
 Y-Nom C-Dat gift-Acc give-Past-Decl
 ‘Yenghi gave a gift to Chelswu’
- b. Yenghi-ka Chelswu-lul senmwul-ul cwu-ess-ta
 Y-Nom C-Acc gift-Acc give-Past-Decl
 ‘Yenghi gave Chelswu a gift’
- c. Yenghi-ka Chelswu-eykey-lul senmwul-ul cwu-ess-ta
 Y-Nom C-Dat-Acc gift-Acc give-Past-Decl
 ‘It is to Chelswu that Yenghi gave a gift’

Similarly to the derivation of Nominative Case-stacking, once the inherently Case-marked Object is assigned Accusative case from *v*, ‘chain reaction’ should follow. Otherwise the derivation will crash. Hence as shown in the derivation (20) for (19c), the assignment of structural Case to the inherently Case-marked Indirect Object turns its inactive status to active one, which should be deactivated by operation for convergence. Hence it is re-merged to FP by dislocation, giving rise to Focus interpretation. In LF, the element is mapped to Focus and the rest of sentence is interpreted as presupposition as expected. The word order of the sentence (19c) above may be the result of PF Scrambling or Topicalization of the Subject NP. Either way it ends up with the same interpretation as the sentence (20a).

- (20) a. Chelswu-eykey-lul Yenghi-ka senmwul-ul cwu-ess-ta
 C-Dat-Acc Y-Nom gift-Acc give-Past-Decl
 ‘It is to Chelswu that Yenghi gave a gift’



4. Conclusion and Remaining Issues

In this paper I examined the Case-stacking phenomenon in Korean, which is apparently in conflict with some of the principles assumed in Principles and Parameters theory and recent minimalist program, e.g., Case Filter, Chain Condition and Last Resort. I briefly examined some of the previous analyses which amount to admitting the Korean Case stacking as exceptional to those principles or postulating the dual or triple functions of Case particles as structural Case and semantic/discourse particles. In this paper, however, I tried to account for the Case stacking phenomenon with the Case-related principles kept intact. I pursued the possibility of introducing an uninterpretable feature in the process of derivation, 'activating an inactive element' in the computation, while it keeps in accord with conditions/principles, in particular, Inclusiveness Condition, postulated in the minimalist program (Chomsky 1995, 2000, 2001). Hence this paper tried to get as closely as possible to the minimalist desiderata (no optionality/Last Resort). Most of the discussion was focused on the Nominative Case stacking over the Dative Subject and briefly extended to the Accusative Case stacking. Korean has a variety of multiple Accusative Case constructions unlike Japanese and hence further research needs to be done to see the applicability of the

current proposal made in this paper to Accusative Case stacking constructions, in particular, ECM/SOR constructions.

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