Case Realization and Its Syntactic Mechanism

Koyuki Ichida

Synopsis: After Chomsky (1980) first proposed the original idea that Case should be regarded as the essential element for DP to be active in syntax, only the way of activation of DP has been discussed, while the morphophonological property of Case seems to be less concerned. The purpose of this paper is to point out the fact that current Case license system is inadequate to explain some examples, and to propose an additional idea which can capture the morphophonological property of Case. It is shown that introduction of the new idea (I will call it Case realization system) is appropriate conceptually and empirically through several examples. The empirical focus will be on an asymmetry in there construction and a unique behavior of the subject in infinite clauses in English.

Key words: Case realization, Case license, syntactic theory

1. Introduction

In the history of linguistics, Case has been studied for a long time and explained in various ways. Originally, it means the variant forms of a noun which is declined depending on its grammatical relation. After Chomsky (1980) first proposed the original idea that Case should be regarded as the essential element for DP to be active in syntax, only the way of activation of DP has been discussed, while the morphophonological property of Case seems to be less concerned. In this paper, I will highlight an argument about how to form a DP, that is, how to realize a DP in a sentence. Chomsky (2000) proposed that Agree is an operation that values unvalued features of a probe and a goal. Unvalued features must be valued before the structures are sent to the interfaces, which cannot deal with unvalued features. However, it is not clear what the valuation account for concerning Case of a DP. Concretely speaking, no speculation has taken place in that it is not shown whether Agree
makes the DP get instructions to realize it with a certain Case, such as Nominative Case or Accusative Case. Furthermore, the question of what becomes of valued DP in the interfaces is still open. In this system, a valued DP is supposed to be able to appear with arbitrary form in the sentence. To consider the Case system more practical, I try to incorporate the morph-phonological view of Case, which has been paid little attention to after GB Theory, and in the current Case Theory. This is the conceptual reason that I argue that Case license system needs an additional condition to determine proper form of a valued DP.

Valuation is an operation which small v or T does. It is reasonable to regard current Case valuation as Case assignment, which is used in GB Theory. In this paper, I use the term “Case assignment” and “Case realization” in order to distinguish each operation in Case license system. I consider that Case license operation needs not only Case assignment but also Case realization. Case assignment means the operation of canonical Case checking, and Case realization means the operation of the additional Case checking which I will propose. These two operations take place independently for a separate purpose. I will propose a mechanism of Case realization in this paper, and then I will show that an asymmetry of interrogative in there constructions and a unique behavior of the subject in infinite clauses are analyzed with the mechanism.

The organization of this paper is as follows. Section 2 will give a mechanism of Case realization and its validity. In Section 3, analysis of the asymmetry in there sentence will be produced. Section 4 will show the proposition in Section 2 and will also explain a unique behavior of the subject in infinite clauses. Section 5 will be the conclusion of this paper.

2. Case Realization Condition

I argue in this section that Case license requires not only Case assignment but also a particular operation, which is Case realization, to
express Case phonologically. Case refers to the form distributed to the occurrence position of a DP, when a DP arises in a sentence. It has been assumed that Case marking on DP depends on its position in a structure. For example, if a DP occurs in a subject position, it is marked as nominative Case, whereas if a DP occurs in an object position, it is marked as accusative Case. However, I wonder whether it is enough for Case licensing to check the position of DP with structure. Conceptually, for the most part, Case takes a role in expressing phonological information of DPs, therefore it must be necessary to check Case from the phonological viewpoint. I make a distinction between Case assignment and Case realization to make each role clear in Case license system.

If realization is an operation to express Case assigned to DP phonologically, any overt DP has been realized as long as it has phonological form. If Case has been realized, it should have already been assigned. That is, Case assignment precedes Case realization in Case license operation. Case is assigned to DP by its Case assigner, but that is not enough for DP. It must be checked phonologically to appear in a sentence. Case which has been assigned to DP is supposed to be realized before Spell-Out because of its phonological property. Spell-Out is an operation that phonological elements undergo. As far as Case is phonologically concerned, it will not be Spelled-Out properly without phonological checking. If a DP is Spelled-Out before realization, it causes the crash at PF because the DP is not licensed phonologically. In this paper, a following Case realization condition is proposed:

3. Every overt DP has been realized.
4. Case-assignment precedes Case-realization.
5. DP should have been realized by its Case-realizer before Spell-Out.

Case of DP can be realized
if (i) the DP agrees with its Case realizer,
or if (ii) the DP has a relation of Spec-head agreement with its Case
X in (6) is a Head of a Case realizer, and DP occurs in complement of X. After Case has been assigned to DP, there are two ways of realization. The tree in (6 i)’ shows that X is agreed with its complement DP, and the tree in (6 ii)’ shows Spec-head agreement, which is observed when a DP moves to XP Spec. Case of DP can be realized if either (6 i)’ or (6 ii)’ is satisfied. This Case realization condition may seem to be the same as a condition of Case assignment. However, in this condition, DP does not have to be Case-realized by its Case assigner. It is expected that Case realizer may be a different element from Case assigner to one DP in a sentence. Some DPs are Case-assigned and Case-realized by the same element, and others are not. Case can be realized at the same position where Case is assigned, and that may cause confusion between Case assignment and realization. Most of the sentences are out of consideration for its difference because the difference does not come to the surface. However, it is necessary to distinguish Case realization from assignment to check whether phonological request of Case has been satisfied. It is suggested that DP can move in order to be Case-realized after it is
Case-assigned. The aim of this paper is to distinguish Case realization from Case assignment, so Chapter 3 and 4 will show the examples in which a DP seems not to be Case-realized by its Case-assigner. Actually, the Case realization condition is focused on when Case is realized, rather than where. If Case of a DP is realized, it is decided that it is Spelled-Out at the phase where DP is realized. That is, it is expected that a realized DP cannot move to an upper phase anymore.

Now let me consider two types of element which needs Case realization. One is a DP, which appears to follow a verb as its complement in a declarative sentence. The other type is a \textit{wh}-phrase. \textit{Wh}-phrases also must be realized at some phase before Spell-Out on the same condition as DP.

\begin{equation}
(7)
\vcenter{
\begin{tabular}{l}
V' \\
V \\
\{DP\} \\
\{WH\}
\end{tabular}}
\end{equation}

As shown in (7), in the case that a DP or a \textit{wh}-phrase is generated as complement of V, these are Case-assigned with agree. Moreover, at this position, these can be Case-realized. However, if DP or WH is Case-realized at complement of V, these have to be Spelled-Out at this position. If WH is Spelled-Out at this position and remains there, the Case realization condition is satisfied, but it is expected \textit{wh}-feature will not be satisfied prospectively. It is expected that the sentence will be unacceptable. Considering these predictions, though WH is Case-assigned at complement of V, it has to be Case-realized where it moves to later.

I have no idea whether all verbs can be Case realizer yet. There may be a verb without the ability of Case realization as there are some verbs without the ability of Case assignment.
3. Asymmetry in There Construction

3.1 Examples

Since Belletti (1988), a number of analyses have been proposed that unaccusative verbs as well as the existential verb *be* can appear as the main predicate of the clause in *there* constructions:

(8)  
   a. There was a man in this room.  
   b. There arrived a train at that station.

(9)  
   a. How many men, were there in this room?  
   b.* How many trains, did there arrive at that station?

(Ura 1994: 227)

Nevertheless, there is a somewhat surprising asymmetry between the interrogative of the there construction with an unaccusative verb and the one with the existential *be* (cf. Ura (1994)). The sentences in (9) are interrogatives where the logical subjects in (8) are questioned respectively. Whereas the interrogative with *be* is acceptable, the interrogative with the unaccusative verb become ungrammatical. In the Case Theory so far, the contrast between (9 a) and (9 b) cannot be explained. If the DP as the argument (hereafter, an associate of *there*) in (8 b) is assigned Case properly, there seems to be no reason for the ill-formedness of its interrogative in (9 b). Concerning *there* constructions, the major topic for discussion has been how Case is transferred. Therefore it has been considered whether DP occurs in Case position. However, the checking of position does not seem to be enough.

Though the contrast between (9 a) and (9 b) is the main concern of this chapter, there are other considerable examples which have been shown in previous studies.

(10)  
   a. How many trains, did John say that there were in this
room?
   b.* How many trains, did John say that there arrived at that station? (Ura 1994: 227)

The examples in (10) shows that V-raising of be to Infl does not account for the contrast. In addition, Ura (1992) already noticed another noteworthy piece of non-asymmetry between wh-movement in the there constructions with an unaccusative verb and the one with be.

(11) a. In which room was there a man yesterday?
   b. At which station did there arrive a train yesterday?

(12) a. When was there a man here?
   b. When did there arrive a train here? (Ura 1992)

These sentences are all grammatical irrespective of the predicate. Wh-movement of an adverbial phrase does not cause ungrammaticality although the predicate is an unaccusative verb. The fact shown in (11) and (12) indicates that the grammatical contrast appears if only the associate of there is wh-moved in the interrogative of the there construction.

3.2. Analysis

Using the Case realization mechanism argued in the previous chapter, the asymmetry between (8) and (9) can be explained concretely. It is shown that occurrence of a movement of the associate and proper Case realization can account for it. The existential be and the unaccusative verb arrive agree with their associate a man to assign Case. Then they have to realize Case properly. As in the case of (9 a), when the associate overtly wh-moves to CP Spec, the associate as a wh-phrase needs to move to the edge of P. At the moment, the wh-phrase gets Spec-head agreement by be, which has risen to v, and then its Case is realized.
Since the *wh*-phrase has moved to the edge of *vP*, it evaded being sent to PF when the phrase under the phase of *vP* is Spelled-Out. Spell-Out of the associate is postponed, therefore it can move up to CP Spec in order to satisfy *wh*-requirement.

(13)

While in (9 b), unlike *be*, *arrive* cannot V-raise and stays at V when Spell-Out takes place. It cannot agree or get Spec-head agreement with *wh*-phrase which has risen to the edge of *vP*. Then Case of the *wh*-phrase cannot be realized properly, and it causes ungrammaticality.
Moreover, if the *wh*-phrase in (9 b) stays within VP to agree with it, Case is realized properly. However, once Case is realized at complement of V, the *wh*-phrase cannot move to CP Spec because it would stay there for Spell-Out, as explained in Chapter 2. That causes lack of satisfaction of *wh*-feature, and the sentence will be unacceptable. In a sentence with overt *wh*-movement, the *wh*-phrase needs to move to the edge of vP before it is realized. If Case realization properly occurs to the *wh*-phrase in the edge of vP, the movement is successful, and if not, the derivation crushes. That is why only the interrogative sentences with *be* are properly realized and are grammatical.

Concerning the phase, Chomsky (2001) proposed that vPs of the passivized verb or the unaccusative verb are defective and are actually not phases. However, this paper argues that vP of the unaccusative verb and also vP of the existential *be* are phases.

The example in (15) shows that even if *wh*-phrase is realized at complement of V with agree, as far as *wh*-feature is satisfied, the gram-
maticality of the sentence does not decline.

(15) a. Who said that there were how many men in this room?
b. Who said that there arrived how many trains at that station?

Because *who* satisfies *wh*-feature of CP, *how many men* as the associate of *there* does not need *wh*-movement. It remains at the base generated position, and both *be* and unaccusative verb can agree with the *wh*-phrases. That is, in both (15 a) and (15 b), the *wh*-phrases can be realized at the position. That accounts for grammaticality of both sentences. This analysis also explains the declarative sentences of *there* sentences in (8). These associates can agree with each Case realizer at the base generated position. That follows the Case realization condition. Similarly, the analysis of this paper accounts for grammaticality of (11) and (12). Even if there is overt *wh*-movement in a *there* construction, as far as movement of the associate does not take place, both sentences with *be* and unaccusative verb are acceptable. Since the associate does not move from base generated position in V, it is properly Case realized. These explanations show that the proposal of the Case realization condition has validity.

4. On Case realization for the Lexical Subject in the Infinitival Clause

4. 1 Examples

In this section, it is argued that the Case realization condition can also explain other independent examples. Concerning a subject in an infinite clause, there is a difference of its behavior, depending on verbs as shown by the following examples:

(16) a. John believed [Mary to have lied].
b.* They alleged [John to be a pimp].
Embedded subject in (16 a) appears following the verb, but John in (16 b) causes ungrammarticality. It is assumed that occurrence of the embedded subject depends on a type of verb. This difference can be explained from a viewpoint of Case realization. On infinite clause, two types of verb are well known. One is a predicate such as try, which takes CP as its complement. Try-type verb cannot be followed by an overt DP or trace as a subject of an infinite clause. It can be followed by only PRO. Take the sentences in (17) as for example:

(17) a.* John tried [Mary to win the race].
    b.* Who did John try [t to win the race]?
    c. John tried [PRO to win the race]. (Chomsky 1981)

Chomsky (1981) assumes that S (now we call it IP) does not block government but S’ (now CP) does. On this assumption, tried does not govern PRO because of CP lying between tried and PRO in (17 c). That corresponds to the PRO Theorem that PRO must be ungoverned, and the grammaticality in (17 c) is explained. In (17 a), tried does not govern Mary because of CP. Therefore Mary does not receive Case, and it violates the Case filter. As (17 a) is not a grammatical sentence, it is natural to consider that (17 b) cannot derive. The other type of verb is a predicate such as believe, which is expected to take IP as its complement and is well known as an ECM verb. Unlike try-type verbs, Believe-type verbs can be followed by an overt DP and trace. This type of verb allows a lexical subject to occur at the subject position of their infinitival complement clause, whereas it cannot be followed by PRO. That indicates contrary grammaticality to try-type verb. Take the sentences in (18) as examples:

(18) a. John believed [Mary to have lied].
    b. Who did John believe [t to have left]?
    c.* John believed [PRO to have kissed Mary].
Unlike *try*-type verbs, there is no CP within the verb, which blocks Case assignment, so the subject of the infinite clause can be assigned Case by *believe*-type verbs. Since where the subject occurs is Case position, PRO causes ill-formedness as shown in (18 c). PRO is not generally supposed to be allowed to appear at Case position. In addition to these two types of verb, this paper takes up *allege*-type verbs first reported by Postal (1974). According to Postal (1974), verbs such as *wager, posit, admit, estimate*, etc. are included in this type of verbs. This type of verb does not allow a lexical subject to occur at the subject position of their infinitival complement clause, but *wh*-movement salvages the sentence. Compare (19) and (20) with (18):

(19) a.* They alleged [John to be a pimp].
   b. Who did they allege [t to be a pimp]? (Postal 1974)
   c.* John alleged [PRO to have kissed Mary]. (Pesetsky 1991)

(20) a.* John wagered/posited [Mary to have won the race].
   b. Who did Bill wager/posit [t to have won the race]?
   (Postal 1974)
   c.* Bill wagered/posited [PRO to have won the race].
   (Pesetsky 1991)

*Allege*-type verbs show a different property from *try*-type verb or *believe*-type verb, though they seem to be ECM verb in that PRO does not follow the verbs as shown in (19 c). The most interesting point of this type of verb is that they do not allow an overt DP as lexical subject of infinite clause to follow them, but do a trace. *Try*-type verbs show that an interrogative sentence cannot be derived if a DP without Case causes ill-formedness at base generated position. The fact causes confusion as to whether the *allege*-type verb licenses Case or not. I assume, for the present, that *allege*-type verbs take IP as its complement similarly to *believe*-type verbs. Then, I will discuss what makes the difference of property between *allege*-type verb and *believe*-type.
4. 2 Analysis

The proposal of Case realization condition gives account of the behavior of the subject of infinite clause. First, it is supposed that *believe*-type verb and *allege*-type verb can head-move from V to v, and they can occur to either V or v when Spell-out takes place in the same way as *be* does, as argued in Section 3. Then, two ways of Case realization are expected. One is shown in (21). The verb stays in the base generated position of V to agree with DP in IP Spec.

(21) 

```
  vP
     /\  
    /  \ 
   v'  V
     / \ 
    v  VP
       /   
      V   IP
         /   
        believe Mary I' 
          /   
         I 
```

[Agree]

Another is shown in (22). The verb moves to v and gets Spec-head agreement with DP as *wh*-phrase, which has occurred to P Spec through A’-movement from IP Spec.

(22) 

```
  vP
   /\  
  /  \ 
 WHy v'
   / \  
  v  V
     / \ 
    v  VP
       /   
      V   IP
         /   
        believe_i t_i 
          /   
         t_j I' 
          /   
         I 
```

[Spec-head agreement]
Concretely, in (18 a), Mary as the lexical subject of infinite clause is Case-assigned by the verb believe at V and Case-realized at the position with agree. In the case of (18 b), the lexical subject of infinite clause rises up as wh-phrase. It is Case-assigned at IP Spec by the verb in V, but it is not Case-realized at the position yet. If Case is realized at IP Spec, the wh-phrase should be Spelled-Out at the current phase. This means that wh-movement cannot happen any more. The wh-phrase drops in the edge of vP and gets Spec-head agreement with the verb which has moved to v. Thus, wh-phrase is Case-realized properly. Similarly to believe-type verb, the property of allege-type verb can be analyzed by using the Case realization condition. As shown in (19), it is not supposed that the verb has no ability of Case marking entirely. In comparing the data of allege-type verb and the analysis of believe-type verb above, it is expected that allege-type verb can assign Case to its following DP. However it cannot realize Case by using the way to agree with DP at IP Spec. The only way to get Spec-head agreement is admitted as Case realization. It means that there is a gap between the verb allege and the DP at IP Spec. The gap prevents from agreement with Case realization. Unlike try-type verb, CP cannot be the gap in this case. This is because CP should allow PRO to occur. The data shows that PRO cannot appear in the sentence with allege-type verb. Moreover, the gap must not be a phase, and it does not prevent from Case assignment. It only blocks Case realization. Then, it is presumed that the construction of allege-type verb is shown in (23).
Given *allege*-type of verb has a sort of VP shell, which is observed in a double object construction, the problem of Case license is explained. VP can be supposed that it has a complex construction because it varies in theta-role and the argument structure. The position of *John* is a Case-assigned position but not a Case-realized position. The DP has to move to vP Spec in order to be realized. In the case that a DP stays at IP Spec, the DP can receive Case through lower V. This Case assignment system corresponds to the way of Case assignment with the verb having a double object construction. However, the position is too far to be Case-realized. The verb in upper V cannot agree with the DP beyond the gap of the lower VP. That causes an ill-formed sentence like (19 a). On the other hand, if the lexical subject of the infinite clause *wh*-moves to the edge of vP, the verb can get Spec-head agreement with it and Case is realized. Thus, (19 b) is generated. Case realization is a phonological operation. It should be closely connected with phonological request. In the construction in (23), the lower V does not have a phonological element. It may be supposed that the lower V combines with the upper V to appear as one verb. The lower V seems to lack some phonological capacity. I guess that it is the reason why the lower V cannot Case-realize. Hence, the subject DP has to move to the upper VP Spec for a form of
morbology.

The assumption that allege-type verb has a VP shell may at first seem to be a sudden proposal. I show another ground for the idea. The sentence in (24) indicates that assure seems to have a VP shell more apparently than allege. Even Postal (1993) has classified assure into allege-type verb. Assure seems to have one more argument in comparing allege.

(24) a.* I assure you John to be a hard worker.
   b. Who did they assure you t to be a hard worker? (Kayne 1984)

Given you in (24) is at lower VP Spec of the VP shell shown in (23), the ill-formedness of the example in (24 a) and the reason for salvaging in (24 b) can be explained clearly.

(25)

(24 a) shows that the overt lexical subject in infinite clause John causes the ill-formedness. Nevertheless, if the subject wh-moves from IP Spec, the sentence becomes grammatical, as shown in (24 b). This fact exactly corresponds to the behavior of allege. That is, the overt subject in IP
Spec cannot be Case-realized at the position because the DP is too far from the verb though Case is assigned through the lower V. In the case that the subject *wh*-moves, it drops at the edge of *vP*, then Case is realized at the position with Spec-head agreement as argued with the Case realization condition. *You*, the first argument of *assure*, is in the lower VP Spec which remained as a gap in the structure of *allege*. The Case realization condition defines that this position can be Case-realized with agree, therefore *you* can appear overtly without moving.

5. Conclusion

I have proposed a Case realization condition to argue the definition of a Case realization operation in the Case license system, under the Minimalist framework. It has been considered that DP is only checked whether it is at Case position. However, Case expresses phonological information of DP, therefore it must be necessary to check Case not only structurally but also phonologically. I made a distinction between Case assignment and Case realization to make each role clear in the Case license system. Case assignment determines where a DP appears. On the other hand, Case realization determines when or on which phase a DP appears in the sentence. It closely concerns morphology. I proposed that DP should be realized by its Case realizer before Spell-Out. By using the Case realization condition, two separate examples are analyzed: an asymmetry concerning the interrogative of *there* constructions and a unique behavior concerning the subject in an infinite clause. Two independent problems are explained by one proposal, and that supports the validity of the Case realization condition. This proposal implies that a variety of Case may be caused by the way of Case realization. This implication bears some consequences but I leave them to my future work.

Reference