PROPERTIES OF COMP

Young-Jae Yim

This paper is concerned with the nature of COMP in current linguistic theories. It will be demonstrated that there exists a fundamental asymmetry between *that*-clauses and *wh*-clauses on the one hand, and relative clauses and non-relative *wh*-clauses on the other. This asymmetry can hardly allow those types of clauses to come under the same category CP or COMP, suggesting that there must be a categorial difference between them. These considerations lead us to conclude that *that* is a sentence-preposition, while the *wh*-phrase is an element introducing S', and that *wh*-movement in a relative clause is an adjunction of the *wh*-phrase to the *that*-clause, while *wh*-movement in a non-relative *wh*-clause is a movement substituting the *wh*-phrase for the [+WH] feature.

In this paper, I will review the nature of COMP in current linguistic theories and argue that *that*-clauses and relative clauses are PP (or KP), while *wh*-clauses are S' and behave just like NP. This argument is based on the assumption that not only embedded NPs but also embedded clauses must have Case. (See Yim (1984a).) It will be shown that these conclusions follow naturally from the positive demonstration of the asymmetries between clauses headed by *that*-class words and *wh*-clauses.

In the pre-*Barriers* stage, a sentence is classified into two types with respect to COMP: S and $\bar{S}$. A sentence with no COMP is S, and $\bar{S}$ is a type of sentence headed by COMP. Clause-introducing elements like *that*, *wh*-phrases, *for* and so on represent a COMP constituent. In other words, *that*, *for* and *wh*-phrases fall under the same category named COMP. *Wh*-movement is a type of movement adjoining a *wh*-phrase to the base-generated [+WH] feature. But when we take a close look at these elements, we immediately see that *wh*-phrases are fundamentally different from *that*-class words, as we can see in the following discussion.

In the *Barriers* stage, the theory of COMP undergoes a change. $\bar{S}$ is represented as CP, the maximal projection of COMP, as we see in (1):

(1) $\bar{S}$=CP=[...[$_{C'}$ C IP]]

In (1),... is the position of specifier of CP. *Wh*-movement is not an adjunction to COMP as assumed in the pre-*Barriers* stage, but rather is a movement to the position of specifier of CP. On the other hand, *that* or *for* is the head of CP.

This leads to a strange result. In an embedded *wh*-clause, the CP should have no head. This is a very undesirable result in that any projection is the projection of a head. Furthermore, this theory cannot account for asymmetries

between *that*-clauses and *wh*-clauses on the one hand as we see in section 1, and between *wh*-clauses and relative clauses on the other (see section 2).

1. The Asymmetry between Clauses Headed by *That* and Clauses Headed by *Wh*-Phrases

One unexplored mystery for past and present linguistic theories has been a multi-faceted asymmetry between clauses headed by *that* and clauses introduced by *wh*-phrases. Within the framework of current linguistic theories, the mystery of this asymmetry is in the nature of things and will remain an unsolvable mystery. These asymmetries come out when we ask the following questions:

i. Why can *that* not appear in the COMP position in a main clause, while a *wh*-phrase can?

(2) a. *That John bought a book.
b. What did John buy?

ii. Why must *that*-clauses in the subject position and the object position undergo extraposition or topicalization, while *wh*-clauses in the same situation including indirect questions do not? (This unresolved problem is discussed in some detail in Emonds (1976), Chapter IV, pp. 136-137.)

(3) a. That he was alone t was obvious from the report.
b. *How obvious was that he was alone from the report?
c. They believe t that his son will be safe back at home soon.
d. *They mentioned that they were happy to Mary.
e. Is what he says true?
f. Is how John did that obvious?
g. They are talking about when he will arrive to their friends.

iii. Why do prepositions not appear before *that*-clauses, while they can and sometimes must appear before *wh*-clauses?

(4) a. *They talked about that they should leave soon.
b. They talked about what they should do for the next meeting.

iv. Why can a *wh*-clause not appear after an N, while a *that*-clause can?

(5) a. *They talked about the question what they should do for the next meeting.
b. His parents do not discuss the fact that he failed (in) the exam.

If *that* and *wh*-phrases were all COMP as in the pre-*Barriers* stage, or if they introduced the same category CP, it would be safe to say that we could provide no explanation for the above asymmetries between clauses headed by *that* and

clauses introduced by *wh*-phrases.

In an attempt to seek an answer to the mystery of the asymmetry between clauses headed by *that* and clauses headed by *wh*-phrases, I assume that any embedded sentence as well as any embedded NP be assigned Case. This will be named the Extended Case Filter.

Given this assumption and the positive demonstration of the contrast between clauses headed by *that* and *wh*-clauses as shown by the above questions, we may conclude that the position to which a *wh*-phrase moves, whether it is the position of specifier of CP as assumed in the *Barriers* stage or the position of COMP as assumed in the pre-*Barriers* stage, must be different in kind from the position filled by *that*.

Within our framework, an S in which *wh*-movement takes place or an S with the [+WH] feature, will be labeled as S′, and a simple S represents a sentence in which no *wh*-movement takes place. Both S and S′, if they are embedded, must be assigned Case as any NP is assigned Case. In this respect, or, in the sense that they should be assigned Case in one way or another, S and S′ are identical. But they are quite different with respect to the way they are assigned Case and whether they take an overt Case-marker.

An embedded S (a non-*wh*-clause) always takes an overt Case-marker or a sentence-preposition regardless of its position, at least when its subject is lexical. When its subject is an empty category the situation is more complicated. I will not go into this.[1] An embedded S takes an overt Case-marker even when it appears in the subject position or the object position of a higher clause, which is a configurationally Case-marked position in the case of an NP.[2] The result of this difference between NPs and Ss headed by *that* will soon be discussed in some detail. An embedded S (a non-*wh*-clause) takes *that* as its Case-marker if it appears in a subcategorized position. In other words, an embedded non-*wh*-clause takes *that* as its Case-marker if it is situated in a position whose θ-role is assigned not by Case-marker but by V or VP. In short, *that* is a dummy Case-marker with no semantic content.[3]

The idea that *that* is a Case-marker is not new. Emonds (1976) suggests that subordinating conjunctions are prepositions and "conjunction+S" is actually a PP. His idea dates back to Jespersen (1924), in which Jespersen defines a subordinate conjunction as a sentence-preposition. He says that the difference between a preposition and a conjunction lies in the nature of the complement: the complement of a preposition is an NP, while that of a conjunction is a

[1]Readers are referred to Yim (1984a).

[2]The subject positions and the object positions are configurationally Case-assigned positions.

[3]*That* has the same property as nominative Case-marker *ga* and objective Case-marker *lil* in Korean, in that they are dummy markers with no semantic content, playing no role in assigning θ-role to the element they introduce.

clause. Thus, the term "subordinating conjunction" is superfluous: conjunctions fall under the category of prepositions.

On the other hand, an S′ or a *wh*-clause does not have a sentence-preposition or *that* but is Case-marked either configurationally or by an appropriate preposition. It can be configurationally Case-marked, namely, Case-marked either by AGR or by V, when it appears in the subject position or the object position. In other positions, it is Case-marked by a preposition. In short, a *wh*-clause behaves just like an NP. Consider the following sentences:

(6) a. What he says is not clear.
b. I cannot understand what he says.
c. We talked about when we should leave.
d. John's understanding of how this works is faulty.

In (6a) and (6b), the *wh*-clause appears in a configurationally Case assigned position. In other words, in (6a), the *wh*-clause is assigned Case by AGR and in (6b), by V. Therefore, they do not take overt Case-markers or prepositions. This is in sharp contrast to S, which takes a sentence-preposition (*that*), regardless of its position. On the other hand, in (6c) and (6d), the *wh*-clauses are not in configurationally Case-assignable positions, that is, they are neither in the subject position nor in the object position. Hence they take overt Case-markers: *about* in (6c) and *of* in (6d).

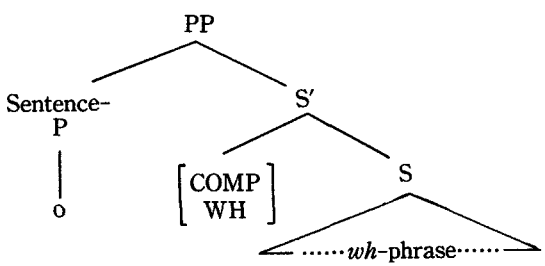
For concreteness, I will show, in the following diagram, how a sentence-preposition (a sentence K-marker) is structurally related to S and S′.

(7a) shows the deep structure of a *wh*-clause. A *wh*-clause (S′) never takes a sentence-preposition or a sentence K-marker, though it may take a non-sentence-preposition (e.g. *about* or *at*). (7b) is the underlying structure of an embedded clause headed by or Case-marked by a sentence-preposition. An embedded S or a non-*wh*-clause never takes a null Case. Thus, the feature [+WH] and the sentence-preposition (e.g. *that*) are mutually exclusive. If the feature [+WH] appears, then no sentence-preposition can appear, and vice versa.

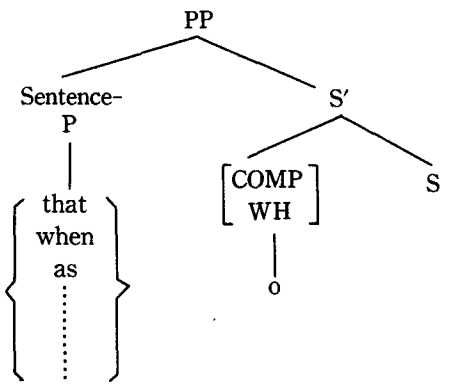
In the foregoing discussion, we demonstrated that the position filled by *that* is different in kind from the position filled by *wh*-phrases, thereby abandoning

(7)

a.



b.



the theory of COMP in current linguistic theories. In our framework, *that* is a sentence-preposition introducing an embedded sentence represented by S, while the [+WH] category introduces S', which in turn must take a Case if it is situated in a containing structure. S' is a sentence in which *wh*-movement has taken place. S takes a sentence-preposition, while an embedded S' is assigned Case either configurationally (by AGR or V) or by a mere preposition, just as is an NP.

We will briefly discuss how a *wh*-clause is derived from its underlying structure. There are generally two approaches used to derive a *wh*-clause from its underlying structure. One approach maintains that the [+WH] node in the initial position of a sentence is substituted for by the *wh*-phrase. The other maintains that the *wh*-phrase is "Chomsky adjoined" to the left of the complementizer. Let us call the former the substitution analysis and the latter the adjunction analysis. Chomsky (1986) adopts the substitution analysis, maintaining that *wh*-movement is not adjunction to COMP, but rather is movement to the position of specifier of CP.

In this paper, I adopt the substitution analysis, but not Chomsky's (1986) analysis. Emonds (1976) states *wh*-movement as an operation substituting a phrase node dominating WH for the sentence-initial COMP node. As for the nature of *wh*-movement, he says that since *wh*-movement is neither a local movement transformation nor a root transformation, it must be a structure-preserving rule. However, *wh*-movement "effects the movement of phrasal constituents NP, AP, and PP" to the sentence-initial position, in which such phrase nodes should not be generable by the base, thus violating the structure-preserving constraint.[4] Emonds continues to say that, despite this apparent violation of the structure-preserving constraint, "there is a characteristic of

[4]Emonds (1976) says that if such phrase nodes were generated by the base in the sentence-initial position, many of the root transformations (e.g. topicalization) could incorrectly be construed as structure-preserving movement (cf. Emonds 1976, V. 6).

WH-fronting that does fit the paradigm of structure-preserving rules nicely : If it is viewed as an OPERATION ON THE SYNTACTIC ELEMENT WH, then it holds that the rule moves WH from one position in the tree to another position where this element is independently generated in the base, the COMP position." (p. 182) I adopt Emonds's statement of the characteristic of *wh*-movement.

Given the assumption that not only embedded NP but also embedded S and S′ must have Case and that *that* is a sentence-preposition, whereas a *wh*-phrase introduces S′, which in turn must take a Case if it is embedded, we are now in a position to come up with answers for those questions we posed at the beginning of the paper. We will consider those questions one by one.

Question i : Why can *that* not appear in the COMP position in a main clause, while a *wh*-clause can?

Given our assumption that *that* is a sentence-preposition, *that* cannot introduce a main clause because a preposition can never introduce a main clause. On the other hand, a *wh*-phrase may introduce a main clause because it is not a preposition but an element introducing S′. [5]

Question ii : Why must *that*-clauses in the subject position and the object position undergo extraposition or topicalization, while *wh*-clauses in the same situation including indirect questions do not?

Emonds (1976) makes an insightful observation that nongerund clauses in the subject position or the object position undergo extraposition and topicalization. His observation on extraposition and topicalizaiton is based on his demonstration that nongerund clauses (clauses headed by *that* and *if* and infinitive clauses) are excluded from the object position if the position is followed by non-null elements within the lowest VP, and they are also excluded from the subject position if the COMP position is filled by some other elements by virtue of *wh*-fronting or topicalization.

The existence of obligatory topicalization and extraposition is demonstrated by the contrast of grammaticality in the following sentences:

(8) a. Bill prefers that we ride bikes.
b. *Bill prefers that we ride bikes to our hitchhiking.
c. Bill prefers riding a bicycle to hitchhiking.
d. That Mary liked old records irritates him.
e. *Why did that Mary liked old records irritate him?

In (8b), the *that*-clause cannot undergo extraposition since *to our hitchhiking* apparently blocks the movement. A nongerund clause in the object position is excluded; therefore (8b) is ungrammatical. On the other hand, the *that*-clause

[5] I assume that a transformation that attaches a certain element to S derives S′.

in (8a) is extraposed because there is no element blocking its extraposition. In (8c), *riding a bicycle* is a gerund clause; therefore no movement takes place and *to hitchhiking* does not constitute a barrier in contrast to the case of (8b). In (8e), the COMP position is filled by *why*. This means that the *that*-clause can not be topicalized without resulting in the ungrammaticality of the sentence. In (8d), the *that*-clause is able to move to the COMP position, since the position is not filled.

I agree with Emonds that nongerund clauses are excluded from the subject position and the object position, and that the extraposition rule and the topicalization rule are empirically motivated, as is shown by the sentences of (8). But there remains the challenge of answering why the phenomena of extraposition and topicalization should happen in particular environments. Why should nongerund clauses undergo movement in certain very limited environments, when NPs and gerund clauses in the same situation do not? Any linguistic theory which pursues the goal of explanatory adequacy must try to provide an answer to this question.

Stowell (1981) makes an attempt to account for the obligatoriness of extraposition and topicalization of tensed clauses which appear in the subject position and the object position. He says that various types of complements of a governing head have distinctive patterns of distribution and that these patterns of distribution are determined for the most part by the interaction of principles of Case theory with the principles that govern θ-role assignment. More specifically, the extraposition and the topicalization of $\bar{S}$ in the subject position and the object position are forced by the interaction of the θ-criterion (9) and the Case resistance principle (10). For a detailed discussion of (9) and (10) see Stowell (1981, Chapter3).

(9) The θ-criterion:
  a. Each θ-role is associated with exactly one argument.
  b. Each argument is associated with exactly one θ-role.

(10) The Case-Resistance Principle (CRP):
  Case may not be assigned to a category bearing a Case-assigning feature.

Consider the following sentences:

(11) a. [That Jenny is a good hostess] is self-evident.
  b. [That Pauline moved to Kansas] surprised me.
  c. [That Brian dyed his hair] proves nothing.

In each of the above sentences, the tensed clause appears in the subject position. The subject positions in sentences (11) are θ-positions. In order to be assigned θ-roles, the subject clauses in (11) should be assigned Case in accordance with the θ-role assignment condition. But the tensed subject clauses can

not be assigned Case without violating the CRP because they do not bear the Case-assignee feature in Stowell's (1981) theory. Therefore, the sentences in (11) should be ill-formed. But in fact they are not.

In order to solve the problem, Stowell suggests that we follow Emonds's (1976) claim that the tensed clauses in (11) are not really subject positions, but are rather in topic position.[6] More specifically, since the tensed clause can not remain in the subject position at S-structure without violating the Case Resistance Principle, it must move to a non-A-position (Ā-position), leaving a trace. Its trace behaves as a variable and is assigned Case and thereby a θ-role. By this "saving device," Stowell says, the tensed clauses in (11) eacape the effects of the Case Resistance Principle and satisfy the θ-role assignment condition. The S-structure of the sentences of (11) will be represented as follows:

(12) a. [That Jenny is a good hostess]$_i$ t_i is self-evident.
b. [That Pauline moved to Kansas]$_i$ t_i surprised me.
c. [That Brian dyed his hair]$_i$ t_i proves nothing.

In the case of (12) we can not see the effect of topicalization because topicalization from the subject position to an adjacent COMP is string-vacuous.

In the preceding discussion, we have seen how Stowell uses the obligatoriness of extraposition and topicalization of tensed clauses which appear in the subject position or the object position in order to account for the θ-role assignment to *that*-clauses which can not be assigned Case. However, Stowell fails to provide an answer to the question of why nongerund clauses in object position and in subject position should undergo movement when NPs and gerund clauses in the same situation do not. In order to provide a natural answer to the question, we will resort to the strategy described earlier in this paper with respect to an asymmetry between *wh*-clauses and clauses headed by *that*. Recall that in our framework, *that* is a sentence Case-marker of S, which represents an embedded sentence in which no *wh*-movement takes place.

Let us consider the following sentences:

(13) a. That the doctor came at all surprised me.
b. I did not think that the doctor would come.

In our framework, *that* in the embedded clauses of (13) is an inherent Case-marker. In other words, the embedded clauses of (13) are inherently Case-marked by *that*. Furthermore, the embedded clause in (13a) appears at the subject position at D-structure and naturally is assigned nominative Case by AGR and the embedded clause in (13b) is governed by the transitive verb *think*,

[6]Counter to Stowell, Emonds (1976) says that tensed clauses are NPs in topic position. An $\bar{S}$ which is not an NP can not be topicalized (See also Higgins 1973).

and is assigned objective Case by the verb.

It then follows that the embedded clauses in (13a) and (13b) are assigned Case twice; by the inherent Case-marker *that*, and by the configurational Case-marker (AGR and V); that is, they are doubly Case-marked and should be ungrammatical, because no NP or S can be doubly Case-marked. But they are grammatical. At this juncture, we should note that (13a) and (13b) should be ungrammatical only if the embedded clauses stay where they are at D-structure. But as the numerous examples which we already examined testify, a *that*-clause cannot stay in the subject position or the object position. Both Emonds (1976) and Stowell (1981) conclude that the embedded clause in (13a) is topicalized and that in (13b) is extraposed.

How does this happen? The answer is as follows: As soon as a *that*-clause appears in a configurationally Case-marked position, the configurational Case to be assigned to the subject position by AGR reacts to the Case assigned by the Case-marker *that*, pushing away the *that*-clause. This friction produced by the clashing between the Case assigned by the Case-marker *that* and the Case assigned by AGR or V triggers the extraposition and topicalization, whose existence Emonds established. In a clause headed by *that*, *that* is a sentence Case-marker. This property of *that*-clauses accounts for their obligatory extraposition and topicalization in subject position and object position, providing, in turn, support for our assumption that *that* is a sentence-preposition.

In the foregoing discussion, we saw how the Case friction produced by the clashing between the Case assigned by the Case-marker *that* and the Case assigned by AGR or V is responsible for the obligatory extraposition and topicalization, whose existence is empirically demonstrated. We will now turn to Question iii.

Question iii: Why do prepositions not appear before *that*-clauses, while they can and sometimes must appear before *wh*-clauses?

The answer to this question is already suggested in the preceding discussion. If *that* is a sentence-preposition, it is natural that no preposition can precede a *that*-clause. On the other hand, we know that a non-relative *wh*-clause is S′, which behaves like NP and must be assigned Case. An embedded non-relative *wh*-clause is assigned Case either configurationally (by AGR or V) or by a P, just as is an NP.

Question iv: Why can a non-relative *wh*-clause not appear after an N, while a *that*-clause can?

The answer to this question is also suggested by our assumption that *that* is a sentence-preposition, while a *wh*-clause is S′, which must have an external Case-assigner. In other words, if preceded by an N, a *wh*-clause, which must have an external Case-assigner, can in no way be assigned Case because a noun is not a Case-assigner. On the other hand, a clause headed by *that* is assigned

Case by *that*, which is a sentence-preposition.

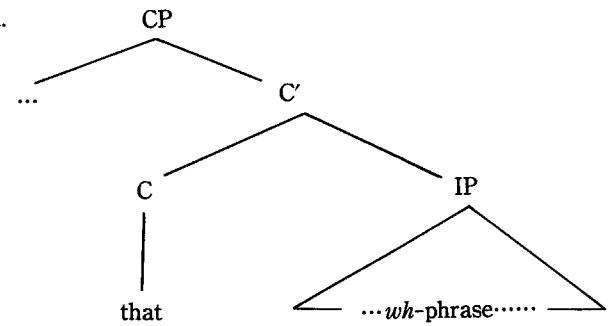
The behavioral asymmetries between a *that*-clause and a *wh*-clause, empirically demonstrated in the preceding discussion, can hardly allow these two types of clauses to fall under the same category CP or COMP.

2. The Asymmetry between Relative Clauses and Non-Relative *Wh*-Clauses

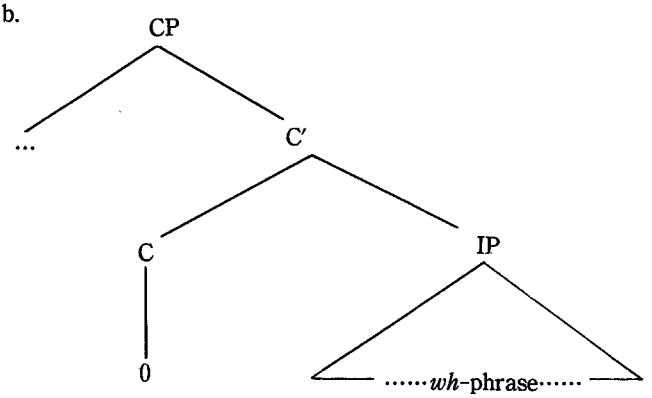
A relative clause is fundamentally different from a non-relative *wh*-clause in that the former is preceded by an N, while the latter can not be. This contrast is an unsolvable mystery in current linguistic theories. In Chomsky's (1986) theory, there is no categorial difference between a relative clause and a non-relative *wh*-clause. They are both CP. In both types of clauses, a *wh*-phrase moves to the position of specifier of CP, differing only in so far as *that* is base-generated in a relative clause, while *that* (head of CP) does not exist in an embedded non-relative clause, as we see in (14).

(14)

a.



b.



(14a) is the underlying structure of a relative clause. In (14a), *wh*-phrase moves to..., the position of specifier of CP, and at PF either *that* or *wh*-phrase undergoes deletion.

However, within Chomsky's framework, we cannot provide a reasonable answer of the fundamental behavioral contrast of the two types of clauses: why can a relative clause be preceded by an N, while a non-relative clause can not, as we see in (15)?

(15) a. *They talked about the question what they should do for the next meeting.
b. This is the question which they talked about for the next meeting.

If the embedded clause in (15a) and that in (15b) are both CP derived by moving the *wh*-phrase to the specifier position of CP, we cannot explain the different grammaticality of (15a) and (15b). Why is (15b) grammatical, while (15a) is not? The ungrammaticality of (15a) is due to the absence of a preposition introducing the embedded *wh*-clause. This strongly suggests that there must be a categorial difference between relative clauses and non-relative *wh*-clauses.

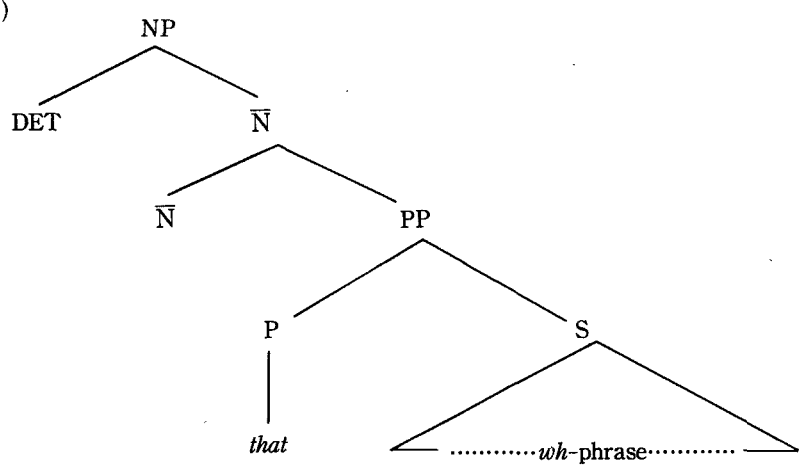
An embedded non-relative *wh*-clause must be assigned Case, indicating that it must be the same kind of clause as S, in that both of them must be assigned Case and that once they are assigned Case, they behave the same way. Thus, as we know, a non-relative *wh*-clause is S'. Then, what is the categorial status of a relative clause? This question is closely related to the question: what is responsible for the asymmetry between a relative clause and a non-relative *wh*-clause? Given our assumption that any embedded clause must have Case, the embedded clause in (15b), unlike (16a), should be a PP or a KP because (15b) is grammatical and any grammatical embedded clause takes a Case assigner. If one assumes that the embedded clause in (15b) is S' like that in (15a), then (15b) should be ungrammatical because it has no Case assigner. As it is, (15b) is grammatical. Thus, we come to the conclusion that a relative clause must be PP or KP. This conclusion enables us to answer the question: why does a relative clause alone not take an external Case-assigner, when all other clauses take one? It is because a relative clause is PP itself.

This conclusion is supported by the fact that in the underlying structure, a relative clause is headed by *that*, which is a sentence-preposition, as we see in (16).

In (16), the *wh*-phrase adjoins to PP, unlike the *wh*-phrase in a non-relative *wh*-clause, in which the [+WH] node in the initial position of a sentence is substituted for by the *wh*-phrase.

Suppose *wh*-movement in a relative clause was like that in a non-relative *wh*-clause, generating S' but not PP, then a relative clause should take Case and could not be preceded by an N, because if preceded by an N the clause

(16)



cannot be assigned Case by any means, when any grammatical *wh*-clause is assigned Case either configurationally (by AGR or V) or by preposition. But, as it is, a relative clause can stand by itself with no external Case-assigner. In other words, a relative clause is fundamentally different from a non-relative *wh*-clause, in that if a relative clause were the same type of clause as a non-relative *wh*-clause, then the relative clause should be assigned Case by an external Case-assigner just like the non-relative *wh*-clause. This asymmetry provides enough justification for us to assume that there exists a categorial difference between a relative clause and a non-relative clause. That is, a relative clause is PP and a non-relative *wh*-clause is S′. Accordingly, *wh*-movement in a relative clause is not substitution moving the *wh*-phrase to the position of specifier of CP, but rather it is movement adjoining the *wh*-phrase to the *that*-clause.

Up to now, we have empirically demonstrated that there exists a fundamental asymmetry between *that*-clauses and *wh*-clauses on the one hand, and relative clauses and non-relative *wh*-clauses on the other. This asymmetry can hardly allow these two types of clauses to fall under the same category CP or COMP, suggesting that there must be a categorial difference between them. These considerations lead us to conclude that *that* is a sentence-preposition, while the *wh*-phrase is an element introducing S′, and that *wh*-movement in a relative clause is adjunction of the *wh*-phrase to the *that*-clause, while *wh*-movement in a non-relative *wh*-clause is movement substituting the *wh*-phrase for the [+WH] feature.

REFERENCES

Baltin, M. (1982) 'A Landing Site Theory of Movement Rules,' *Linguistic Inquiry* 13. 1.

Chomsky, N. (1965) *Aspects of the Theory of Syntax*, MIT Press.

_____ (1981) *Lectures on Government and Binding*, Foris.

_____ (1982) *Some Concepts and Consequences of the Theory of Government and Binding*, MIT Press.

_____ (1986a) *Knowledge of Language*, Praeger.

_____ (1986b) *Barriers*, MIT Press.

Emonds, J. (1972) 'Evidence that Indirect Object Movement is a Structure-preserving Rule,' *Foundations of Language* 8.

_____ (1976) *A Transformational Approach to English Syntax*, Academic Press.

_____ (1979) 'Appositive Relatives Have No Properties,' *Linguistic Inquiry* 10. 2.

Farmer, A. (1980) *On the Interaction of Morphology and Syntax*, MIT doctoral dissertation.

Fillmore, C. (1968), 'The Case for Case,' in E. Bach and R. Harms, eds., *Universals in Linguistic Theory*.

Higgins, F. (1973) 'On J. Emonds's Analysis of Extraposition,' in Kimball, ed., *Syntax and Semantics* Vol. 2, Academic Press.

Jackendoff, R. (1972) *Semantic Interpretation in Generative Grammar*, MIT Press.

Jespersen, O. (1924) *The Philosophy of Grammar*, George Allen and Unwin.

Levin, J. (1983) 'Case-Linking, Predication, and the Distribution of Empty Operators,' presented at NELS XIV.

Reinhart, T. (1981) 'Definite NP Anaphora and C-Command Domains,' *Linguistic Inquiry* 12. 4.

Stowell, T. A. (1981) *Origins of Phrase Structure*, MIT doctoral dissertation.

Williams, E. (1980) 'Predication,' *Linguistic Inquiry* 11. 1.

Yim Y. J. (1984a) *Case-Tropism : The Nature of Phrasal and Clausal Case*, University of Washington doctoral dissertation.

_____ (1984b) 'Case Assignment and Delimiter Insertion in Korean,' *Language and Linguistics,* Hankook University of Foreign Studies, Seoul.

Department of English
Dankook University
8 Hannam-dong, Yongsan-ku
Seoul 140
Korea