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The Extended Projection Principle Effect in the Minimalist Approach

Satoshi OKU

0. Introduction

A sentence reflects the argument structure of the lexical head of the predicate. The verb *kick*, for example, has two θ-roles (Agent, Patient) as its argument structure and if any of them fails to be realized in the actual sentence, the structure is ruled out as in (1b-d):[1]

(1) a. John kicked the wall.
b. *John kicked.
c. *Kicked the wall.
d. *Kicked.

In the framework of Chomsky (1981), this is explained by one of the principles of Universal Grammar (UG), the Projection Principle (henceforth, PP), which requires that the argument structure of a lexical head be projected into every level of syntactic representation: D-structure, S-structure, and LF.[2]

The PP is, however, not a sufficient condition for clausal structures in English. Look at the following paradigm:

(2) a. It is likely that John will win.
b. *Is likely that John will win.

(3) a. It seems that Mary comes.

b. *Seems that Mary comes.

As seen in (2-3), an expletive *it* is required for these sentences to be acceptable, although it is not assigned any θ-role by the predicates *is likely* or *seems* which have only one θ-role (i.e., Proposition), realized as *that*-clauses in these cases. To account for this, Chomsky (1982) adds another requirement to the PP; that is, clauses must have subjects, irrespective of the argument structure of the predicate.[3] The PP along with this second requirement is called the *Extended Projection Principle* (henceforth, EPP). Let us call the second requirement in the EPP "the Subject Condition" for expository purposes.

Although there are some works in the literature which suggest some ways to derive the EPP effect from more fundamental notions of UG, the EPP has been seen as a primitive of UG for years. This paper attempts to derive the Subject Condition of the EPP in terms of the feature checking theory proposed in Chomsky (1992). I shall argue that the relevant feature in this case relates to Tense and it is this feature that characterizes "clauseness."

The paper is divided into four parts: In Section 1, I shall first review some previous arguments on the Subject Condition and then introduce the checking theory of Chomsky (1992) and the way Lasnik (1993) suggests to derive the Subject Condition of the EPP in terms of the Case checking theory of Chomsky's framework. Section 2 shows that there are some constructions in which the Subject Condition cannot be explained in the manner reviewed in Section 1. Especially, I will give an argument that a small clause shows the Subject Condition effect and its category is not AGRP but TP. In Section 3, I shall propose an alternative which covers the Subject Condition effect of the constructions discussed in Section 2. Section 4 concludes the discussion.

1. The Subject Condition

1.1. Previous Remarks

Let us first review some earlier remarks on the Subject Condition of the EPP.

Chomsky (1981) assumes under the PS-rule system that the internal structure of S (i.e., Sentence) is analyzed as (4), which induces the Subject Condition effect, and that there are reasonable principles that determine how the "subject" NP is realized:[4]

(4) S → NP INFL VP (Chomsky 1981: 25)

The name *Extended Projection Principle,* which was first introduced in Chomsky (1982), is a cover term for the PP and the requirement that clauses must have subjects. At this stage, however, the second requirement (i.e., the Subject Condition), as well as the PP, was regarded as a primitive of UG.

Rothstein (1985) tries to derive the EPP effect from more fundamental notions. As for the Subject Condition, she argues that a (non-argument) maximal projection such as VP is regarded as a "syntactic function" that is unsaturated if it is not provided with a subject of which it is predicated.[5] She proposes then the rule of predicate-linking which defines the condition under which an XP may be predicated of a given argument:

(5) *Rule of Predicate-Linking* (for English)

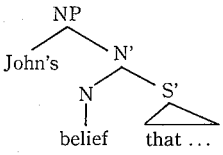
a. Every non-theta marked XP must be linked at S-structure to an argument which it immediately c-commands and which immediately c-commands it.[6]

b. Linking is from right to left (i.e., a subject precedes its predicate).

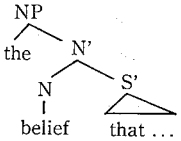
(Rothstein 1985: 11)

This explains why NP does not necessarily have a "subject." *John's* in (6a), for example, is the determiner of the NP, but not the subject of a predicate because there is only an N′ (non-maximal projection) which *John's* c-commands, and which c-commands *John's*. The rule of the predicate-linking does not apply to N′ (nor to S′) in (6a) and thus there can be no subject-predicate relation in this case. The lexical determiner *John's* is, therefore, optional as (6b) shows:

(6) a.

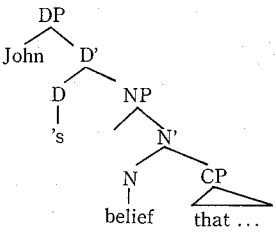


b.



Given Abney's (1987) DP-analysis for "noun phrases," however, the internal structure of "noun phrases" is parallel to that of clauses:

(7) a.



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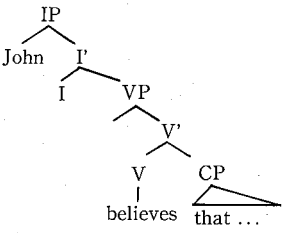


Rothstein's argument for the Subject Condition no longer holds, since *John's* structural relation to NP in (7a) is identical to its structural relation to VP in (7b); if the rule of the predicate-linking applies between *John* and VP in (7b), the same rule must apply between *John* and NP in (7a), because the argument assigned a θ-role is DP, not NP, in (7a) and the rule (5) applies between NP and *John*.

The rule (5) has another (theory-internal) difficulty; the minimalist approach imposes no S-structure condition because it is assumed that only LF and PF are available levels of syntactic representation. Therefore, we need to explain, in some different way, why the VP in (7b) requires a syntactic subject, while the NP in (7a) does not; the original problem of asymmetry between clauses and noun phrases. Note that the clause (or the predicate) in (7b) requires a syntactic subject even if the external θ-role is "absorbed" as in [*It is believed* [*that*...]]/* [*Is believed* [*that*...]].

It then becomes reasonable to assume that this asymmetry between clauses and noun phrases is not due to the configurational difference but to the difference in properties between IP/VP and DP/NP. I will argue more specifically that the Subject Condition is due to some property of the functional head I^0 which another functional head D^0 does not possess.[7] In the minimalist approach, it is suggested that the feature of I^0 which checks Nominative Case of the subject NP induces the Subject Condition of the EPP. Let us pursue this line of argument in the next section.

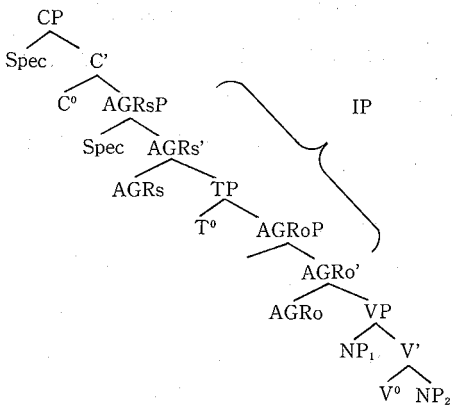
1.2. The Checking Theory and Lasnik (1993)

Let us, in this section, survey the checking theory of Chomsky (1992) by referring to Case checking, and review how the Subject Condition can be explained by Case checking of the subject NP.[8]

Chomsky (1992) assumes the following basic structure for a sentence, which presupposes the split IP hypothesis and the VP-internal

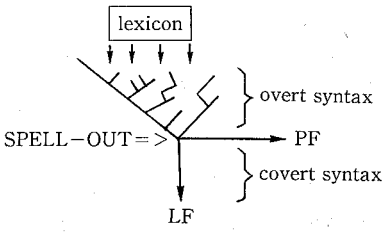
subject hypothesis:

(8)



Suppose that V^0 here has two θ-roles which are assigned to NP_1 and NP_2. In the course of the derivation, NP_1 with NOM(inative) Case rises to the Spec of AGRsP where the Case is checked off by the complex head $[_{AGRs}\ T^0, AGRs]$ which is formed by T^0-raising to AGRs. Tensed T^0 itself has NOM feature, too, and this feature must by discharged by checking NP with NOM Case in the overt syntax.[9] The structures which have undergone the syntactic operations arrive at two interface levels of LF/PF. The overall picture of the syntax is shown in (9):

(9)



The Economy of Representation, a principle of economy, requires that there be no superfluous element at the levels of representation; LF and PF. All the Case features must, therefore, be checked and discharged in the course of derivation. For example, if there is no NP with NOM Case

"near" enough[10] to a tensed T^0, some other NP with NOM Case must be introduced and be checked by the T^0, otherwise the NOM feature of the T^0 cannot be properly discharged. Case features which remain at the interface levels LF/PF cannot be interpreted, because these abstract features have nothing to do with semantic and phonological interpretations. The uninterpretable features at the interface levels cause a violation of the Economy of Representation, and the derivation crashes.

In (10), for example, the embedded clauses are infinitival and their T^0 cannot check the NOM Case of *John* and thus *John* rises to the subject position of the higher clause where tensed T^0 can check off the Case feature in question:

(10) a. John_1 [T^0 seems [t_1 T^0 to be winning]]
b. John_1 [T^0 is expected [t_1 T^0 to win]]

(11) a. It [T^0 seems [that John [T^0 will win]]]
b. It [T^0 is expected [that John [T^0 will win]]]

In (11), on the other hand, the NOM Case of *John* is properly checked by T^0 in the embedded clause and thus it need not (actually, must not[11]) rise to the matrix subject position. For the tensed T^0 in the matrix to discharge its NOM feature, the expletive *it* with NOM Case is introduced and the Case feature of both *it* and T^0 is properly checked off; otherwise, the NOM feature of the matrix T^0 cannot be discharged and will remain at the interface levels LF/PF: a violation of the Economy of Representation.

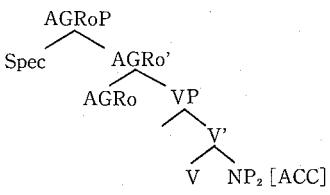
It is crucially assumed that the NOM feature is "strong" in the sense that it is visible at PF if it has not been discharged. Therefore, for the derivation to converge, the NOM feature must be discharged before the operation SPELL-OUT (i.e., in the overt syntax).[12] In the case of (11), then, the expletive *it* with NOM Case must be introduced in the overt syntax. This is the way Lasnik (1993) suggests to derive the Subject

Condition of the EPP from the Case checking theory.

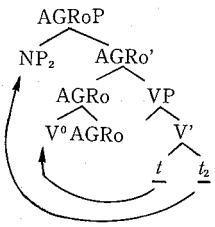
As Lasnik himself notes, however, the situation is not that simple; there are some contructions which require a syntactic subject but whose Subject Condition effect cannot be derived from the NOM Case checking as we have just reviewed. This is the topic of the next section.

Before we proceed, let us look at how the ACC(usative) Case is checked in the minimalist approach. It is assumed that ACC is also checked under the Spec-head relation by the complex head [$_{AGRo}$ V, AGRo]:

(12) a.



b.



It is crucially assumed that the relevant feature of V and ACC Case feature of NP in English are "weak" in the sense that they are invisible at PF and thus they need not be discharged in the overt syntax. The Principle of Procrastinate, another principle of economy, requires that weak features be checked in the covert syntax because covert operations are "cheaper" than overt ones and derivations which use cheaper operations are selected over derivations which use more expensive operations, other things being equal.[13] Therefore, the head movement of V and NP-movement of NP_2 here are covert operations.

2. Non-Nominative "Subject"

Let us observe two constructions whose "subject" does not have NOM Case and thus whose Subject Condition effect cannot be explained

in terms of NOM Case checking by T^0 as we have discussed in Section 1.

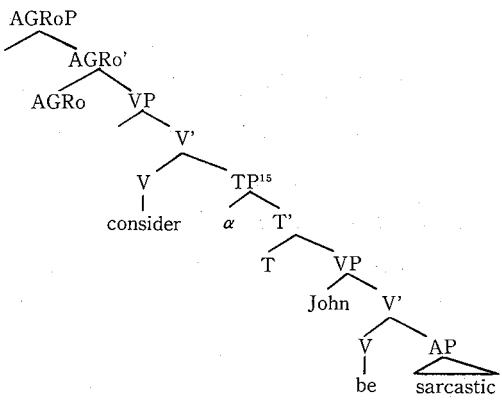
2.1 The ECM Construction

Let us first consider the ECM constructions as in (13):

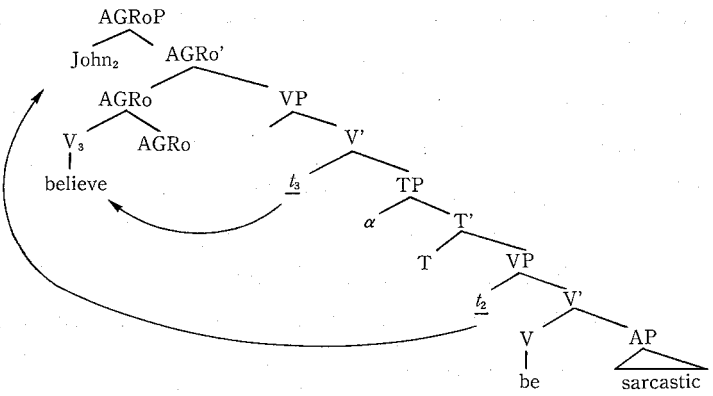
(13) a. I consider [*John* to be sarcastic]
b. They believe [*Mary* to be honest]
c. John thinks [*her* to be intelligent]

In the standard Government-Binding theory, it is assumed that the subject of the embedded infinitival clause of this type is "exceptionally" assigned ACC Case by the matrix verb under the government relation. The minimalist framework, however, assumes that the ACC Case of the embedded subject is checked in the Spec of the matrix AGRoP in the covert syntax just as in the case of the ACC Case checking of the ordinary object of transitive verbs as we see in (12) above.[14] (14a) is the structure before any movement, and (14b) is the LF structure after the relevant covert movements. I put aside the structural position of *to* for the moment:

(14) a.



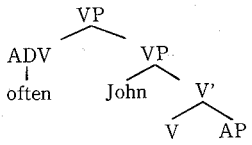
b.



Notice here that Case checking of *John* does not motivate its raising to the Spec of TP (denoted by α), because the Spec of TP is not the position where the Case is checked. It might be argued that the subject of the embedded clause of the ECM actually does not move at all but remains VP-internal in the overt syntax. This seems to hold at a first glance, if we assume that the embedded verbal form is *to*-V from the beginning, just as verbs in the tensed clauses are base-generated in their fully inflected forms such as *likes, kicked* etc.[16] That is, the input structure into PF is (14a) as it stands, which appears to realize the actual surface word order.

There is, however, a piece of evidence which shows that the subject of the infinitival embedded clause of the ECM *does* move out of the VP in the overt syntax. Chomsky (1991) assumes, following Pollock (1989), that adverbs of frequency such as *often, always*, etc. are adjoined to VP, which means in the present context that such adverbs are generated above the embedded subject *John* which is generated within VP as in (15):

(15)



The actual word order shows that the embedded subject of the ECM does not remain within the VP but appears between the matrix verb and the adverb even when the embedded clause is infinitival:

(16) I believe [John to often sound sarcastic]

(Pollock 1989: 382)

(16) shows two things; *to* is not attached to the verb at the time when the operation SPELL-OUT applies, and the subject *John* rises as high as to the Spec of TP (or AGRsP). Putting aside the status of *to*,[17] the question is 'What motivates the overt movement of the embedded subject *John*?' Recall that we cannot appeal to Case checking of *John* in this instance because the Case of *John* is not checked in the Spec of TP but in the Spec of AGRoP of the matrix clause, and further this is an instance of ACC Case checking which occurs in the covert syntax, as we have already seen.

Chomsky and Lasnik (1991) suggest that the Spec of IP is obligatory, "perhaps as a morphological property of I or by virtue of the predicational character of VP" (p. 30). We will see in the next section, however, that the Subject Condition cannot be attributed to the character of VP, since predicational AP and PP also show the Subject Condition effect.

In the minimalist terms, Lasnik (1993) notes that infinitival T^0 [−tense] has "strong NP-feature," other than the NOM Case feature, which induces the Subject Condition, but that the precise nature of this "NP-feature" is unclear if it is not the feature which checks NOM Case.

2.2 Small Clauses

Let us turn to small clauses which also obey the Subject Condition, but whose subject is not assigned NOM Case.

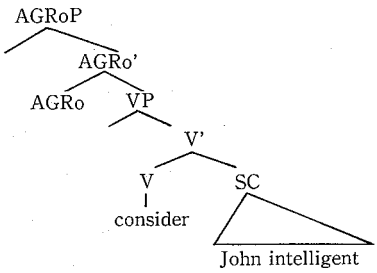
Consider (17) first:

(17) a. I consider [John intelligent]

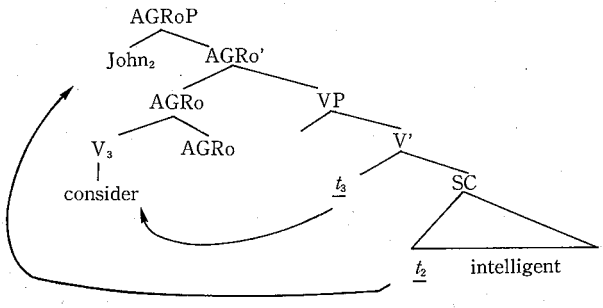
b. He found [the house vacant]
c. They heard [him crying]
d. I expect [her off my ship]
e. I consider [it likely that some students will cheat]

The bracketed parts are called small clauses which function as propositional complements of the matrix verb. As seen from the morphology of the pronouns in (17c-d), the semantic subject of a small clause receives ACC Case. Putting aside the internal structure of a small clause for the moment, the null hypothesis is that the ACC Case of the subject of a small clause is checked under the same configuration as that of the embedded subject of the ECM above; that is, its ACC Case is checked by the complex head $[_{AGRo}$ V, AGRo] in the Spec of AGRoP and this is a covert operation.

(18) a.



b.



Notice also that non-thematic subjects such as the expletive *it* can appear

as the subject of a small clause as seen in (17e), which means that the Subject Condition for a small clause does not derive from some semantic requirement but from some syntactic consideration.[18]

As for the constituency of small clauses, there have been two theoretical trends among works on small clauses. One is to assume that a small clause does not form a constituent, and the other is to assume that a small clause *is* a constituent.[19] Here I assume the latter without argument.

Stowell assumes that the syntactic category of a small clause reflects the category of the predicate head of the small clause. For example, it is AP in (17a-b) and (17e) because the predicate head is an adjective (*intelligent, vacant, likely*), and it is PP in (17d) because the predicate head is a preposition (*off*) and so on. More recently, Pollock (1989) has offered an elaborate clause structure and it is argued that a small clause is the projection of some functional category; TP or AGRP.

There are various discussions on this matter.[20] Some languages, for example, show morphological agreement between the subject and the predicate in a small clause, which suggests in the minimalist approach that a small clause includes at least an AGR projection as in (19b):

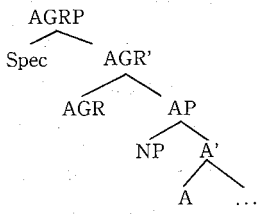
(19) a. *French*

Je veux rendre [la via plus heureuse/*heureux]

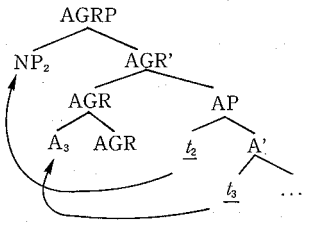
I want make [the life more happy [+fem]/happy [−fem]]

'I want to make the life happier'

b.



c.



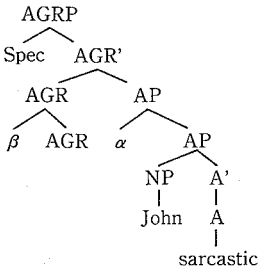
This is what Chomsky (1992) assumes for copula *be* constructions as well as for small clauses. The agreement between the subject NP and the head A in (19b) is mediated by AGR; that is, the agreement is licensed by means of ϕ-feature checking which is carried out under the Spec-head relation in AGRP as seen in (19c).[21] It is not evident in this instance whether this feature checking operation is overt or covert; that is, whether the relavent feature here is strong or weak; but this does not matter in this instance because this checking operation does not affect the surface order of the NP and the head A.

Here again, however, adverbs of frequency can intervene between the subject and the predicate in a small clause:

(20) a. I consider [John often sarcastic]
b. I consider [it always likely that a few students will cheat]
c. I heard [Mary sometimes crying in bed]

The natural extension of the assumption that adverbs of frequency are adjoined to VP as seen in the previous section is that they are adjoined to AP or maximal projections of other lexical heads which is the complement of AGR in a small clause. A possible site for the adverb is, therefore, the adjoined position denoted as α in (21):

(21)

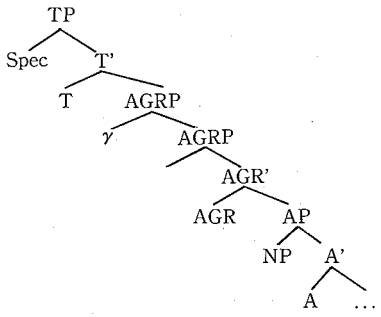


To derive the actual surface word order in the present framework, it must be the case that *John* overtly rises to the Spec of AGRP and the predicate *sarcastic* remains in-situ. More precisely, the relevant NP-feature which motivates the NP-raising is strong and the relevant V-feature which motivates the head movement of A is weak. The feature we assume to be involved here is ϕ-feature whose NP-feature is checked in the Spec of AGRP and whose V-feature is checked in the position denoted by β in (21).[22]

However, Branigan and Collins (1993) argue, following Chomsky (1992), that the NP-feature of an NP is checked off in the Spec of AGRP only if the relevant head is adjoined to the AGR, since AGR performs only a mediating function. In (21), therefore, if the NP-feature of AGR is strong and thus must check the NP *John* in its Spec in the overt syntax, the lexical head A *sarcastic* must also be adjoined to AGR in the overt syntax, regardless of whether the V-feature of the AGR is strong or weak. It is, therefore, impossible, in principle, to derive the actual surface word order as in (20) if we continue to assume that these adverbs are generated in the adjoined position α in (21).

Alternatively, the adverbs may be adjoined to AGRP as indicated by γ in (22), but we still cannot obtain the relevant surface order if we cling to the assumption that a small clause is AGRP:

(22)



The only way to overcome this difficulty is, I suggest, to assume that a small clause is as large as TP and the subject of a small clause appears in the Spec of TP where some NP-feature of the subject NP is checked by T^0 overtly. This will induce the Subject Condition effect.

Although arguments to refute many claims that a small clause is AGRP are now in order, I am not going to argue it here, only remarking that there are some works which claim that a small clause is not AGRP but is as large as IP or TP.[23]

In this section, I have shown that the Subject Condition of a small clause cannot be derived in terms of ϕ-feature checking by AGR which allegedly heads the category of the small clause. I depend crucially on the assumption that adverbs of frequency can be adjoined to AGRP as well as to the maximal projections of a lexical head such as VP, AP and PP.[24]

The only possibility left us to derive the Subject Conditon from the feature checking theory is to assume that a samll clause is TP, just as the complement of the ECM construction, and that some strong NP-feature of T^0, irrespective of its tense feature [±tense], checks the subject NP in its Spec in the overt syntax.

The next and most serious question to consider is what this "strong NP-feature of T^0" is when it is not NOM Case feature.

3. The Property of T^0 and D^0

So far we have seen that "non-tensed" clauses which have a non-NOM subject such as the complements of the ECM and small clauses show the Subject Condition effect as well as tensed clauses which *do* have a NOM subject. We have also discussed that the complements of the ECM and small clauses are TP's and that their non-NOM subjects appear in the Spec of TP:

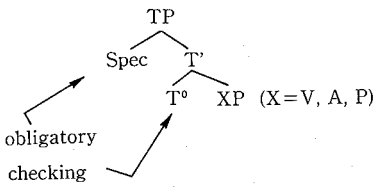
(23) a. John believes [it is likely that ...]
b. John believes [it to be likely that ...]
c. John believes [it likely that ...]

All sub-clauses denoted by the brackets require a syntactic subject even when it carries no semantic content as in (23). This sharply contrasts with the case when a DP appears as the complement because the DP does not show the subject Condition effect:

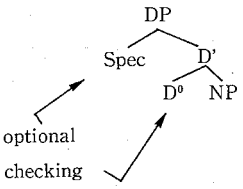
(24) a. I saw [the enemy's destruction of the city]
b. I saw [the destruction of the city]

The semantic subject of the head N *destruction* is syntactically optional as in (24b). In terms of the feature checking theory of the minimalist approach, the above contrast between TP and DP means that the functional head T^0 has some "strong NP-feature" which must be discharged in the overt syntax by performing feature checking with the NP in its Spec (or the Spec of AGRsP to which T^0 is adjoined), whereas the functional head D^0 need not have such a "strong NP-feature" to be discharged:[25]

(25) a.



b.



It is now plausible to assume that the NP-feature which D^0 checks is related to GEN(itive) Case, because only GEN marked NP's are allowed in the Spec of DP:[26]

(26) a. John's belief
b. his belief
c. *him belief
d. *he belief

In any case, this GEN Case checking is optional in that not every D^0 requires GEN marked NP in its Spec as in (24b). The optionality is one of the most serious problems with the minimalist theory;[27] here I tentatively assume that there are two types of D^0, one of which has NP-feature which checks an NP with GEN Case and the other of which has no such NP-feature and thus requires no syntacitic subject in its Spec.

Turning to T^0, on the other hand, it always requires its Spec to be filled with NP whether it is tensed or not, which means that T^0 always carries strong NP-feature which D^0 does not necessarily have.

Let us then observe more closely the difference between TP and DP as a complement of the same matrix verbs:

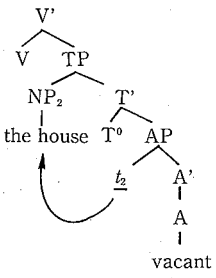
(27) a. Mary saw [the enemy destroy the city]
b. Mary saw [the enemy's destruction of the city]

(28) a. John found [the house to be vacant]
b. John found [the house vacant]
c. John found [the vacant house]

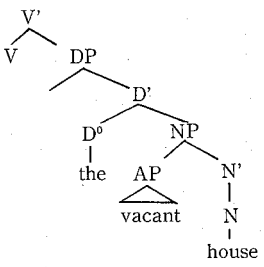
Notice that in (27a) the time when Mary saw the event of the destruction must be simultaneous with the time when the enemy destroyed the city, while in (27b) Mary may have seen the ruins of the city long after the event of the destruction.

Notice further that the vacancy of the house in (28a-b) is temporally dependent on the time when John found it; the house happened to be vacant when John found it. In (28c), on the other hand, there is a strong implication that the vacancy of the house is quite independent of the time when John found it. The house is classified as a vacant one, regardless of when John found it; the vacancy is attributed to the house no matter when the event of John's finding it occured.[28] I assume here that this difference is due to the properties of the functional heads T^0 and D^0. Compare the structures in (29):

(29) a.



b.



Notice that in neither case can the adjective *vacant* be related to the matrix verb directly,[29] but in (29a) it can be argued that T^0 mediates the head-head relation between the head A and the matrix V, perhaps by successive head-movements, which is not a novel assumption.

In (29b), on the other hand, adjective *vacant* is in no way related to the matrix V. The adjective escapes from the influence of the matrix V because of its structural position. Here I assume that the attributive adjective appears in the Spec of NP, though the same argument holds if we assume the adjective is adjoined to NP.

Intuitively, the head T^0 carries some kind of tense property even when it does not have the independent tense inflection as with the ECM or small clauses. The head D^0, on the other hand, has no such property. That is, the adjective *vacant* is temporally dependent on the matrix verb when it is used as a predication, because we assume that the predication includes T^0 as a head which is related to tense interpretation. The same adjective *vacant*, on the other hand, is temporally independent of the matrix verb when it is used as an attribute of the head N where there is no functional head which can be related to tense interpretation.

Enç (1987) proposes the Anchoring Principle which states that each tense must be anchored. Modifying his idea slightly, I propose that T^0 [−tense] in a complement clause must be anchored by the verb of the matrix clause. This explains the temporal dependency of "tenseless" clauses such as the complement of the ECM and a small clause as we have observed in (27a) and (28a-b).[30]

This time-dependency between the matrix clause and the subordinate clause, however, would not be very clear when the matrix verb expresses mental activities and the subordinate clause expresses a state, but not an event, as in (30):

(30) a. John believes [the man to be intelligent]

b. John believes [the man intelligent]

I suggest that even in this and similar cases, it might be argued that T^0 [−tense] must be anchored by the matrix, partly because the subordinate clauses cannot stand by themselves as we see in dependent clauses

without the matrix verb as in (31), and partly because the man's intelligence is dependent on John's belief; that is, the man is assumed to be intelligent only in John's mental world. This sharply contrasts with (32) where the man's intelligence is completely independent of John's belief; the man is classified as an intelligent one, regardless of whether John believes it or not:

(31) a. *[the man to be intelligent]
b. *[the man intelligent]
Cf. The man is intelligent

(32) John believes [the intelligent man]

The complement DP, on the other hand, has no functional head which carries (or is anchored by) the tense of the matrix clause and thus it is temporally independent of the matrix clause. It can be argued that this reflects the intuition that clauses express some kind of "time-stream," while what the noun phrases express is quite independent of the time property.[31]

I would now like to propose that this tense feature of T^0 is responsible for the Subject Condition. That is, the tense feature of T^0, call it $[\tau]$(tau) here, is a strong NP-feature which must be discharged in the overt syntax by checking NP in its Spec.

It is not peculiar to assume that every T^0 has $[\tau]$ feature which has something to do with tense property, but the real problem is that we must then assume that the element which fills the Spec of TP (it is an NP in most cases) also has the $[\tau]$ feature to be checked off, while other NP's with ACC Case or GEN Case do not have such a feature. I have no persuasive account to give for this at the moment. It might be argued, however, that elements which appear as a "subject" have some other feature than NOM Case in common with other non-NP elements which appear in the "subject" position such as prepositional phrases in the

locative inversion, or the sentence initial elements of many categories in the V2 languages.

4. Concluding Remarks

In this paper, I have shown that "tenseless" clauses such as the complement of the ECM and small clauses require a syntactic subject, even when the "subject" carries no semantic content; the Subject Condition effect:

(32) a. John considers [it is likely that ...]
b. John considers [it to be likely that ...]
c. John considers [it likely that ...]

After discussing that small clauses are TP as well as the infinitival complements of the ECM and tensed clauses, I argued, following Lasnik (1993), that it is necessary to assume some "strong" NP-feature of T^0, to derive the Subject Condition effect in terms of the feature checking theory of Chomsky (1992).

In the last section, I noted the difference between DP/D^0 and TP/T^0, and then I proposed that the relevant NP-feature of T^0 is related to tense which is unique to T^0, regardless of whether it is [+tense] or [−tense]. This explains why the clauses of the type we have considered show the Subject Condition effect, while DP does not necessarily do so. Although many problems remain to be solved, it seems to be the case that this feature of T^0 is one which characterizes the clauseness, in contrast to the tenseless nature of noun phrases.

Footnotes

*This is a revised version of a paper read at the 38th annual meeting of the English Literary Society of Japan, Hokkaido Branch, held

on October 2nd at Hokkaido University of Education, Hakodate. I thank the audience there who made some helpful comments and asked some useful questions. Special thanks go to Yamada Yoshihiro for his invaluable comments on the earlier draft of this paper, and to Willie Jones who acted as a very insightful informant. Any inadequacies are my own.

[1]There are also cases in which θ-roles are assigned to phonologically null elements such as PRO and traces in English, which I will not deal with in this paper:

(i) a. John tried [*PRO* to win].
b. what did you buy *t* ?

[2]See Chomsky (1981: 38)

[3]See Chomsky (1982: 10)

[4]Chomsky argues that if INFL is [+Tense], the NP is an overt one with NOM Case and if INFL is [−Tense], the NP is PRO, but this is an oversimplification as we will see below.

[5]Rothstein further argues that a lexical head is regarded as a "lexical function" that must be saturated, and that this induces the PP effect. Therefore, the EPP is a particular way of expressing the general principle that all functions must be saturated.
Cf. Chomsky (1986a: 116)

[6]Rothstein defines the C-command relation as follows:

(i) α c-commands β if and only if every maximal projection dominating α also dominates β. (Rothstein 1985: 15)

[7]In the following discussion, I adopt the split IP hypothesis, and thus the relevant category here is actually TP. See the discussion in the next section.

[8]I will use the categories "NP" and "DP" interchengeably when it causes no confusion. I will note when necessary.

[9]These syntactic operations are severely restricted by a principle of

economy; Economy of Derivation. See Chomsky (1992).

[10]For the formal definition of the checking domain, see Chomsky (1992). Suffice it to say here that the Spec of a head is in the checking domain of the head.

[11]See the principle of Greed; Chomsky (1992: 47)

[12]For details of the derivation mechanism and strong/weak features, see Chomsky (1992), Lasnik (1993), and papers in Bobaljik and Phillips (1993) among others.

[13]Note that the checking of weak features may be carried out in the overt syntax when there is no other way to obtain the convergent derivation. See the discussion of ϕ-feature checking in Section 2.2. and Branigan and Collins (1993).

[14]There is a piece of evidence which supports this covert movement of the NP with ACC Case. See Branigan (1992).

[15]Here I assume without argument that the infinitival clause is TP.

[16]The minimalist program assumes that all verbs appear in their fully inflected forms from the beginning and move to the relevant functional heads to check their agreement feature or tense feature. Cf. the discussion of verbal morphology and verb movement to I^0 in Chomsky (1991) and Pollock (1989).

[17]It may be assumed that *to* is generated VP-internally as a head V and then moves overtly to T^0, just as in the case of overt light verb movements, such as *be*, perfective *have* and modals in English. See the references in note 16.

[18]There is another non-thematic element in English; the expletive *there*, but it does not freely appear as the syntactic subject of a small clause, for which I have no specific account now:

(i) a. *We consider [there a man in the room]

Chomsky (1986a: 92)

b. We consider [there to be a man in the room]

[19]Among the former are Williams (1980, 1983, 1994), Napoli (1989), and among the latter are Stowell (1981, 1983) and papers in Nakajima and Tonoike (eds.) (1991).

[20]See papers in Nakajima and Tonoike (eds.) (1991) and references cited.

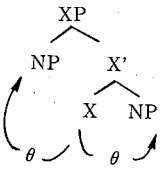
[21]ϕ-feature is a collection of features such as person, gender, number.

[22]The function of the ϕ-feature of AGR is dual in the sense that it consists of NP-feature and V-feature; the former checks ϕ-feature of the NP in its Spec and the latter checks ϕ-feature of a head such as V, A, T etc. in the head-adjoined position. See Chomsky (1992: 42).

[23]Such as Hayashi (1991).

[24]Ohono Kimihiro (personal communication) suggests that adverbs of freguency in a small clause may be generated AP (or VP, PP) internally. If it is the case, the text discussion does not hold as it stands. However, with respect to the θ-assignment by a lexical head (A, V, P), his assumption runs counter to the spirit of the VP-internal subject hypothesis which assumes that the θ-assignment is carried out in the strictly local relation in terms of X-bar theory as in (i); no extra element should appear between the θ-assigner head and the arguments which receive the θ-roles:

(i)



[25]In (25a), I used a simplified tree that omitted AGR projections, which does not affect the present discussion.

[26]Miyagawa (1993) argues that GEN Case checking by D^0 in the Japanese relative clauses is an LF operation.

(i) a. [kinoo Hanako-*ga* katta] hon
yesterday Hanako-NOM bought book

b. [kinoo Hanako-*no* katta] hon
-GEN
'the book that Hanako bought yesterday'

(Miyagawa 1993: 223)

[27]There are various kinds of "optional" operations in syntax. If every movement satisfies the general requirement of Last Resort, there must be some syntactic reason for it. In terms of the feature checking theory which assumes that syntactic movements are feature-driven, this means that there must be various kinds of "strong feature" which motivate each overt movement, including topicalization, left-dislocation (if it is derived by movement at all), locative inversion and so on, but the precise nature of these strong features remains quite unclear.

[28]Borkin (1973) argues that there is a significant difference in the meaning between (28a) and (28b) as well, but this does not affect the discussion here.

[29]Under Stowell's assumption that a small clause is the projection of the predicate head, the predicate head *vacant*, for example, can be related to the matrix verb directly by means of a head movement, or by the classic subcategorization. We cannot adopt his structure, because we have assumed that a small clause is TP.

[30]As for the tense anchoring of tensed subordinate clauses, see Enç (1987)

[31]Jespersen (1933) argues that a nexus, a TP in our sense, is like a drama or a process, while a junction, a DP in our sense, is like a picture (p. 95).

REFERENCES

Abney, Steven (1987) "The English Noun Phrase in its Sentential Aspect," Ph.D Dissertation MIT.

Bobaljik, Jonathan and Colin Phillips (eds.) (1993) *Papers on Case and Agreement: I, The MIT Working Papers in Linguistics* Vol. 18.

Borkin, Ann. (1973) "To Be and Not To Be," *CLS* 9: 44-56.

Branigan, Phil. (1992) "Subjects and Complementizers," Ph.D Dissertation MIT.

Branigan, Phil and Chris Collins. (1993) "Verb Movement and the Quotative Construction in English" in Bobaljik and Phillips (eds,) (1993): 1-13.

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

Chomsky, Noam. (1982) *Some Concepts and Consequences of the Theory of Government and Binding*. MIT Press, Cambridge, MA.

Chomsky, Noam. (1986a) *Knowledge of Language: Its Nature, Origin and Use*. Praeger, New York.

Chomsky, Noam. (1986b) *Barriers*. MIT Press, Cambridge, MA

Chomsky, Noam. (1991) "Some Notes on Economy of Derivation and Representation," in Freiden, Robert (ed.) *Principles and Parameters in Comparative Grammar*, MIT Press, Cambridge, MA.

Chomsky Noam. (1992) "A Minimalist Program for Linguistic Theory." *MIT Occasional Papers in Linguistics*, 1.

Chomsky, Noam and Howard Lasnik. (1991) "Principles and Parameters Theory," ms.

Enç, Mürvet. (1987) "Anchoring Conditions for Tense," *Linguistic Inguiry* 18: 633-657.

Fukui, Naoki and Margarett Speas. (1986) "Specifiers and Projection," *MIT Working Papers in Linguistics*. 8: 128-172.

Hayashi, Ryujiro (1991) "On the constituency of Small Clauses," in

Nakajima and Tonoike (eds.): 11-25.

Jespersen, Otto. (1933) *Essentials of English Grammar,* George Allen & Unwin, London.

Koopman, Hilda and Dominique Sportiche. (1988) "Subjects" ms.

Lasnik, Howard. (1993) "The Minimalist Theory of Syntax: Motivations and Prospects" ms.

Miyagawa, Shigeru. (1993) "Case, Agreement, and *Ga/No* Conversion," in Choi, Soonja (ed.) *Japanese/Korean Linguistics* Vol 3: 221-235. Center for the Study of Language and Information, Stanford University.

Nakajima, Heizo and Shigeo Tonoike (eds.) (1991) *Topics in Small Clauses: Proceedings of Tokyo Small Clauses Festival.* Kuroshio Publishers, Tokyo.

Napoli, Donna Jo (1989) *Predication Theory: A Case Study for Indexing Theory*.Cambridge University Press, Cambridge.

Pollock, Jean-Yves. (1989) "Verb Movement, Universal Grammar, and the Structure of IP," *Linguistic Inquiry* 20: 365-424.

Rizzi, Luigi. (1990) *Relativized Minimality.* MIT Press, Cambridge, MA.

Rothstein, Susan. (1985) "The Syntactic Forms of Predication," Reproduced by the Indiana University Linguistics Club, Bloomington, IN.

Stowell, Tim, (1981) "Origin of Phrase Structure," Ph.D. Dissertation. MIT.

Stowell, Tim, (1983) "Subject across Categories," *The Linguistic Review* 2; 285-312.

Williams, Edwin. (1980) "Predication," *Linguistic Inquiry* 11: 203-238.

Williams, Edwin. (1983) "Against Small Clause," *Linguistic Inquiry* 14: 287-308.

Williams, Edwin. (1994) *Thematic Structure in Syntax*, MIT Press, Cambridge, MA.