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An Analysis of TOPICALIZATION

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1. Introduction

Though Chomsky (1977) and Lasnik and Saito (1992), among others, have discussed topicalization, a firm analysis for it has not been established yet. In this paper, I examine Directional/Locative Inversion, Negated Constituent Preposing, Topicalization and VP Preposing and assume that these constructions fall into one grammatical phenomenon hereinafter called TOPICALIZATION. In section 2, some problems with adjunction and substitution analyses will be examined. After considering theoretical assumptions in section 3, I submit alternative analyses in section 4 and 5. Through the argumentation, I examine the ill-formedness of the sentences in which two constituents are topicalized, and why "double TOPICALIZATION" induces severe ungrammaticality. Finally, I conclude that TOPICALIZATION adjoins a phrase to a functional category.

2. Problems in adjunction and substitution analyses

There are scholars who regard TOPICALIZATION as a movement to [Spec, CP]. These include, among others, Authier (1992), Greenberg (1984) and Kuwabara (1991). At first sight, this analysis appears to be adequate since TOPICALIZATION and Subject-Aux Inversion (hereafter, SAI) co-occur.¹ As an example, let us consider Authier's analysis:

(1) (Authier 1992: 331)²

John swore [_{CP} that [_{CP} [_{Spec} under no circumstances] [_C would] he accept their offer]]

The resulting structure accords with the assumption that an auxiliary moves into C in SAI. The advantage of this analysis lies in the fact that SAI is explicable. However, notice that what really triggers SAI is the negative phrase, which is an affective operator. The problem is that when a non-affective operator appears, it is difficult to see how a grammar can prevent a complementizer from

appearing in C, as in (2):

- (2) a. President Clinton said that Hillary put his diary on the mahogany desk.
b. *President Clinton said [_{CP1} [_C that] [_{CP2} his diary [_C that] [_{CP3} on the mahogany desk [_C that] [_{IP} Hillary put]]]]

If a grammar permits CP iteration, complementizers can fill the heads of CPs as above.³ The ill-formedness of (2b) sheds doubt on the substitution analysis for TOPICALIZATION.

Departing from the substitution analysis, I take TOPICALIZATION to be an adjunction to IP, following Baltin (1982), Lasnik and Saito (1992) (henceforth, L&S) and Rochemont and Culicover (1990). It is completely deducible from the IP adjunction analysis that a TOPIC follows a complementizer. That is to say, in a structure, [_{CP} [_C that] [_{IP} TOPIC [_{IP} ...]]], the order between a TOPIC and a complementizer is maintained. Indeed the puzzling word order is resolved by the adjunction analysis. Nevertheless, SAI is inexplicable since an auxiliary must move into C in SAI. That is, an auxiliary does not have a position to land at. To solve this problem, while keeping to the idea that TOPICALIZATION is a movement to an IP adjoined position, I adopt the VP Internal Subject Hypothesis (ISH) which circumvents the difficulty in the IP adjunction analysis. Although many scholars advocate their own ISH (cf. Fukui and Speas (1986), Koopman and Sportiche (1991) and Kuroda (1988)), I adopt the following ISH through this paper:

- (3) [_{IP} [_{Spec} e] [_I I] [_{VP} [_{Spec} SUBJ] [_{V'} V ...]]]

3. Theoretical assumptions

In this paper I adopt L&S's barrier model and Subadjacency:

- (4) (L&S 1992: 87)

α is a barrier for β if

- a. γ is a maximal projection,
- b. γ is not L-marked, and
- c. γ dominates β .

- (5) (L&S 1992: 87)

β is subjacent to α if for every γ , γ a barrier for β , if maximal projection immediately dominating γ dominates α .

According to the definitions given in (4) and (5), in a figure $X...[A...[B...Y...]]$, in which A and B are XPs, when B is a barrier for Y, Y is not subjacent to X. For X is **not** within a maximal projection (=A) which immediately dominates a barrier, B. L&S's model of barrierhood, departing from Chomsky's (1986), is based on the assumption that (i) there is no VP adjunction, (ii) that IP is not a defective category any more, and (iii) that the term 'BC' may be eliminated from the definition of barrier.

4. An alternative analysis (I)

With this much as background, consider the following sentences:

- (6) a. Mr. Clinton swore that under no circumstances would he take the G.O.P's bribery.
 b. Hillary said that never in her life had she paid attention to Bill's welfare program.

It is important to note that the subject can be in [Spec, VP], as in (7):

- (7) a. Mr. Clinton swore [_{CP} that [_{IP₂} [_{PP} under no circumstances]_i [_{IP₁} e [_I would]]_{VP} he take the G.O.P's bribery t_i]]]]
 b. Hillary said [_{CP} that [_{IP₂} [_{PP} never in her life]_i [_{IP₁} e [_I had]]_{VP} she paid attention to Bill's welfare program]]]]]

(7a, b) do not violate Subjacency since PPs are inside the maximal projections, IP₂, which immediately dominate barriers, IP₁. What remains to be accounted for is how the subject is assigned a nominative Case and agrees with INFL,⁴ which will be discussed later. Let us now proceed to consider the following sentences involving the double TOPICALIZATION:

- (8) a. Bill swore that under no circumstances would he walk into the Oval Office.
 b. *Bill swore that under no circumstances, into the Oval Office would he walk.
 c. *Bill swore that into the Oval Office, under no circumstances would he walk.

Following L&S, double TOPICALIZATION causes a Subjacency violation since the first PPs in (8b, c) are outside the maximal projections which immediately dominate barriers. It is important to note that (8b, c) are totally ungrammatical in spite of the fact that a Subjacency violation does not cause total ungrammaticality. To see this, compare the following paired examples:

(9) (Haegeman 1994: 582)

- a. ?_{[CP which man_j do you know [CP what_i [IP John will give t_i to t_j]]]}
- b. *_{[CP who_i do you wonder [CP which present_j [IP t_i will give t_j]]]}

Example (9a) violates Subjacency, whereas (9b) violates the Empty Category Principle (ECP) since the subject trace is not properly governed. It is the well-known fact that ECP violation causes more severe ungrammaticality than Subjacency violation. Here, I treat the ungrammaticality of double TOPICALIZATION in a different way. The comparison of (9a) with (8b, c) indicates that the latter examples violate not only Subjacency but also another principle. In what follows, I argue that double TOPICALIZATION violates the ECP as well as Subjacency.

Now we must consider the ECP as well as Subjacency. In this paper I adopt Rizzi's conjunctive ECP and relativized minimality:⁵

(10) (Rizzi 1990: 32)

ECP: A nonpronominal empty category must be

- (i) properly head-governed (Formal Licensing)
- (ii) antecedent-governed or θ -governed (Identification)

(11) (Rizzi 1990: 7)

Relativized Minimality: X α -governs Y only if there is no Z such that

- (i) Z is a typical potential α -governor for Y,
- (ii) Z c-commands Y and does not c-command X.

(12) (Rizzi 1990: 26)

- a. Z is a typical potential head governor for Y = Z is a head m-commanding Y.
- b. Z is a typical potential antecedent governor for Y, Y in an A-chain = Z is an A specifier c-commanding Y
- c. Z is a typical potential antecedent governor for Y, Y in an A'-chain = Z is an A'-specifier c-commanding Y
- d. Z is a typical potential antecedent governor for Y, Y in an X⁰-chain = Z is a head c-commanding Y.

In addition, I assume, following Kuwabara (1992), that an A'-adjoined position should be put into a potential antecedent governor in an A'-chain.

5. An alternative analysis (II)

Let us consider (8a-c) repeated here as (13a-c) once again:

- (13) a. Bill swore [_{CP} that [_{IP₂} under no circumstances_i [_{IP₁} [_I would] [_{VP} he walk into the Oval Office t_i]]]]]
 b. *Bill swore [_{CP} that [_{IP₃} under no circumstances_i [_{IP₂} into the Oval Office_j [_{IP₁} [_I would] [_{VP} he walk t_j t_i]]]]]
 c. *Bill swore [_{CP} that [_{IP₃} into the Oval Office_j [_{IP₂} under no circumstances_i [_{IP₁} [_I would] [_{VP} he walk t_j t_i]]]]]

In (13b, c), the first PPs are not inside the maximal projections which immediately dominate barriers. Also the traces of the first PPs do not satisfy the Identification clause of the ECP. Thus (13b, c) violate both Subjacency and the ECP. We can reconcile this analysis with our theoretical assumptions adopted thus far. However, a closer look at (13a) reveals that this analysis is problematic since t_i in (13a) is antecedent-governed, but not properly head-governed.

Rizzi (1990) provides an analysis crucial in solving this problem. Adopting the Split IP Hypothesis different from that of Pollock (1989), he maintains that an adjoined position to VP can "be properly head-governed by T⁰ across the transparent VP segment." According to this analysis, the structure needed to derive (8a) would be (14) rather than (13a):

- (14) ...[_{CP} that [_{AGRP₂} under no circumstances_i [_{AGRP₁} [_{TP} [_T would] [_{VP} [_{VP} he walk into the Oval Office] t_i]]]]]]]

The above construction also sheds light on nominative Case assignment. In English-type languages a nominative Case is assigned via Spec-Head Agreement. I hold that in an embedded TOPICALIZATION with SAI, the subject moves from [Spec, VP] to [Spec, TP] to receive a nominative Case and then it agrees with T. Furthermore, AUX moves up to AGR:

- (15) ...[_{CP} that [_{AGRP₂} under no circumstances_i [_{AGRP₁} [_{AGR} would_k [_{TP} he_m [_T t_k] [_{VP} [_{VP} t_m walk into the Oval Office] t_i]]]]]]]

However, notice that the lower VP in (15) becomes a barrier. Then we must conclude that (15) is ungrammatical. To avoid this undesirable result, I assume that PP in (15) is adjoined to V', but not to VP:

(16)⁶ ...[_{CP} that [_{AGR_{P2}} under no circumstances_i [_{AGR_{P1}} [_{AGR} would_k [_{TP} he_m [_T t_k] [_{VP} t_m [_{V'} [_{V'} walk into the Oval Office] t_i]]]]]]]]]

It is noteworthy that not one of the traces violates Subjacency and the ECP. I assert that (16) is the most sophisticated configuration of TOPICALIZATION. With this in mind, let us observe (13b, c), repeated here as (17a, b):

- (17)⁷
- a. *Bill swore [_{CP} that [_{AGR_{P3}} under no circumstances_i [_{AGR_{P2}} into the Oval Office_j [_{AGR_{P1}} [_{AGR} would]_{[TP} he [_{VP} [_{V'} [_{V'} walk t_j] t_i]]]]]]]]
 - b. *Bill swore [_{CP} that [_{AGR_{P3}} into the Oval Office_j [_{AGR_{P2}} under no circumstances_i [_{AGR_{P1}} [_{AGR} would]_{[TP} he [_{VP} [_{V'} [_{V'} walk t_j] t_i]]]]]]]]

(17a) is ruled out by Subjacency and the ECP. A problem is, however, that (17b) does not violate the ECP since t_j is θ-governed. Consequently, the trace satisfies both the Identification and the Formal Licensing clauses; so does t_i. Thus (17b), we must conclude, violates Subjacency and is wrongly predicted to be a mildly deviant sentence. For the purpose of avoiding this wrong prediction, it is necessary to assume, following Rizzi (1990), that the ECP should be reduced to (18):

- (18) ECP: A pronominal empty category must be
- (i) properly head-governed (Formal Licensing)
 - (ii) antecedent-governed (Identification)⁸

With the above ECP, t_i and t_j in (17a, b) turn out to be offending traces. As a result, (17) is correctly ruled out.

Finally, let us here turn to cases of matrix TOPICALIZATION such as the following:

- (19)⁹
- a. *On the table, this book, John put.
 - b. *This book, on the table, John put.
 - c. *The book, Mary, I gave to.
 - d. *The tabloid magazine, the student from MIT, Hillary gave to.
 - e. *The tabloid magazine, to the student from MIT, Hillary gave.
 - f. *The student from MIT, the tabloid magazine, Hillary gave to.
 - g. *To the student from MIT, the tabloid magazine, Hillary gave.

These examples indicate that matrix double TOPICALIZATION also causes severe ungrammaticality.

The ungrammaticality of (19a-g) can be accounted for in the same way as that of cases of embedded double TOPICALIZATION in terms of violations of Subjacency and the ECP. In this connection, consider the following WH-sentences:

- (20) a. Into the Oval Office, who rushed?
b. On the fence at the White House, who is sitting?

To permit these sentences, it is necessary to assume that matrix TOPICALIZATION, unlike embedded TOPICALIZATION, may adjoin a constituent to CP only when WH-movement has been applied.¹⁰ I leave this to future investigation.

6. Conclusion

To summarize, we have seen that when two elements are adjoined to XP by TOPICALIZATION in English, it induces violations of Subjacency and the ECP. Notice that no double TOPICALIZATION is mildly deviant, but in fact is completely ungrammatical. This analysis leads to the fact that a TOPIC constitutes a strong island that causes severe ungrammaticality, according with Cinque's analysis of various island effects.¹¹

On the basis of the preceding discussion, we are led to the following constraint on TOPICALIZATION:

- (21) TOPICALIZATION cannot adjoin more than one constituent to a functional XP where XP is AGRP or matrix CP.¹²

NOTES

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1. I assume that SAI moves an auxiliary to C.

2. Authier assumes that CP can be iterated in topicalization.

3. Even if CP iteration is disallowed, there does exist a possibility that a TOPIC precedes a complementizer, which never occurs in English:

- (i) President Clinton said [_{CP} his diary_i [_C [_C that [_{IP} Hillary put _{t_i} on the mahogany desk]]]]

Kuwabara (1991) suggests that if C is filled with a topic operator, a complementizer can never appear in C. I do not consider this possibility in this paper.

4. Spec-Head Agreement must be taken into account, as shown by the following examples:

- (i) a. Canter noticed that never has he had to borrow money from Bill.
- b. Canter noticed that never have we had to borrow money from Bill.

5. The disjunctive ECP cannot explain the ungrammaticality of 8 (b, c), which are assigned the following structures:

- (i) a. ...[_{CP} that [_{IP3} into the Oval Office;_j [_{IP2} under no circumstances;_i [_{IP1} [_I would] [_{VP} he walk _{t_j} _{t_i}]]]]]]
- b. ...[_{CP} that [_{IP3} under no circumstances;_i [_{IP2} into the Oval Office;_j [_{IP1} [_I would] [_{VP} he walk _{t_j} _{t_i}]]]]]]

According to L&S's barrier model and the disjunctive ECP, (ia, b) violate Subjacency, and only (ib) violates the ECP. In (ib) t_i is neither θ -governed nor antecedent-governed. Notice that t_j is irrelevant here. Being complements of V, Directional/Locative phrases are θ -governed by V. On the other hand, both traces in (ia) are either θ -governed or antecedent-governed. As a result, these two sentences are predicted to be different in the degree of ungrammaticality. This prediction suggests that the conjunctive ECP would be preferred over the disjunctive ECP.

6. In this construction, TP becomes a barrier. If we assume, following Pollock (1989), that an auxiliary L-marks TP, then the barrierhood of TP becomes void. Nevertheless even if this assumption is correct, t_k is not properly head-governed. Or we might be able to consider TP itself to be a defective category, like IP in Chomsky (1986). I leave this matter to future investigation.

7. Irrelevant traces are deleted here.

8. The trace t_i in (16) is not antecedent-governed because of the existence of the lowest AGRP, a barrier. I take L&S's notion of antecedent-government here:

(i) (L&S 1992: 94)

α antecedent-governs β if

- a. α binds β , and
- b. β is subjacent to α .

9. L&S marks (19a) with '??', but all of my informants find cases of double TOPICALIZATION in a matrix sentence totally ungrammatical.

10. Successive movement cannot be utilized here:

- (i) [_{CP} into the Oval Office;_j [_{CP} [_{Spec} who;_i] [_{IP} t_j' [_{IP} t_i rushed _{t_j}]]]]

The trace of PP satisfies both of the conditions of the conjunctive ECP: whereas t_i comes to be an offending trace. Because of the intervening potential antecedent-governor, t_j' , t_i cannot satisfy the Identification clause of the ECP: nor can Formal Licensing be met. See the details in Sasaki (1995).

11. Müller and Sternefeld (1993) also argue that topicalization makes a strong island. They propose that T(opic) P(hrase) appears in topicalization. Their phrasal projection follows:

(i) (Müller and Sternefeld 1993: 485)

[_{CP} Spec C C [_{TP} Spec T T ...]]

(ii) (Müller and Sternefeld 1993: 485)

I think [_{CP} that [_{TP} in no case_i [_T will]] [_{IP} he give up t_i]]

This analysis seems to be plausible at the embedded level. However, at the matrix level this manipulation will encounter difficulty:

(iii) [₇ into the Oval Office_j [_{CP} [_{Spec} who_i] [_{TP} t'_j [_{IP} t_i rushed t_j]]]]

The question is where directional PP should land. With this sentence, the existence of TP is doubtful.

12. One might suppose that emptiness in [Spec, AGRP₁] in (16) induces an ECP violation. In Sasaki (1995), by use of Bresnan (1994), a TOPIC, "under no circumstances," and [Spec, AGRP₁] are identified with each other. As a result, the former antecedent-governs the latter. I tentatively concluded so, though it only meets the Identification clause of the ECP. Fukui (to appear) might shed light on this problem. He suggests the "relativized X-bar theory." In his proposal, functional categories would not project themselves to XPs if it were not for Spec-Head Agreement. If so, AGRP will be projected to AGR' since the subject agrees with the head of TP. Consequently, AGR phrase need not have a specifier. If this is a correct assumption, (16) should be modified as follows:

(i) ...[_{CP} that [_{AGR2} [_{PP} under no circumstances_i]][_{AGR1} [_{AGR} would_k [_{TP} he_m [_T t_k] [_{VP} t_m [_{V'} [_{V'} walk into the Oval Office] t_i]]]]]]]]

In this configuration, AGR phrase avoids the ECP violation. However, it can be a problem whether a maximal projection adjoins to a single bar category or not. In that sense, the relativized X-bar theory is not without problems.

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