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Leftward Movement and Intonational Phrasing

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0. INTRODUCTION

In this paper, I will discuss one interface between syntax and phonology, the intonational phrasing in the sentences derived by Leftward Movements: Left Dislocation (LD), Topicalization (TOP), Wh-Fronting (WHF), Negated Constituent Preposing (NEG), Preposing Around *Be* (PAB) and Directional Adverb Preposing (DAP).⁽¹⁾ For example :

- (1) a. John, he really loves Mary. (LD)
- b. This room(,) I really don't like. (TOP)
- c. *What, is he doing? (WHF)
- d. *Only at night, is it possible to get KUOW. (NEG)
- e. *More important, is the fact that you arrived. (PAB)
- f. *Here, comes John. (DAP)

(1) shows that a comma can occur after the moved constituents in LD (a) and TOP (b), reflecting the presence of an intonational boundary, while it cannot in WHF (c) and Preposings (d, e, f). I will consider why there is such difference of acceptability in intonational phrasing. In section 1, I will review Bing's (1979) analysis. In section 2, I will discuss the S-structure of Leftward Movements and then propose a condition to explain the different acceptability of the phrasing shown above.

1. INTONATIONAL PHRASE AND R-ASSIGNMENT

1.1. Bing's (1979) Analysis

Bing's (1979) defines an intonational boundary on metrical structure as in (2) and propose an R(root)-Assignment rule (3) :

- (2) A phrase boundary is defined as the point between two adjacent

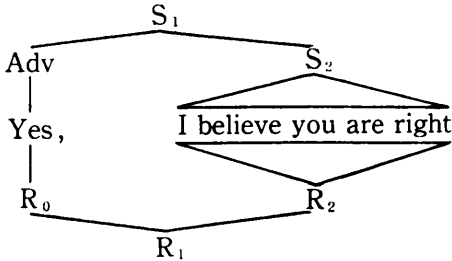
constituents, each dominated by R in metrical structure.

- (3) Assign R to every node in the metrical tree which corresponds to the node S dominating a root sentence in syntactic structure.

(Bing 1979 : 115)

Consider how the definition (2) and rule (3) work :

(4)

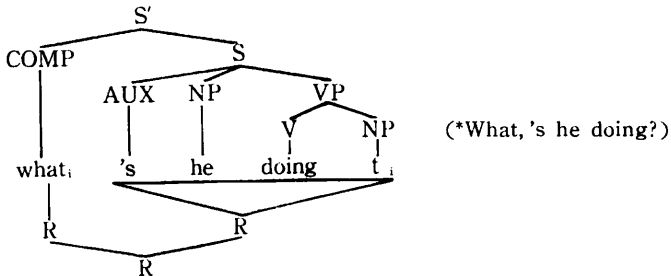


Since the syntactic node S_2 in (4) dominates a root sentence, R_2 is assigned by (3) to its corresponding node in the metrical tree. Moreover, R_0 is assigned, Bing argues, as the sister node of R_2 because only R, and not S (strong) or W (weak), can be the sister of R in the metrical tree.⁽²⁾ Then (2) correctly predicts the intonational boundary between R_0 and R_2 , that is, between *yes* and *I*.

1.2. Bing's (1979) Problem and Reformulation of R-Assignment

Note first that R-Assignment (3) wrongly predicts the presence of a boundary between *what* and *'s* in the following WHF sentence :⁽³⁾

(5)



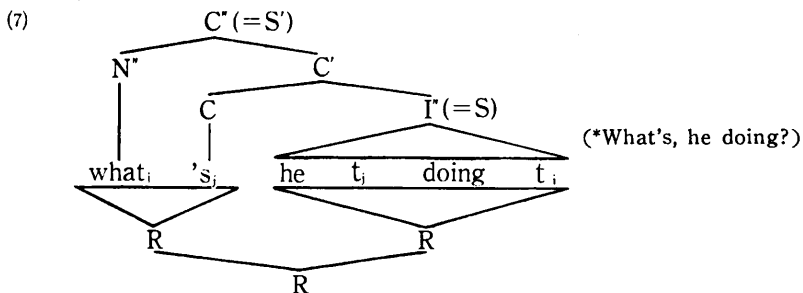
Further, if we assume Chomsky's (1986) assumption on category projections (6), the derived structure and metrical tree for (5) would be (7), in which

(3) also makes a wrong prediction about the intonational phrasing :

(6) a. $S=I''=[NP [I' [VP V...]]]$

b. $S'=C''=[... [C' C I'']]$

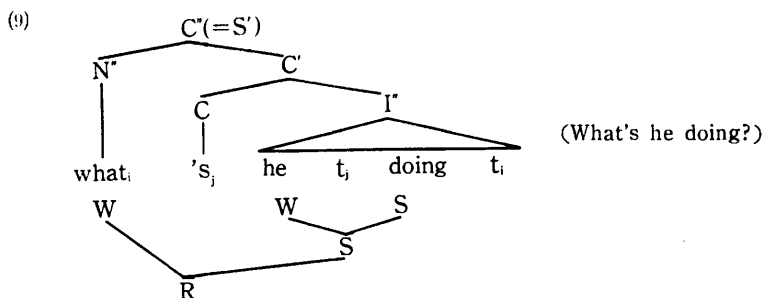
(Chomsky 1986 : 3)



Therefore assuming (6), I propose (8), in place of (3), as the formulation of R-Assignment :

(8) Assign R to every node in the metrical tree which corresponds to the node $C''(=S')$ *not dominated by the V'' node in the S -structure.*

Since the rule (8) assigns an R only to the whole WHF sentence, there can be no boundary in (9) :



Notice that the rule (8) also predicts the boundary in (4) if we suppose the node S_2 is in fact $C''(=S')$, not $I''(=S)$.

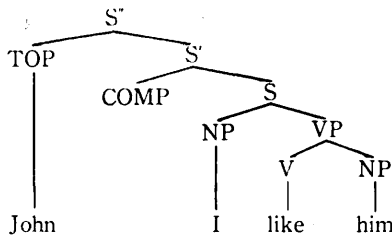
In this section, I have attempted to show that Bing's formulation of R-Assignment (3) is not adequate for WHF constructions and should be reformulated as (8).

2. S-STRUCTURE AND INTONATIONAL PHRASE IN LEFTWARD MOVEMENT

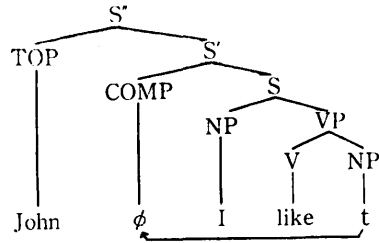
2.1. Left Dislocation and Topicalization

Let us turn to Leftward Movements other than WHF. First let us consider LD and TOP. The outputs of these rules were argued by Chomsky (1977) to be :

(10) a.



b.



That is, LD and TOP elements are considered to be base-generated in the same TOPIC position.

However, at least two writers have pointed out that there are some problems in this analysis.⁽⁴⁾ First Reinhart (1983 : 92, n. 18) notes that the LD element can occur with the TOP element in a sentence if the LD precedes the TOP, but not conversely :

- (11) a. (As for) Rosa, my next book I will dedicate (t) to her.
 b. *My next book, Rosa, I will dedicate (t) to her.

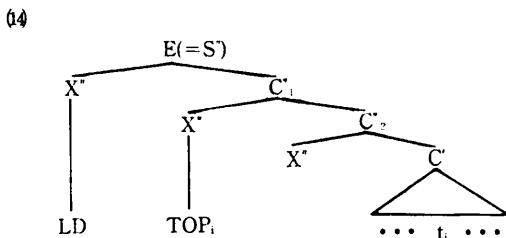
If we assume (10), to derive (11a) we must permit two NPs in the TOP position. Moreover some other mechanisms will be needed to rule out (11b).

Second, Greenberg (1984) shows an interjection (INT), *man'*, can occur to the right of the LD element, but not of the TOP element :

- (12) a. *Man'* John, Mary really loves him.
 b. John *man'* Mary really loves him.
 (13) a. *Man'* John Mary really loves.
 b. *John *man'* Mary really loves. (Greenberg 1984 : 285)

This observation also cannot be explained by the structure (10).

On the basis of the above observations, I will propose the following S-structure for LD and TOP :



In (14), the LD element is base-generated at the position immediately dominated by the node E, while the TOP element is adjoined to C' and dominated by a new created node C''.⁽⁵⁾ I therefore assume here that there is no Wh-Movement in the TOP construction, against Chomsky (1977).

If we adopt the S-structure (14), the problems for Chomsky's (10) discussed above can be explained in the following way. First since our (14) expresses the linear order of LD and TOP elements, (11a) is possible, but (11b) is excluded.

Second the distribution of INT is naturally explained if we posit the condition (15) as well as the structure (14) :

(15) INT must be immediately dominated by E.

With (15) we can also explain the following data as well as (12) and (13) :

(16) a. *Man'* who do you think will win the election?

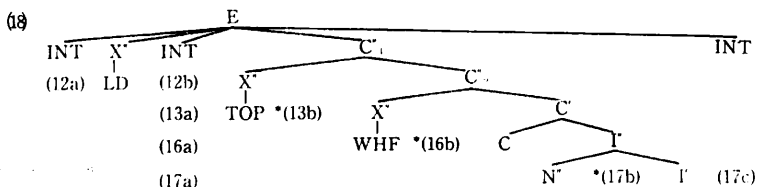
b. *Who *man'* do you think will win the election?

(17) a. *Man'* I really hate school.

b. *That guy with the beard *man'* really bugs me.

c. I really hate school *man*. (Greenberg 1984 : 284)

The distribution of INT can be schematically represented as in (18) :



2.2. Wh-Fronting and Preposings

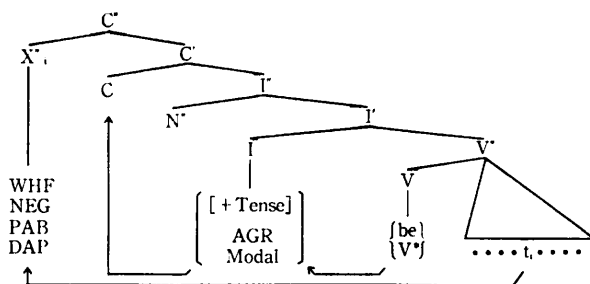
Let us now consider WHF, NEG, PAB, and DAP. The 'landing site' of these rules seems to be the same in the light of the following facts. First, WHF and Preposings cannot occur in a sentence simultaneously :

- (19) a. *Which plays of his *never* have we read?
 b. **Never* which plays of his have we read?
- (20) a. *What would *easier to solve* be?
 b. **Easier to solve* what would be?
- (21) a. *Who *into the house* dashed?
 b. **Into the house* who dashed? (Emonds 1976 : 42)

Second, in WHF and Preposings sentences (e. g. (1c-f)), their subjects and auxiliaries (in WHF and NEG) or verbs (in PAB and DAP) are inverted. Therefore WHF and Preposings all seem to trigger the inversion.

These facts can be explained if we consider WHF and Preposings as movements to the specifier position of C' as below : (6)

(22)



First, the ungrammaticality of (19-21) can be attributed to the fact that only one constituent may move to the specifier position of C'. That is, when the position is filled by one constituent, no rule can move another constituent to that position.

Second, the inversion seems to be the result of INFL movement to the COMP (preceded by a V movement to INFL in PAB and DAP), as shown in (22). (7) The S-structures derived by WHF and Preposings are as follows :

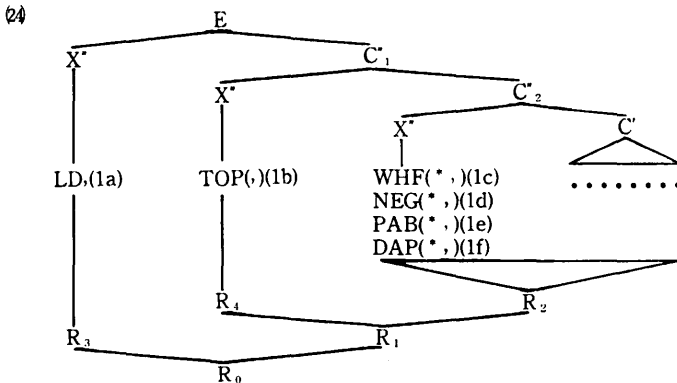
- ② a. [C" What_i [C' is_j [I" he [I' t_j [V" doing t_i]]]]]]
 b. [C" [I" With no job]_i [C' would_j [I" John [I' t_j [V" be happy t_i]]]]]]
 c. [C" [A" more important]_i [C is_j [I" [N" the fact that you arrived] [I' t_j [V" t_i]]]]]]
 d. [C" here_i [C' comes_j [I" John [I' t_j [V' t_j t_i]]]]]]

These two facts seem to support the S-structure of WHF and Preposings ②).

2.3. Intonational Phrasing in Leftward Movement

So far we have considered the S-structure of Leftward Movement. We argued that LD was base-generated at the position immediately dominated by the node E, and that TOP was considered to be a Chomsky-adjunction to C" node. We suggested that Preposings, as well as WHF, are movements to the specifier position of C".

Let us therefore turn back to the question I raised at the beginning of this paper : why is there a difference in intonational phrasing between (a, b) and (c-f) in (1). We can find an answer to this question if we apply R-Assignment (8) to the S-structure of Leftward Movements discussed above :



In ②4 R₁ and R₂ are assigned by (8) corresponding to C"₁ and C"₂, which then decide R₃ and R₄ as their sisters, respectively. We can, then, rule out the unacceptable commas in ②4 by the following condition : (8)

- ②5 Comma (intonation) can occur only between two adjacent constitu-

ents, each dominated by R in the metrical structure.

This condition rules out (1c-f) but not (1a, b), correctly.

Now let us consider the implication of the condition (23). As structure (24) shows, we cannot put a comma within C"2, the lower C" node. Notice also that this lower C" is the verb-second domain for all sentence types just discussed: a verb or an auxiliary always appears in the second position in the lower C" domain. We might therefore think that this lower C" is the minimal domain of a proposition and cannot be separated by a comma (intonation). On the other hand, the elements outside of this domain seem to constitute not any part of the proposition but the thematic part of the sentences, and thus can be separated by a comma. Our condition (23) together with R-Assignment (8) expresses this.

3. CONCLUSION

This paper has been an attempt to consider one interface between phonology and syntax, the intonational phrasing in Leftward Movement constructions. I first claimed that Bing's (1979) analysis is inadequate for WHF constructions, and proposed (8) as an R-Assignment assuming Chomsky's (1986) base rule (6). I then suggested that the problems in Chomsky's (1977) analysis for LD and TOP can be solved in our analysis, and argued that the landing sites of WHF and Pepsings are the same. As the result of our discussion, I proposed (24) as the S-structure and metrical structure of Leftward Movements and suggested the condition for INT (25). Finally, I proposed a condition for the comma (intonation) (23) and made some comments on the implication of this condition.

There remain, needless to say, many unsolved problems in this study, especially in the syntactic analysis of Leftward Movements. However, our primary goal, a study of an interface of syntax and phonology, has been achieved.

NOTES

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- (1) Intonational phrasing is the term used by Selkirk (1984). See also Cruttenden (1986 : 35). The names of transformations cited follow Emonds (1976). I collectively refer to NEG, PAB, and DAP as Preposings.
- (2) On the notions of S, W, and R, see Bing(1979) and Cruttenden (1986 : 30).
- (3) Bing's (1979) rule (3) is formulated on the basis of Downing(1970), who assumes that WHF is a sister-adjunction operation within S. However, the current syntactic analysis of the structure after WHF is like that in (5).
- (4) I owe much of the following discussion to Imanishi (1986). She does not, however, give any solutions to these problems.
- (5) On the node E (expression), see Emonds (1985 : 13). See also Chomsky (1986 : 6-8) for a discussion of adjunction.
- (6) This movement is substitution discussed by Chomsky (1986). There are two facts which suggest that TOP should not be included in this type. First, TOP can occur with WH in some sentences (see Imanishi (1986 : 123)). Second, TOP does not trigger inversion. The V* in (2) represents the group of verbs which appear in the DAP construction, such as *dash*, *come*, and *stand*.
- (7) This derivation was pointed out to me by K. Ohno. On the movement of V to I and subsequent movement of V_I to C, see Chomsky (1986 : 4-6) and also Emonds (1985 : 142-146). The inversion in simple yes-no questions might also be explained if we suppose that an empty operator moves to the position X" in (2). For the government and binding analysis of inversion, see Safir (1981/1982). There remains the problem, though, of how to rule out the following examples (see Touji (1985)) :
 - (i) *Here *does* John *come*.
 - (ii) *Out of the courtroom *will* a judge *walk*.
- (8) The condition (25) is obviously too powerful for other usages of the comma which I do not discuss here, such as :
 - (i) She lives in a nice, clean, and comfortable room.
 - (ii) John came, I think, later than Sue.

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