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derivation of (21). Then the third claim is not so valid as Bresnan maintains.

In this section we have reconsidered Bresnan's proposal; i. e. complementizers should be specified in deep structure. We have shown that the proposal is not justified.

To recapitulate, we discussed in this paper that certain restrictions must be imposed on the application of Shift and that Lakoff's version of *It*-Replacement is too powerful. We suggested that instead of the Deep Structure Constraint, a constraint such as (15) should be adopted. We showed that Bresnan's proposal that complementizers should be specified in deep structure is not maintained.

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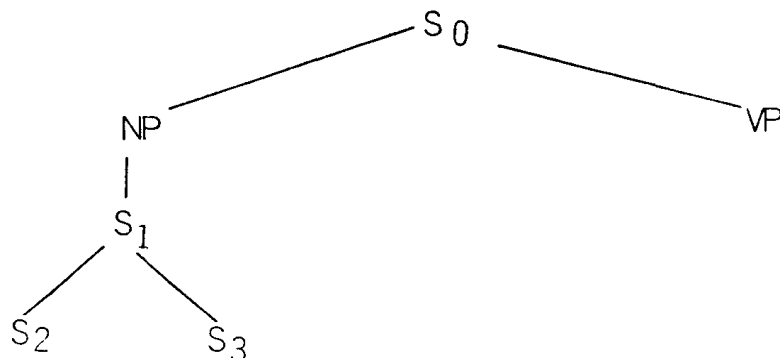
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feature of the verbs in question and that it should be expressed as a contextual feature that cannot be localized. Accordingly the claim that complementizers subcategorize verbs cannot be maintained.

Let us consider the third claim. Bresnan argues as follows. Complementizer Insertion and Conjunction Reduction are both cyclic. The following sentence (21) is derived from the deep structure such as (22).

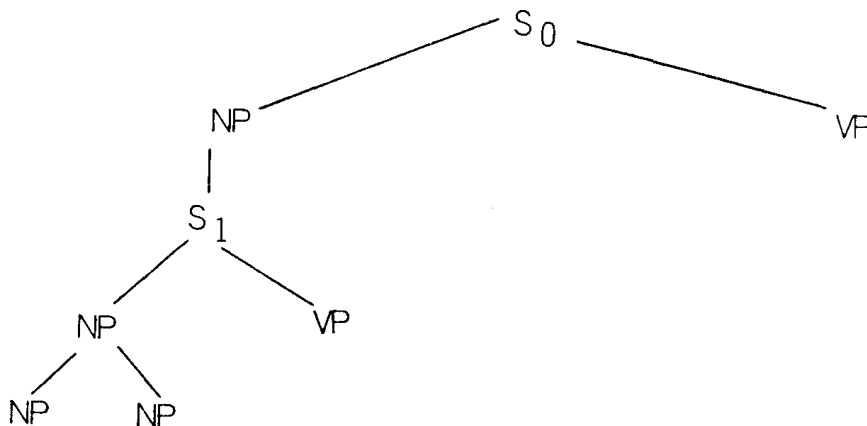
(21) That Kip and that Mary both flew to New York is strange.

(22)



After Conjunction Reduction has applied to (22) on the S₁ cycle, a derived structure roughly like the following is produced.

(23)



But there is no way for Complementizer Insertion to produce (21) from this structure. If Complementizer Insertion applies to this structure, the following sentence will result.

(24) That Kip and Mary flew to New York is strange.

However whether Conjunction Reduction is a cyclic rule or not is not settled. If Conjunction Reduction were a post- or last cyclic rule and could apply at the stage of S₀ in (22), there would be no question of the

his relatives. Bresnan reduces this semantic difference to the distinction between *for-to* and *that* complementizers. Hence she claims that complementizers should be specified in deep structure.

Kajita (1974) points out as follows. The meaning difference is not due to the occurrence of the different complementizers. Note that an auxiliary element, i. e. present tense in this case, occurs in *that*-clause in sentence (17b), while it does not occur in *for-to* complement in (17a). The semantic difference between sentences (17a) and (17b) is then attributable to the presence or absence of the auxiliary element rather than the difference of complementizers.

Let us consider the second claim that complementizers subcategorize verbs. This claim assumes that subcategorization features can always be localized. Kajita (1969) showed, however, that the feature [+___ Whether S] is a contextual feature which cannot be localized. Kajita's argument is roughly summarized as follows.

The verbs relevant to this problem are *know*, *find out*, *testify*, *say*, etc. These verbs can take either *that* S or *whether* S. But the occurrence of *whether* S is limited to the two special environments. One is the following negative environment. The examples are from Kajita.

- (18) a. I don't know whether S.
b. It is impossible to know whether S.

The other is the context in which future, request, trial, or purpose is expressed.

- (19) a. This will testify whether S.
b. You'll need to know whether S.
c. Try to find out whether S.

Notice here that sentences (19a), (19b) and (19c) are noncommittal with respect to realization of testifying, knowing and finding out, respectively, whereas (20a) and (20b) mean that testifying and saying were realized, respectively. This explains the ungrammaticality of these sentences, since *whether* is the marker of the lack of commitment.

- (20) a. *Bill testified whether John took a bribe.
b. *Bill has said whether John took a bribe.

Hence Kajita concludes that the feature [+___ Whether S] is not the

subject and the indirect object. It should be noted further that imperatives cannot be addressed to the speaker of imperatives. If we follow the performative analysis of imperatives, the restriction of imperatives reduces to that of the same type we are discussing. Verbs which must meet the constraint such as *scream, yell, cry*, etc. constitute a semantically natural class. They mean linguistic performance and have some imperative force when they occur in this type of construction. Hence, the unlike-subject constraint should be stated in more general terms as follows.

- (15) The indirect object of the verbs of imperative force should not be coreferential to its matrix subject.

We have suggested in this section that the Deep Structure Constraint proposed by Perlmutter (1968, 1971) should be abandoned. In its place, a constraint such as (15) should be adopted. Otherwise, a generalization of the constraint cannot be stated.

4. Adequacy of Complementizer Insertion

Rosenbaum inserted complementizers into the embedded sentence by a transformation. Bresnan (1970) claims, however, to specify complementizers in deep structure and introduce a phrase-structure rule such as (16)

- (16) $\bar{S} \longrightarrow \text{COMP } S$

The symbol COMP in (16) dominates the complementizers, *that*, *WH*, and *for*. Bresnan develops the following three arguments for the claim that complementizers should be specified in deep structure. (1) Complementizers are not semantically empty. Consequently they have to be in deep structure. (2) Complementizers subcategorize verbs. (3) Conjunction Reduction Transformation requires complementizers to be in deep structure.

Let us consider the first claim. Bresnan cites the following examples.

- (17) a. It may distress John for Mary to see his relatives.
b. It may distress John that Mary sees his relatives.

Bresnan points out that sentences (17a) and (17b) are not synonymous, since the latter but not the former presupposes that *Mary* does in fact see

Deletion must be met and that it must not be met, respectively. If these requirements are violated, ill-formed sentences such as (10) and (11) are produced and these sentences are registered as such. However, as Jackendoff (1972, pp. 208-209) points out, the device of positive absolute exceptions is too powerful. Furthermore, since *I screamed to be allowed to go* is grammatical, the device of negative absolute exceptions is not needed.

Perlmutter (1968) claimed, however, that these types of constraints must be imposed prior to the application of transformations. He terms these constraints deep structure constraints. Under his approach, the following sentences which he cites are ill-formed because they do not meet the unlike-subject constraint, which is a deep structure constraint.²⁾ Notice that the unlike-subject constraint is the non-identity constraint between the subjects of the matrix and their complement sentences.

- (12) a. *I screamed for me to commit myself.
 b. *I screamed to go.

A question arises whether the constraint at issue is really the non-identity constraint between the subjects of the matrix and their complement sentences. Observe the following sentences in which the same type of constraint holds.

- (13) a. *I screamed to myself to go.
 b. *I yelled to myself to wait.

Notice that a non-identity constraint between the matrix subject and the indirect object should be met. The same kind of restriction is manifested in the following sentences in which the matrix verbs are of imperative force.

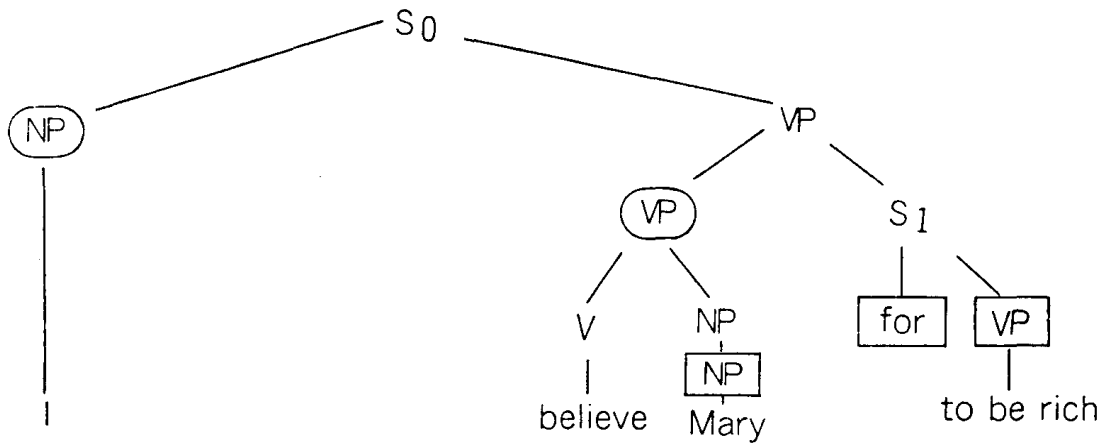
- (14) *John $\left\{ \begin{array}{l} \text{ordered} \\ \text{commanded} \end{array} \right\}$ himself to wait.

In the above sentences, non-identity restriction holds between the matrix

2. The like-subject constraint originally proposed in his doctoral dissertation was cut in *Deep and Surface Structure Constraints in Syntax*, Holt, Rinehart and Winston, Inc. 1971. His analysis of the exceptional cases to the like-subject constraint turned out to be ad hoc. Jackendoff (1972, pp. 209-210) also points out that the like-subject constraint is too restricted to account for sentences like *John was lucky to be examined by the doctor*, which cannot be paraphrased as *John was lucky to $\left\{ \begin{array}{l} \text{get} \\ \text{let} \end{array} \right\}$ the doctor (to) examine John*.

Part b of the structural change will yield ;

(9)



This rule goes beyond the ordinary framework for rule statements in the following points. Although the structural description consists of A and B, terms A and B are independent of each other. Two parts (A and B in SD of (6)) of the structural description make it possible to move a complement which is dominated by a matrix VP, that is S₁ in (8), and Chomsky-adjoin it to the matrix VP as shown in (9). Thus this rule formulation goes beyond the function of the ordinary structural description. This rule needs two parts of the structural description (A and B in SD of (6)) and B is further restricted by the two conditions. Thus the rule is more complicated than the transformational rules usually are. Whether we need these kinds of powerful extension of rule statements is quite dubious.

3. The Deep Structure Constraint

There is no device provided in the framework of the 'standard' analysis to block the occurrence of the following sentences, where identity and non-identity constraints between the subjects of the matrix sentences and their complements are manifested, respectively.

(10) *Mary tried for John to take back the apology.

(11) *I yelled for me to come out.

Lakoff (1971) proposed to mark the verbs *try* and *yell* as positive and negative exceptions to Equi-NP-Deletion, respectively. They are marked in their lexicon as requiring that the structural description of Equi-NP-

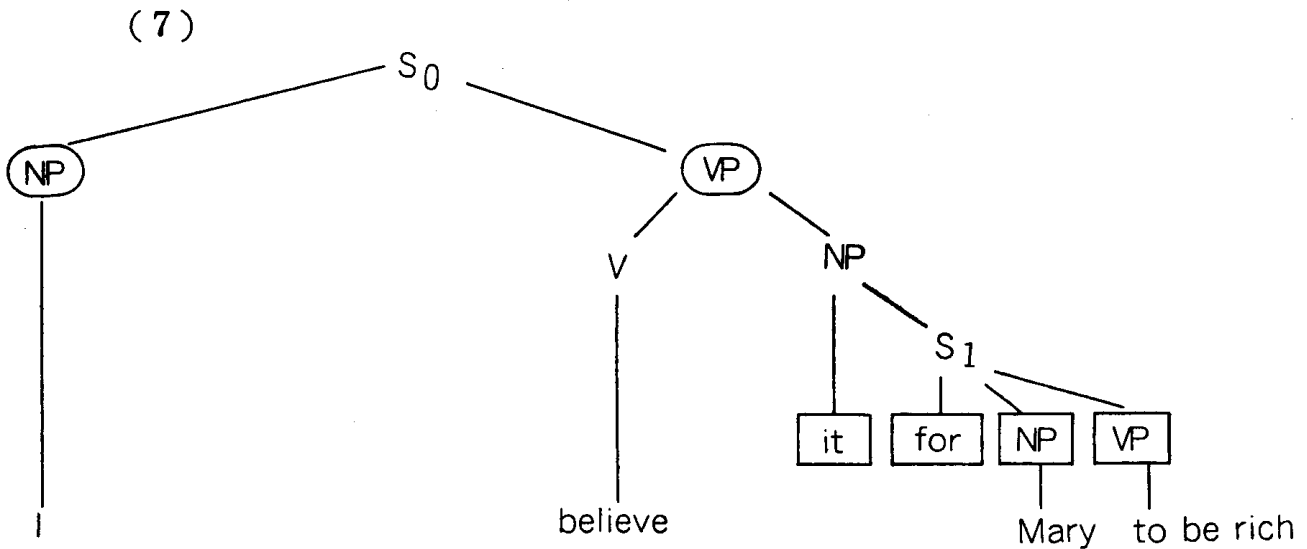
B. I it (for possessive) NP VP I

1 2 3 4 5 6

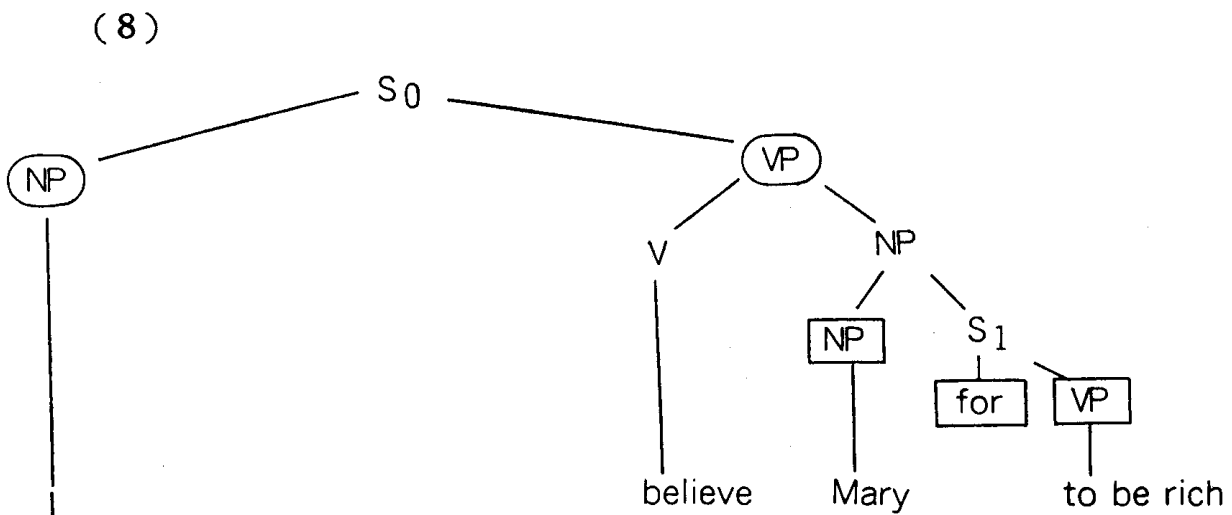
where: $B_3\hat{B}_4\hat{B}_5$ is dominated by S and $B_2\hat{B}_3\hat{B}_4\hat{B}_5$ is dominated by NP.

- SC: a. Substitute B_4 for B_2 and delete B_4
 b. Adjoin $B_3\hat{B}_4\hat{B}_5$ to A_2 and delete $B_3\hat{B}_4\hat{B}_5$

Let us cite an example of how Lakoff's version of *It*-Replacement will work. *It*-Replacement will apply to the tree of (7). In (7), the encircled terms show part A of the structural description, and the terms enclosed in rectangles show the terms 2, 3, 4, and 5, of part B of the structural description.



After part a of the structural change applies, we will get (8).



- (2) a. *It surprised Mary her seeing John.
 b. It surprised Mary seeing John.

The above sentences show that the application of Extraposition to *Poss-ing* complements is allowed if the *Poss-ing* complement has no subject NP or pronoun. I will use the term 'Shift' in preference to 'Extraposition of gerunds' according to the suggestion by Postal (1974). According to Jackendoff's analysis (1972), a dummy symbol occupies the complement subject position in the underlying structures of sentences (1b) and (2b). Then we can state the restriction as follows: Shift is blocked unless the subject of the complement is a dummy. However some additional restriction must be put on the class of predicates which undergo Shift. Observe the following examples. Sentences (3) are due to Hudson (1971)¹.

- (3) a. *It's common having a puncture when one's in a hurry.
 b. It's irritating having a puncture when one's in a hurry.
 (4) *It is illegal shaving birds.
 (5) *It is important saving money.

Hudson (1971, pp. 215, 289) points out that Shift is impossible unless the matrix-clause has the feature 'reaction', i. e. 'someone's emotional reaction to the content of the noun-clause'. Hudson's restriction accounts for the ungrammaticality of (3a), (4) and (5).

To conclude, we need the following restriction on the application of Shift: Shift is impossible if (1) the subject of the complement is not a dummy and (2) the matrix-clause does not have the feature 'reaction'.

2. *It*-Replacement

Pronoun Replacement Transformation in the 'standard' analysis depends on previous application of Extraposition. Lakoff (1968) showed that Pronoun Replacement Transformation should be free from Extraposition and proposed *It*-Replacement instead. We shall argue certain problems inherent in Lakoff's version of *It*-Replacement in this section.

- (6) *It*-Replacement
 SD: A. NP VP
 1 2

1. Professor Minoru Yasui let me know Hudson's observation on Extraposition.

NOTES ON SHIFT, *IT*-REPLACEMENT, COMPLEMENTIZER INSERTION, AND THE DEEP STRUCTURE CONSTRAINT*

Reiko Oikawa

INTRODUCTION

Roughly, we can observe three different trends on the analyses proposed for English complement constructions; i. e. the syntactic analysis proposed by Rosenbaum (1967) and improved by others, the syntactic-semantic analysis proposed by Kiparskys (1970), and the semantic analysis proposed by Karttunen (1970a, b, c, 1971). In my forthcoming paper, I will review and criticize the syntactic analysis proposed by Rosenbaum (1967) and its improvements proposed by others. Specifically, I will consider certain problems of the deep structure of sentence complements, especially that of the distinction between NP and VP complements and the status of *that*-clauses and infinitives in deep structure. In this paper, I will consider certain problems concerning the transformational rules involved, especially Extraposition of gerunds and Lakoff's version of *It*-Replacement. I will also consider the Deep Structure Constraint and the adequacy of Complementizer Insertion.

1. Extraposition of gerunds (Shift)

Extraposition in the 'standard' analysis is blocked when the embedded sentence is a *Poss-ing* complement. However, observe the following sentences.

- (1) a. *It was wrong John's doing that.
- b. It was wrong doing that.

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