ON WH-MOVEMENT FROM SUBJECT POSITION

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0. INTRODUCTION

Among the current approaches to universal grammar, those within the framework of the Extended Standard Theory have been considered as promising by a number of transformationalists. In this theory, the transformational component "Move a" maps D-structures onto S-structures leaving behind traces which are coindexed with the moved elements. "Move a" represents both "Move NP" and "Move wh-phrase". In this framework, a large number of phenomena involving WH-Movement and traces have been accounted for.

One interesting case is the to contraction phenomenon in English. A familiar example of the phenomenon can be seen in the contraction of "want + to ---> wanna", and the following are, according to Chomsky and Lasnik (1977), the cases which involve traces (indicated as t) left behind by WH-Movement (i.e., (3), (4)):

(1) I want to meet John.
(2) I want Mary to meet John.
(3) Who do you want to meet t?
(4) Who do you want t to meet John?
(5) Who do you wanna meet t?
(6) *Who do you wanna meet John?

where sentences of the type in (3) and (4) are derived from sentences like (1) and (2), respectively, (ignoring the difference in subjects) by WH-Movement. The contraction in question is observed in (5) and (6), which are the contracted versions of (3) and (4), respectively. WH-Movement leaves traces in (3) and (4) as shown in (7) and (8):

(7) [who [do you want [to meet t]]]
(8) [who [do you want [t to meet John]]]

Chomsky and Lasnik claim that the trace left by WH-Movement in (8) intervenes between want and to, which makes the contraction impossible. On the other hand, the trace in (7) does not come between want and to, hence, contraction may take place (cf. (5)).
Jaeggli (1980) refines this account for *to* contraction phenomena by distinguishing between two kinds of traces, i.e., Case-marked versus non-Case-marked trace. Only Case-marked traces, i.e., traces of WH-Movement, prevent contraction, whereas traces which are not Case-marked allow the contraction. The crucial cases of the latter involve contraction in semiauxiliaries, where the trace is left by Raising.

At this point, we should ask the question: can contraction phenomena be generalizable within the framework of trace theory? In other words, can trace theory be extended to account for contraction phenomena in general? If we assume that contraction phenomena cannot be generalized, the *to* contraction phenomenon would be an idiosyncratic feature, and could be treated in the lexical domain by considering the contracted forms as independent entries in the lexicon. On the other hand, if we assume that the phenomena can be generalized, trace theory should account for other contractions such an auxiliary contraction as well as the *to* contraction phenomenon. Although the choice between the two assumptions seems to be theory-dependent, we will take the latter assumption in this paper; that is, contraction phenomena can be generalized.

Given this assumption, we encounter a problem with auxiliary contraction phenomena. Consider the following:

(9)  a. Who *t* has seen John?
    b. Who's seen John?

where *t* in (9a) is the trace of WH-Movement, and (9b) is the contracted version of (9a). While trace theory accounts for the contraction phenomenon in (5)-(6) on the one hand, it would wrongly predict that the trace in (9a), which is left behind by WH-Movement, prevents the contraction between who and *has* on the other hand, since the trace in (9a) is Case-marked, and is supposed to prevent the contraction.

Provided that we continue assuming trace theory can account for contraction phenomena in general, we might posit the contraction revealed in (9) is attributed to other assumptions underlying the derivation of the sentences of (9). One such assumption I would like to examine in this paper has to do with WH-Movement from subject position. Thus far, when we assume "Move wh-phrase" in core grammar for English, we have also assumed movement from subject position as in (9) as well as from object position (e.g. (3)). On the other hand, if we suppose that WH-Movement does not apply to subject position in a root sentence, preserving the generalization of contraction phenomena within the framework of trace theory, the problem with regard to the auxiliary contraction as seen in (9) does not arise, since no trace intervenes between the two elements to be contracted. Besides the problem stated above, WH-Movement from this position raises other problems, which I will discuss in Section 3.

Given the above outline of the discussion, in Section 2, I would like to propose the hypothesis that WH-Movement does not apply to subject position in a root sentence (call it the No WH-Movement Hypothesis). The rest of the discussion consists of the following
two sections: in Section 1, a set of counterexamples are presented to the trace theory account for contraction phenomena, assuming the phenomena are generalizable, and some attempts are made to solve the problem with respect to the auxiliary contraction as in (9), under the assumption that WH-Movement takes place in subject position; in Section 3, I will formulate a constraint on "Move wh-phrase" in order to prevent WH-Movement from subject position. Throughout this paper, I mean by subject position, the position in a root sentence.

1. AUXILIARY CONTRACTION PHENOMENA

Given the assumption that trace theory with the notion of Case-marking can be extended to account for contraction phenomena in general, a problem arises in terms of auxiliary contraction. Consider the following:

(10) Who's seen John?
(11) What's bothering you?
(12) Who'd invite Mary?

The above sentences are derived by WH-Movement of subject NP's. The underlying structures of (10)-(12) are (13)-(15):

(13) $[S [\text{COMP} \text{who}] [S [\text{NP} \text{t}] \text{has seen John}]]$
(14) $[S [\text{COMP} \text{what}] [S [\text{NP} \text{t}] \text{is bothering you}]]$
(15) $[S [\text{COMP} \text{who}] [S [\text{NP} \text{t}] \text{would invite Mary}]]$

According to GB theory, the traces in (13)-(15) are Case-marked as nominative since they are in a Case-marking position, governed by Tense as can be seen in the tree below (cf. (16) is the tree for (13)):

```
(16)
      <———>
     |      |
  COMP  S
     |      |
  who   |
     |      |
  NP    AUX
        |
        |
  t   Th  have  en  V  NP
       |
       |
  see   John
```

According to Jaeggli (1980), Case-marked traces prevent contraction. Case-marked as nominative, the traces in (13)-(15) should block the contraction between the wh-phrase and auxiliary. But contraction does occur as in (10)-(12).
It seems worth attempting to examine whether trace theory has any solution to account for the above contradiction. We may ask whether the trace in (16), for example, can never be deleted or moved in order to make the contraction there permissible. For this purpose, I would like to present two hypotheses, the Trace Deletion Hypothesis and the Subject-Auxiliary Inversion Hypothesis. The two hypotheses are based on the following assumptions; in the Trace Deletion Hypothesis, a transformation can delete intervening traces between the two constituents to be contracted; in the Subject-Auxiliary Inversion Hypothesis, the inversion rule can move traces so that the traces may no longer intervene between the two elements to be contracted.

1.1 Trace Deletion Hypothesis

Under the assumption that Case-marked traces can be deleted, we will investigate whether the deletion of the traces raises any problems as a consequence. We further assume that traces left behind by WH-Movement are deleted at the pre-S-structure level (or at S-structure) when they are involved in auxiliary contraction (e.g. (10)-(15)), whereas those involved in the to contraction (e.g. (5)) disappear at surface structure (i.e. post-S-structure level), the latter being assumed in Chomsky (1981).

On the one hand, following Jaeggli's account, traces left by Raising are not Case-marked; since the "invisible" traces do not function as lexical terms, they are to be empty ([Np e]), and thus can be deleted. On the other hand, traces left by WH-Movement such as in (13)-(15) are Case-marked, functioning as lexical items. Just as the lexical item Mary in (2) cannot freely be deleted, so the Case-marked traces cannot, since they function as lexical items.3 Moreover, if we insist Case-marked traces are to be deleted by some mechanism, a serious problem will be raised with regard to logical form. The following are the S-structure and the logical form of (13).

(17) \[ S \{ \text{COMP who} \} \{ S \{ Np e \} \text{has seen John} \} \]

(18) For which \(x\), \(x\) is a person, \(x\) has seen John.

In the logical form of (18), the blank space would have to be filled by free variables. As Chomsky (1980) assumes, however, logical form cannot contain free variables. Moreover, the deletion of [Np t] in (13), which is coindexed with who in COMP, means the category bound by who also loses the coindexing. Thus, a null node would be a result. In other words, in the logical form of (18), the subject argument is missing. To satisfy the logical form for sentence (10), the S-structure has to be (13), where the trace is Case-marked and coindexed with who in COMP, and the trace serves as a bound variable on the logical form. For the reason stated above, the deletion of Case-marked traces is impossible and the hypothesis does not hold.
1.2 Subject-Auxiliary Inversion Hypothesis

As we have seen in "want + to —> wanna", the condition which triggers the contraction rule is adjacency of two elements such as want and to. If we assume this condition also holds for the auxiliary contraction in (13), the trace must be moved so as not to "interrupt" who and has. The only obligatory transformational rule involved in deriving sentence (13) appears to be WH-Movement. However, we should recall that in order to get sentences such as (3), which involve WH-Movement from object position, we need WH-Movement and Subject-Auxiliary Inversion, in that order. Then, given the assumption that the derivation of (13) also involves Subject Auxiliary-Inversion, the derivation is as follows:

(19) a. \[S [\text{COMP} +\text{WH}] [S [\text{NP} \text{who}] \text{has seen John}]] \]
Subject-Auxiliary Inversion
b. \[S [\text{COMP} +\text{WH}] [S \text{has} [\text{NP} \text{who}] \text{seen John}]] \]
WH-Movement
c. \[S [\text{COMP} \text{who}] [S \text{has} [\text{NP} \text{t}] \text{seen John}]] \]
Contraction
d. \(\text{Who's seen John (=10)}\)

As (19c) shows, the rule application keeps the adjacency of who and has, and the contraction may take place. An identical derivation can be assumed in the cases of (11) and (12). In these three cases, (10)-(12), the hypothesis appears to be justified. Nevertheless, notice that the sentences of (10)-(12) have only one auxiliary verb, and that there exist sentences which consist of more than one auxiliary verb, and those which consist of only the tense marker in the auxiliary system. Therefore, we should examine those cases, too. Consider the following sentences and their derivations:

(20) a. Who would've seen John?
b. Who'd've seen John?

c. \[S [\text{COMP} +\text{WH}] [S [\text{NP} \text{who}] \text{would have seen John}]] \]
Subject-Auxiliary Inversion
d. \[S [\text{COMP} +\text{WH}] [S \text{would} [\text{NP} \text{who}] \text{have seen John}]] \]
WH-Movement
e. \[S [\text{COMP} \text{who}] [S \text{would} [\text{NP} \text{t}] \text{have seen John}]] \]
Although the contraction between who and would, deriving who'd, will be permitted in (20e), the trace in question, in turn, should block the contraction between would and have. But it does not, and, in fact, the contraction between the two auxiliaries takes place as in (20a-b). The application of Subject–Auxiliary Inversion, which is originally motivated to account for the contraction in (10)-(12), is inadequate in that it fails to provide a complete explanation for the contraction phenomena in (20a-b), still having an intervening Case-marked trace between the two auxiliaries (cf. (20e)). The problem becomes more serious in the derivation of (21):

(21)  a. Who saw John?

b. \[
\begin{array}{c}
[S \text{COMP} + \text{WH}] [S \text{NP} \text{who} \text{Tense} \text{PAST} \text{see} \text{John}] \\
\text{Subject–Auxiliary Inversion}
\end{array}
\]

c. \[
\begin{array}{c}
[S \text{COMP} + \text{WH}] [S \text{Tense} \text{PAST} [\text{NP} \text{who} \text{see} \text{John}]] \\
\text{Do Support}
\end{array}
\]

d. \[
\begin{array}{c}
[S \text{COMP} + \text{WH}] [S \text{do-Tense} \text{PAST} [\text{NP} \text{who} \text{see} \text{John}]] \\
\text{WH-Movement}
\end{array}
\]

e. \[
\begin{array}{c}
[S \text{COMP who}] [S \text{did} [\text{NP t} \text{see} \text{John}]]^5
\end{array}
\]

The result of the derivation (i.e. (21e)) is unacceptable unless did in (21e) is meant to be emphatic. Moreover, (21e) can never be derived when Subject–Auxiliary Inversion is applied in (21). Although the sentence of (21a) does not involve an example of contraction, Subject–Auxiliary Inversion, which applies to (19) to make the contraction there possible, raises a new problem in other derivations. In short, we can avoid these problems if Subject–Auxiliary Inversion does not apply in the derivation of WH-Movement from subject position. Therefore, the Subject–Auxiliary Inversion Hypothesis fails to preserve adjacency between the two constituents to be contracted.

After the attempts above, we still have no solution to the "transparency" of the traces in (13)-(15) which allow the auxiliary contraction. There seems to be no answer to the contraction phenomena in those sentences within the framework of trace theory. At this point, however, it may be worth asking a rather fundamental question, returning to a more basic assumption. We have been assuming WH-Movement takes place from subject position, just as it does in other positions; yet, has WH-Movement in fact taken place from the sentence-initial position in (10)-(12)? Is there any convincing evidence for it? In the next section, I will raise some questions with respect to the occurrence of WH-Movement from this problematic position.
In this section, I propose the No WH-Movement Hypothesis, and will show that there is good reason to assume WH-Movement does not move subject in a root sentence. The following are the questions I would like to discuss.

(22) a. After "Move wh-phrase" moves an element from subject position, the output sentence does not have a lexical subject at surface structure level. Then, are we to assume that subjectless root sentences are allowed in English?

b. How can the grammar account for the contraction in "Who's seen John?"

c. How can we distinguish a WH-Moved question from a "Quiz-Show Question" and an Echo Question?

First, it may be necessary to explain what we mean in (22a) by the claim that the surface structure does not have a subject after WH-Movement takes place from subject position. Let us compare the four levels of representation (i.e. D- and S-structures, LF, and surface structure) for the sentence of "Who saw John":

(23) a. D-structure

\[ [S [\text{COMP} [S [\text{NP who} [VP \text{saw John}]]]]] \]

b. S-structure

\[ [S [\text{COMP who} [S [\text{NP t} [VP \text{saw John}]]]]] \]

c. LF

\[ [S \text{for which person x,} [S x \text{ saw John}]] \]

d. surface structure

\[ [S [\text{COMP who} [VP \text{saw John}]]] \]

As we can see, it is apparent that the surface structure of (23d) does not contain a subject, assuming that traces are to disappear on surface structure. Then, let us examine the four levels of representations in (23) with respect to θ-criterion. In the D-structure of (23a), the subject NP, who, is in a θ-position. From the principle of θ-theory that the VP of S determines the θ-role of a subject, the VP "saw John" in (23a) assigns the θ-role of a subject to who, which is in a proper θ-position. After applying "Move α", who appears in COMP in the S-structure of (23b). According to the theory, elements in COMP are not considered to be argument. Therefore, who loses the role of argument which has been assigned in the D-structure. On the contrary, the trace
in (23b) left behind by WH-Movement becomes the argument, the trace now being in the proper θ-position. This assignment of argument to the trace at the S-structure level is relevant to the logical form of (23c). Next, as we assumed before, the trace with the θ-role of a subject disappears on the surface structure of (23d), which leads us to the conclusion that the surface structure of "Who saw John?" does not contain a subject.

As far as the logical form, (23c) is concerned, there seems to be no problem since it satisfies the appropriate information to construe the sentence of "Who saw John?". Yet, when we pay careful attention to the D-structure (23a) and the surface structure (23d), a problem arises. Compare the following:

(24)   a. D-structure
       S
         NP INFL VP

       b. surface structure
          S
            INFL VP

where (24a) and (24b) describe the abstract constituents that (23a) and (23d) have, respectively. The contrast between (24a) and (24b) indicates that the D-structure configuration (i.e. (24a)) generated by PS-rules has been re-structured to (24b) at the surface structure level with, in effect, a missing subject NP. The question is whether this type of change in structure between the input and output of a sentence by dropping a subject NP is allowed in English. Recall, at this point, that languages such as Italian and Spanish allow this change provided the "pro-drop parameter" operates. Then, we can assume the same kind of parameter for English to account for the "re-structuring" from (24a) to (24b)?

In order to investigate this problem, let us first assume that English sentences must preserve the structure of (24a) at the surface structure level as well as the levels of D- and S-structures, and LF. In other words, root sentences of English are not allowed to contain missing subjects on surface structure. Then, we may propose the following condition on surface structure:

(25)  [NP, S] is obligatory at surface structure, where S is a root sentence

where [NP, S] reads NP of S, and means subject NP of S. Condition (25) should be generalizable to all sentences of English. Putting aside the case of (23) at this moment, however, one might claim that imperative sentences such as (26) violate this condition.

(26)  Leave the room!
Obviously, as seen in (26), the subjects of imperative sentences do not appear on surface structure. On the one hand, imperatives and interrogatives where WH-Movement moves the subjects to COMP appear to be the only counterexamples in English to the condition (25); on the other hand, it is questionable that the empty subject NP's in both cases (i.e. imperatives and interrogatives such as "Who saw John?") have the same property in their underlying structures in terms of the subject NP's, and that the two types of sentences can be collapsed as analogous cases. Hence, we need to contrast the underlying structures for those cases with respect to the empty subject NP's. The following tree diagrams of (27a) and (27b) are considered to be the S-structures of (23b) and (26), respectively:

(27) a.  
```
  COMP
   S
  who  NP  VP
    t  V   NP

  saw  John
```

b.  
```
  S
   NP  VP
  PRO  V  NP

  leave  the  room
```

Suppose we consider the structures of (27a) and (27b) are analogous, both containing empty NP's in the subject position. Then, the difference between the two is attributed to the type of empty NP's, trace vs. PRO. For the present discussion, this distinction is crucial to provide the evidence that the two cases should not be collapsed. Given subjectless imperatives such as (26), which has (27b) as its underlying structure, the empty subjects (i.e. PRO) can also be replaced by lexical items. And, in fact, English has imperative sentences such as (28), analogous to (26). On the contrary, no lexical items can be replaced in the subject position of (27a) as seen in the following:

(28) You leave the room?

(29) *Who I saw John?

The ungrammaticality would be accounted for by the θ-criterion in Chomsky (1981) since both the Case-marked trace of WH-Movement and the
lexical items (i.e. I, Bill, you, they) are in θ-position. On the basis of the contrast between imperatives and interrogatives above, we can now revise the condition (25) as follows:

(30) \[\text{[NP, S]} \text{ is obligatory at surface structure, where S is a root sentence, unless it is replaceable by a lexical item}\]

Therefore, given the revised condition of (30), there is no way to allow the absence of subject on surface structure in the case of (23d), whereas the substitution of you (and other lexical items; cf. fn. 7) makes it permissible for imperative sentences to have the structure of (24b) on the surface structure.

The serious problem with regard to the absence of subject in (23d) discussed above would not arise under the No WH-Movement Hypothesis, preserving the following consistency. First, we start with the D-structure of (23a). Since no WH-Movement applies, S-structure remains the same as the D-structure. Second, we will have the identical logical form with (23c). At this point, one might ask whether it is possible that logical form undergoes a movement, as can be seen in (23c), while syntax does not. For this question, I would like to refer to Huang (1980). In his paper, Huang discusses "Move WH" in logical form of such interrogative sentences of Chinese that syntax does not undergo the movement. Presumably, we can apply Huang's analysis to our present case of English. Hence, we can conclude the logical form is (23c). Finally, the surface structure and its tree diagram are as follows:

(31) a. \[S \text{ [NP who] [VP saw John]}\]

b. \[
\text{S} \\
\text{NP} \quad \text{INFL} \\
\quad \text{[+Tense]} \quad \text{VP} \\
\quad \text{who} \quad (\text{PAST}) \quad \text{V} \quad \text{NP} \\
\quad \quad \text{see} \quad \text{John}
\]

As far as θ-criterion is concerned, the VP of S, "saw John", assigns the θ-role of subject to who, which is in a proper θ-position. Therefore, the No WH-Movement Hypothesis does not suffer any contradiction at any level of representation.

With respect to the second question, (22b), we have seen counterexamples to the Case-marked trace theory in the examples of (10)-(12), assuming that contraction phenomena are generalizable. Within the framework of the theory, there seems to be no way to account for the contraction phenomena under the assumption that WH-Movement leaves behind "visible" traces. However, if we assume that WH-Movement does not apply to subject NP's, the account would change: the D-structure and the S-structure would be identical without any transformations involved. The adjacency of a wh-phrase and an auxiliary, as in (13)-(15), would always be preserved, without the interruption of traces. Having no element to be moved to COMP, the COMP is empty,
and hence, is deleted. This observation of the auxiliary contraction appears to provide strong justification for the No WH-Movement Hypothesis.

Before we examine the last question, (22c), the three types of question sentences mentioned in (22c) should be defined. Consider the following:

(32)  

(a)  Who did you see?

(b)  \[ \textit{s [COMP who]} [s did you see t] \]

(33)  "Abraham Lincoln was born in which year?"

(34)  

(a)  John: "I saw John Denver in the store yesterday."

(b)  Bill: "You saw who?"

(32a) is derived by WH-Movement from the object of see, and (32b) is the S-structure of (32a) after the movement. t in (32b) is the trace left behind by WH-Movement. I call sentences such as (32a) (having (32b) as its S-structure) "WH-Moved Question". (33) is one of the typical questions which are often heard in quiz shows. We should notice that in this type of sentence, the \textit{wh}-phrase is not stressed. I refer to these sentences as "Quiz-Show Questions". An example of an Echo Question is seen in (34b) in the dialogue between John and Bill in (34). In (34b), the \textit{wh}-phrase is stressed.

Given the above definition of three types of questions, we should focus on the case where \textit{wh}-phrase is in subject position in its D-structure.

(35)  

(a)  Who saw John? (WH-Moved Question)

(b)  \[ \textit{[s [COMP +\textit{wh}]} [s [NP who] [VP saw John]]} \]

(c)  \[ \textit{[s [COMP who]} [s [NP t] [VP saw John]]} \]

(36)  

(a)  Who saw John? (Quiz-Show Question)

(b)  \[ \textit{[s [COMP] [s [NP who] [VP saw John]]} \]

(37)  

(a)  Whó saw John? (Echo Question)

(b)  \[ \textit{[s [COMP] [s [NP who] [VP saw John]]} \]

The (a) sentences of (35)-(37) are the surface strings and the question types are indicated in parentheses above. The (b) and (c) sentences in (35) are the D-structure and the S-structure, respectively. In each sentence of (36) and (37), the (b) sentence indicates that the D-structure and the S-structure are identical. I am assuming, on the basis of examples such as (33) and (34), that there is no WH-Movement in Echo or Quiz-Show Questions.
Careful attention should be paid to the (a) sentences in (35)-(37). Recognition of the Echo Question can be done rather easily since the stress is on the wh-phrase, who, of the surface structure in (37a). The problem is with the distinction between (35a) and (36a): even though the sentences have a distinct difference in the D-structures and S-structures, there is no way to make a judgment from their surface forms which sentence has which S-structure. Then, can we conclude that there is no difference between (35a) and (36a)? If this is the case, then, why do we need WH-Movement, in the first place, to apply to (35b), but not to (36b)? Presumably, the only reason, if any, for the application of WH-Movement to subject position would appear to be the need to generalize "Move wh-phrase" as a part of "Move α". Suppose, here, WH-Movement does not apply to (35b), i.e. the No WH-Movement Hypothesis. The derivation of (35) would be just the same as that of (36). This change in assumption with respect to the occurrence of WH-Movement does not seem to cause any problem, nor does it seem to change the meaning.9

3. CONSTRAINT ON MOVE WH

In the previous sections, we have argued for the No WH-Movement Hypothesis along the line of the questions in (22), and have seen there is convincing motivation behind this hypothesis. Then, we should remember again that "Move wh-phrase", as a part of the transformational component "Move α", is postulated to generalize WH-Movement from all possible positions, including subject position. Yet, if the No WH-Movement Hypothesis is correct, "Move wh-phrase" needs some kind of stipulation to exclude WH-Movement from sentence-initial position. We now discuss how "Move wh-phrase" can be constrained.

For the purpose of the stipulation just outlined above, we should first compare two movement operations, i.e., the WH-Movement from subject position and from object position. The structural description (SD) and the structural change (SC) of WH-Movement from the two positions are shown in the form of tree diagram below:

(38) a. Who saw John?

b. SD:

c. SC:
(39) a. Who did John see?
   b. SD:
   c. SC:

In the above contrast, I would like to call special attention to the relative linear order of the terminal string in the SD's and SC's of (38)-(39). In (39), where "Move a" applies to the object position (i.e. item 3), the transformation changes the relative order in the terminal string of non-null phrase markers (i.e. 1-2-3 → 3-1-2).

In (38), on the other hand, where "Move a" applies to the subject position (i.e. item 1), there is no change in the linear order in terminal string of non-null phrase markers (i.e. 1-2-3 → 1-2-3). Then, we can ask whether this type of operation that does not change the linear order in the terminal string of non-null phrase markers can be qualified as a cyclic transformation. The same question is mentioned in Chomsky (1977b), concerning the necessity of the Raising-to-Object rule:

"One might then raise the question whether cyclic transformations should not be constrained so as to forbid operations that never change the terminal string of a phrase marker but only its structure, as in the original formulations of subject raising to object position ..." (p. 113)

Presumably, on the basis of the No WH-Movement Hypothesis, it is necessary to constrain such a vacuously applied transformation which does not change the relative linear order of the terminal string:

(40) Constraint on "Move wh-phrase"^10

"Move wh-phrase" must operate in such a way that the transformation changes the relative linear order in terminal string of non-null phrase markers.

The constraint of (40) prohibits vacuous applications of WH-Movement from subject position such as in (38b-c), and hence, the No WH-Movement Hypothesis is reinforced.
4. CONCLUSION

We have seen the problems with WH-Movement from subject position, originally triggered by the auxiliary contraction phenomena, assuming that contraction phenomena are generalizable. The argument has been made in the light of the following three points; (1) the absence of subject, (2) the auxiliary contraction phenomena observed in "Who's seen John?", (3) the distinction between WH-Moved questions and "Quiz-Show Questions". These three aspects provide evidence strong enough to posit and support the No WH-Movement Hypothesis. Furthermore, assuming that this hypothesis is correct, the transformational component "Move α" would over-generate, and, at least in core grammar for English, "Move wh-phrase" needs to be stipulated to exclude the movement from subject position in root sentences.

As the second step, we have discussed the constraint on movement, proposed as the Constraint on "Move wh-phrase" in (40). This constraint prohibits vacuous applications of "Move wh-phrase" in which the operation does not change the relative linear order in the terminal string of non-null phrase markers.

Given the No WH-Movement Hypothesis and the Constraint on "Move wh-phrase", supplemented by the surface condition of (30), the three problems listed above are solved. For further refinement of the constraint, it is necessary to examine all the phenomena that are considered to be ramifications of "Move wh-phrase" (or possibly "Move α") such as relativization and topicalization. In the meantime, the constraint of (40) is both satisfactory and necessary to prevent the WH-Movement in such cases as "Who's seen John?"

FOOTNOTES

*I would like to thank Adrian Akmajian, Rich Janda, Ann Farmer, Adrienne Lehrer, and John Underwood for helpful comments and encouragement. All errors are my own.

1By contrast, to this analysis of to contraction phenomena based on trace theory, strong refutation has been directed by Postal and Pullum in the sequence of debates (1978, 1979, 1982). Discussing a number of counterexamples to the account for the contraction by trace theory, Postal and Pullum conclude that trace theory can never provide a convincing explanation of the to contraction phenomena in English.

Postal and Pullum (1978) claim that the contraction in semi-auxiliaries is a counterexample to Chomsky and Lasnik's (1977) account for the phenomena by trace theory. The examples of semiauxiliaries are as follows:

a. ___ used John to write to Mary everyday.
b. John used t to write to Mary everyday.
c. John usta write to Mary everyday.

where (ib) is derived from (ia) by Raising, and (ic) is the result of contraction. According to Jaeggli, however, traces left by Raising
such as in (ib) are not Case-marked; as a result, the trace in (ib) allows the contraction of used and to, deriving (ic).

As can be observed, both Postal and Pullum and Jaeggli assume semiauxiliaries such as in (i) are cases derived by Raising. However, by contrast, Chomsky and Lasnik (1978) take a different position. That is, they assume that semiauxiliaries take various positions within AUX. Thus, this point is another argument in the debate between Chomsky and Lasnik and Postal and Pullum.

The Case-marking principle is the following:

1. a. NP is oblique when governed by P and certain verbs
   b. NP is objective when governed by V
   c. NP is nominative when governed by Tense

In Jaeggli (1980), it is assumed that "Case-marked traces function like lexical NP's" (p. 242), whereas "a trace unmarked for Case, e.g. [NP e], does not function as a lexical item" (p. 243). The relationship between traces and their function as lexical items is one of the crucial points to prove the Trace Deletion Hypothesis does not hold.

The order of (1) Subject-Auxiliary Inversion, (2) WH-Movement in (19) does not seem to be crucial in that we can derive the same result in the reverse order; i.e. (1) WH-Movement, (2) Subject-Auxiliary Inversion:

1. a. \[ S \[ \text{COMP} + \text{WH} \] \[ S \[ \text{NP} \text{who} \text{has seen John} \] \] \]

          \[ \text{WH-Movement} \]

          b. \[ S \[ \text{COMP} \text{who} \] \[ S \[ \text{NP} \text{t has seen John} \] \] \]

          \[ \text{Subject-Auxiliary Inversion} \]

          c. \[ S \[ \text{COMP} \text{who} \] \[ S \[ \text{NP} \text{t seen John} \] \]

          \[ \text{Contraction} \]

          d. Who's seen John (= (10))

We follow the principles of the auxiliary system and application of Do Support in Akmajian and Hny (1975). One may argue against the way we treat do here in the form of Do Support, claiming that the approach is "old-fashioned", and propose another theory. However, the argument with respect to Do Support and the auxiliary system assumed in the derivation of (21) does not concern us in this paper. The point to be noted is that whichever approach we assume, do must be accounted for in one way or another within the grammar, and under the present Subject-Auxiliary Inversion Hypothesis, we are forced to have the derivation of (21) as a consequence.
Note that the crucial problem underlying this question is not to ask whether English has a similar operation to "pro-drop parameter" as in Italian and Spanish, but to ask whether English allows surface structure to have the configuration of (24b). The former is not relevant to this discussion on the cases such as "Who saw John?" in that the erasure of the trace in the subject position is already assumed within the framework of Extended Standard Theory as well as GB theory. Thus, the question to be asked is more fundamental: Are sentences that have the structure of (24b) qualified as output sentences in English?

The lexical items in the subject NP to be replaced are not limited to you. Consider the following imperatives:

i. a. Nobody move!
   b. Everybody leave!

However, the lexical items which can be substituted are still restricted to a certain group of lexicon such as you, nobody, and everybody. Thus, the sentences of (ii) cannot be used as Imperatives.

ii. \(\begin{align*}
   \{ & \text{They} \\
   & \text{I} \\
   \{ & \text{Mary} \\
\end{align*}\)

   *move!

As far as the sentences in (i) are concerned, there is a serious problem in terms of Case-marking. In (ia-b), since the verbs are tenseless, the subject NP's cannot get Case. This is apparently incompatible with the Case filter (iii), which is assumed in Chomsky (1981):

iii. *NP if NP has phonetic content and has no Case

Important as it is, this problem does not concern us in this paper, and I leave it open here.

We assume that by convention, the unfilled COMP is deleted, so that the final structure is (31).

If we suppose there is a difference, it seems to be the difference in use, not in meaning, and is to be explained by Pragmatics.

The question as to whether the constraint of (40) can be generalizable is an empirical one, and needs further research. Furthermore, Clements et al. (1983) claim that string-vacuous rule application is not part of Universal Grammar on the basis of data in Icelandic, Kikuyu, and Irish. On this paper, however, we consider the constraint of (40) as language specific (i.e. English).
REFERENCES


