APPENDIX I

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Appendix II

POSTAL'S WH-CONSTRAINT

1. Introduction

The purpose of this appendix is to consider some very interesting data which are unaccounted for by the mechanisms discussed elsewhere in this monograph. The facts in question were first noted by Postal, who has proposed several different (but closely related) analyses of them. The structure of the chapter will be as follows: (i) the relevant data will be presented and discussed; (ii) an analysis of them will be proposed and its consequences explored; and (iii) the analysis proposed here will be compared with Postal's most recent analysis of these data.

2. The Facts

Consider the contrast between the (a) and (b) sentences of (1) and (2).

(1) (a) Who said Mary kissed him?
(b) *Who did he say Mary kissed?

(2) (a) The man who said Mary kissed him was lying.
(b) *The man who he said Mary kissed was lying.

Since it was concluded in Chapter 4 that WH-fronting applies before the pronominal anaphora rule, there is nothing in the preceding chapters that accounts for the deviance of (1b) and (2b).

Further, as Postal (197oa) argues, the contrast in (1) and (2) cannot be accounted for by any constraint statable in terms of deep structure or surface structure. (3) and (4) (in which the (a) and (b) sentences presumably have the same deep structures) show that deep structure does not suffice to account for such contrasts.

(3) (a) Who fed his dog?
(b) *Who was bid dog fed by?

(4) (a) Who did Mary talk to about his sister?
(b) *Who did Mary talk about his sister to?
The inadequacy of a surface structure constraint to account for this phenomenon is demonstrated by the fact that relatives with the WH-word deleted in surface structure behave similarly.

(5) (a) The man Mary talked to about his sister is a friend of mine.
    (b) *The man Mary talked to his sister about is a friend of mine.

In addition, the contrast in question cannot be a function of whether the pronoun is a subject, nor of the relative proximity of pronoun and antecedent (cf. Chapter 4, § 2.3), for in (6), the pronoun is both an object and far from the WH-word.

(6) *Who did your favorite second cousin tell him I had seen?

Rather, the correct generalization in all these cases (as has been observed by several people) is that such sentences are grammatical whenever the WH-word is fronted from a position to the left of the pronoun.

Given this generalization, there are two sorts of analyses which immediately suggest themselves. On the one hand, one could formulate a constraint blocking anaphora between WH-words and pronouns whose relative positions had been reversed by WH-fronting. Such a solution will be referred to as a “cross-over solution.” On the other hand, one could apply the pronominal anaphora rule prior to WH-fronting in these cases. Both approaches entail serious difficulties.

Notice first that since the pronominal anaphora rule has been shown to apply after WH-fronting (Chapter 4, § 3.2.), it follows that the cross-over approach requires the pronominal anaphora rule to refer to a previous stage of the derivation, i.e., the pre-WH-fronting structure. Thus, the cross-over solution requires a derivational constraint. Furthermore, such an analysis would not differentiate between cases in which the pre-fronting position of the WH-word is less deeply embedded than the pronoun and cases in which it is not. For ease of reference, cases of the former sort will be called weakly crossed sentences, and those of the latter type, strongly crossed sentences.2 The sentences in (7), however, demonstrate that such a differentiation is necessary, for although weakly crossed sentences would violate a cross-over constraint, they are far less deviant than strongly crossed sentences. (7a) from Remembered Death by Agatha Christie, Pocket Books, p. 58; (7b) from Travels with My Aunt by Graham Greene, Bantam Paperback, p. 190; and (7c) from Murder in Retrospect by Agatha Christie, Dell, p. 108).

(7) (a) He was the type of man with whom his work would always come first.
    (b) On December 23rd, the postman brought a large envelope which, when I opened it at breakfast shed a lot of silvery tinsel into my plate.
2. An Analysis

2.1 The Trace Proposal

That there is an escape from this apparent paradox was pointed out by Peter Culicover (personal communication). Culicover suggested that WH-

(c) He was the kind of man who when he loses his collar stud bellows the house down.

(d) How many copies of Aspects does your friend who collects them own?

(e) Which well-known actor did the policeman who arrested him accuse of being drunk?

It seems, then, that the cross-over solution to the problem posed by (1) and (2) cannot be maintained. There remains, therefore, the possibility of applying the pronominal anaphora rule before WH-fronting. The difficulty with this idea is that, as (8) shows, the pronominal anaphora rule must be allowed to apply after WH-fronting.

(8) (a) He finally married one of the women Bill had been dating.
(b) Which of the women Bill had been dating did he finally marry?

Applying the anaphora rule both before and after fronting would not alleviate the problem, for (1) requires that certain anaphoric relations be blocked prior to WH-fronting, whereas (8) requires that other anaphoric relations not be blocked so early. It might be suggested that anaphora assignment applies both before and after WH-fronting, but that WH-words may not be marked for anaphora once they have been fronted. This would account for all the data presented so far, and it seems plausible to claim that WH-words, when put into complementizer position (see Chomsky (1971)), lose the ability to enter into anaphoric relations with pronouns. Formally, this could be accomplished by depriving WH-words in complementizer position of their NP status. Unfortunately, such a solution fails because of sentences like (9).

(9) (a) Who killed Cock Robin, and why did he do it?
(b) If I knew who stole the jewels, I would turn him in.

In these examples, WH is fronted on a cycle in which the pronoun is not even included, so the indicated anaphoric relations cannot be marked prior to WH-fronting. Such examples show that in some cases, WH-words must be marked for anaphora after fronting.

Thus, it seems that (1) and (8) entail a genuine ordering paradox.

2. An Analysis

2.1 The Trace Proposal

That there is an escape from this apparent paradox was pointed out by Peter Culicover (personal communication). Culicover suggested that WH-
fronting could be formulated so that a phonetically null copy of the WH-word is left behind in its pre-fronting position. By the arguments of Chapter 2, § 4, this copy would necessarily be anaphorically related to the WH-word. Hence, if the WH-word itself enters into an anaphoric relation with the pronoun, then by the Transitivity Condition (Chapter 3, § 4), the copy and the pronoun must enter into an anaphoric relation. If this relation is blocked, then the sentence is deviant. It therefore follows that WH-words' behavior with respect to anaphora should be just what it would be if they were in their pre-fronting positions. This consequence is discussed in the next section.

This analysis (which I will refer to as the trace analysis) is illustrated in (10).

(10) (a) [S₁ He said [S₂ Mary kissed someone S₂] S₁].
(b) [S₁ Whom did he say [S₂ Mary kissed Δ S₂] S₁].

The transformation of WH-fronting converts a structure like (10a) into one like (10b). Now, if whom and he in (10b) are to be allowed to enter into an anaphoric relation, the Transitivity Condition requires that Δ and he also be anaphorically related. Consequently, the resultant sentence will be ungrammatical for the same reason that (11) is.

(11) *He said Mary kissed someone.

Notice that this proposal does not block (8b), since the trace left by WH-fronting will be anaphorically related to which of the women John dated, not to John, so that the Transitivity Condition does not apply.

One immediate objection to such an analysis is the following: if, as an earlier chapter suggested, empty nodes are to be treated by the anaphora rules just like pro-forms, then there is no reason why he may not serve as the antecedent of Δ, in which case the relevant anaphoric relation would always be possible. So some means must be found to keep he from serving as the antecedent of Δ.

This can be accomplished formally simply by marking the trace left behind by WH-fronting with some feature (e.g., -pro) which distinguishes them from pronouns. This does not prevent these traces from having the WH-words as their antecedents, for this anaphoric relation is marked by the rule of WH-fronting, and, as was shown in Chapter 2, copying rules may produce anaphoric relations forbidden by the anaphora rules.

The analysis suggested above appears at first to be quite ad hoc. In fact, it amounts to a weakening of the standard requirement that the rules of a grammar be simply ordered. There are, however, some reasons (beyond the arguments given above) to believe that it may be correct.

The first of these reasons is that a number of other researchers (Chomsky (1971), Perlmuter (1972), Selkirk (1972)) make very similar proposals
Thus, Chomsky's proposal to require all movement transformations to leave behind a trace receives support from (12).

Topicalization behaves much like Cleft sentence formation, thereby providing further support for Chomsky's proposal. (14) shows that the pronominal anaphora rule must be allowed to apply after Topicalization, and (15) shows that the paradigm of (1) generalizes to Topicalization.

If all movement rules leave behind traces, then other movement rules should interact with pronominal anaphora in much the same way as WH-fronting. That is, paradigms like (1) and (2) ought to exist in cases involving movement transformations other than WH-fronting. That such paradigms do, in fact, exist is shown by (12).

(12) (a) It was John that said Mary kissed him.
(b) *It was John that he said kissed Mary.

Notice, by the way, that (12) cannot be accounted for by ordering Cleft sentence formation after the pronominal anaphora rule, because of examples like (13).

(13) (a) *He finally married the woman Bill had been dating.
(b) It was the woman Bill had been dating that he finally married.

Thus, Chomsky's proposal to require all movement transformations to leave behind a trace receives support from (12).

Further supporting evidence involves the rules of Tough movement and It-replacement. Both of these rules were shown to follow the pronominal anaphora rule in Chapter 4, § 3.2.x. One would therefore predict that the marginal sentences in (16) could be made fully grammatical by applying Tough movement and Subject raising.
(16) (a) ?It was easy for his brother to help John.
(b) ?It seems to his brother that John is unhappy.

That this expectation is not borne out is shown in (17).

(17) (a) ?John was easy for his brother to help.
(b) ?John seems to his brother to be unhappy. 

These facts follow immediately from an analysis which requires Tough movement and It-replacement to leave behind a trace, since the trace may be anaphorically related to a pronoun only if the NP could have been, had it not been moved. (Recall that the Transitivity Condition requires that the trace be marked for anaphora whenever the moved NP is).

2.2 Some Consequences

The most obvious prediction this analysis makes is that all strongly crossed sentences are ungrammatical. This prediction is fully borne out for all speakers, as is evidenced by the complete agreement among informants regarding (1b), (2b), (12b), and (15b). Similarly, this analysis correctly predicts that a preposed NP can always serve as the antecedent of a pronoun to the right of its pre-fronting position, as, e.g., in (1a), (2a), (12a), and (15a).

In weakly crossed sentences, the analysis suggested above predicts that an anaphoric relation is possible only if the antecedent is determinate. Since there is a good deal of individual variation regarding the possibility of right-to-left anaphora (and hence regarding determinateness — cf. Chapter 4, § 2.2), the trace analysis correctly predicts that reactions to weakly crossed sentences will differ widely as well. Further, it predicts a correlation between judgements regarding right-to-left anaphora and judgements regarding weakly crossed sentences.

For movements other than WH-fronting, such a correlation can easily be seen to exist.

(18) (a) A man who had heard it before interrupted Bill's story.
(b) *A man who had heard it before interrupted someone's story.

(19) (a) It was Bill's story that a man who had heard it before interrupted.
(b) *It was someone's story that a man who had heard it before interrupted.

(20) (a) Bill's story, a man who had heard it before interrupted.
(b) *Someone's story, a man who had heard it before interrupted.
In the case of WH-fronting, the situation is a bit more complex, for it is not a priori clear how to assign determinateness to WH-words. Chomsky (1964) argues that WH-words in questions are derived from "unspecified indefinites." If this is correct, then these words are indeterminate, and should yield ungrammatical weakly crossed sentences. In fact, it appears that questions beginning with who, whose, or what behave just like the corresponding declarative sentences with someone, someone's, or something. Thus, the examples in (21) are just about as bad as those in (22).

(21) (a) ?Who did the woman he loved betray?
(b) ?Who's story did a woman who had met him before interrupt?
(c) ?What did the man who lost it need to find?
(22) (a) ?The woman he loved betrayed someone.
(b) ?A woman who had met him before interrupted someone's story.
(c) ?The man who lost it needed to find something.

Weakly crossed questions involving which and how many sound a good deal more natural, as do the corresponding declaratives.

(23) (a) ?Which picture did the man who painted it refuse to sell?
(b) ?How many dachshunds does your friend who breeds them own?
(24) (a) ?The man who painted it refused to sell one picture.
(b) ?Your friend who breeds them owns many dachshunds.

This is consistent with the claim that it is the determinateness of the antecedents which is relevant in such cases, for the intuitive characterization of the determinateness given in Chapter 4, § 2.2 would lead one to expect that forms like which picture and how many dachshunds would be more determinate than forms like who and what. This corresponds to the fact that NP's like one picture and many dachshunds are more likely to be interpreted specifically than NP's like someone and something.

If the antecedent is separated from the WH-word by a preposition, then the sentences are still better, both in their interrogative forms and in their declarative forms.

(25) (a) Which of John's teachers do the people who know them all respect most?
(b) How many of the demonstrators did the police who arrested them beat up?
(26) (a) The people who know them all respect one of John's teachers most.
It is quite likely that some readers will disagree with the judgements assigned in (18)-(26). This is not surprising, for there seems to be a great deal of variation among speakers with respect to determinateness. It is, however, striking that speakers tend to give the same response to the interrogative sentences as to the corresponding declaratives. Thus, though the data themselves may be rather marginal, the correlation that emerges from them seems reasonably clear. This is strong supporting evidence for something akin to the proposal in this appendix.

Do similar correspondences hold for relative clauses? At first it might seem that the answer to this question is "no" because of contrasts like (27).

(27) (a) ??Mary pities the man who the woman he loved betrayed.
(b) The woman he loved betrayed the man.

It is, however, not implausible to suggest that a simple NP like the man in (27b) differs from the head NP of a relative clause with respect to determinateness. If such a difference can be justified, then facts like (27) can be accounted for without having to abandon the idea under consideration.

Unfortunately, it is very difficult to find an independent criterion for judging the determinateness of relative pronouns. A plausible guess would be that a relative pronoun is determinate just in case the relative clause is non-restrictive. This proposal is not tenable, however, because of sentences like (28) (due to Paul Kiparsky).

(28) (a) The mushroom that I'm talking about still grows in Kashmir.
(b) A beaver who has any self-respect builds dams.

Nevertheless, some speakers do feel that weakly crossed relative clauses are better if they are non-restrictive.

(29) (a) ??I just met the doctor who the patients he treats detest.
(b) ?I just met Dr. Morgan, who the patients he treats detest.
(c) ??Mary wants to meet a man who the policeman who arrested him said was innocent.
(d) ??Mary wants to meet a certain man, who the policeman who arrested him said was innocent.
(e) ??Everyone avoids the city which even the people who live in it can't stand.
(f) Everyone avoids the City, which even the people who live in it can't stand.
Unfortunately, these judgements are quite uncertain and subject to considerable individual variation.

In general, then, it appears to be rather difficult to test the proposal in this appendix on weakly crossed relative clauses. There is, however, one fact concerning relatives which does support this analysis. Larry Horn (personal communication) has noticed that right-to-left anaphora from indeterminates is often possible in environments containing even or only. This is illustrated in (30).

(30) (a) ??The man who designed it can understand a computer.
(b) Only the man who designed it can understand a computer.
(c) ??If you are looking for it, you'll never find a unicorn.
(d) Even if you are looking for it, you'll never find a unicorn.

Avery Andrews (personal communication) has observed that even and only also improve some weakly crossed relative clauses. This is demonstrated by (31) ((31b) due to Joan Bresnan).

(31) (a) ??I have a friend who those who know him well can appreciate.
(b) I have a friend who only those who know him well can appreciate.
(c) ?John owns a machine which the man who designed it can't understand.
(d) John owns a machine which even the man who designed it can't understand.

Whatever the underlying reason for this property of even and only, it seems clear that the phenomena illustrated in (30) and (31) are closely related. The analysis suggested in this chapter captures this fact by treating weakly crossed sentences as instances of right-to-left anaphora. Thus, (30) and (31) provide support for this analysis.

3. Postal's Analysis

Postal's most recent analysis of the problems considered in this chapter suggests that weakly and strongly crossed sentences should be handled in rather different ways. The remainder of this chapter will consider the mechanisms Postal proposes, and compare them with the analysis described in §2.

3.1 The Two-Rule Proposal

To account for strongly crossed sentences, Postal orders his pronominal anaphora rule before such movement rules as WH-fronting, Cleft sentence
formation, and Topicalization. Specifically, Postal (lecture at MIT, January, 1972) proposes that pronominal anaphora should be marked “at the end of the first covering cycle,” i.e., at the end of the first cycle including both the anaphor and the antecedent. He argues that this entails that it will always apply before WH-fronting, Topicalization, and certain other movement rules. In order to account for sentences like (8b), (13b), and (14b), Postal proposes a second pronominal anaphora rule, applying after all of these movement transformations, which allows anaphoric relations to be established between definite pronouns and NP’s to their left, so long as the NP does not command the pronoun.

This analysis has the same basic effect as the trace proposal, viz., it finds a way around the strict ordering of the movement rules with respect to the pronominal anaphora rule. There are, nevertheless, differences between the two analyses.

The most important difference is that the trace proposal predicts that movement transformations may sometimes reduce the number of possible pronoun-antecedent pairs, whereas Postal’s analysis predicts that this is not the case. The former prediction appears to be somewhat more accurate, as (32) shows.

(32) (a) Bostonians who know the police believe that many of them are on the take.
    (b) ??How many of them do Bostonians who know the police believe are on the take?
    (c) Those people who had encountered the gang always recognized the sheriff’s picture of them.
    (d) ??The sheriff whose picture of them those people who had encountered the gang always recognized was ultimately gunned down.
    (e) The members of the band all thought one of them was a fugitive from justice.
    (f) ??It was one of them that the members of the band all thought was a fugitive from justice.
    (g) ??One of them, the members of the band all thought was a fugitive from justice.  

To account for such facts, Postal’s two-rule proposal would have to be augmented by still another constraint blocking sentences like (32b), (32d), (32f), and (32g). The analysis suggested in § 2, on the other hand, makes just the right predictions here.

Another difference between the trace analysis and the two-rule proposal is that Postal’s second anaphora rule applies only to NP’s which do not command the relevant pronouns. The trace analysis, on the other hand,
restricts anaphoric relations only for NP's which leave behind a trace, i.e., for NP's mentioned by movement rules (cf. § 3.2.2 below). Thus, Postal would predict that sentences like (33b) are impossible, whereas the trace proposal correctly permits them.

\[(33) \begin{align*}
(a) & \quad \text{*He likes many of John's teachers.} \\
(b) & \quad \text{How many of John's teachers does he like?}^{19}
\end{align*}\]

It seems, then, that the evidence, while not overwhelming, tends to support the trace analysis of § 2 over Postal's two-rule proposal.

3.2 The WH-Constraint

Postal (1972a) suggests that the derivational constraint given here as (34) is part of the grammar of one dialect of English.

\[(34) \text{Mark as ill-formed any derivation in which:} \]

(i) there are two nominal constituents, A and B, in the input structure of a WH-movement rule, where:

(a) A is a pronoun

(b) B is a WH form\(^{14}\)

(c) A is to the left of B and:

(ii) the corresponding constituents of A and B in the output structure of the WH-movement rule, call them A' and B', respectively, are alligned such that B' is to the left of A' and:

(iii) in the Semantic Representation, A and B (or more precisely, their corresponding elements) are marked as stipulated coreferents.\(^{15}\)

Postal calls (34) “the WH-Constraint.”

The effect of the WH-Constraint is to mark as ill-formed all weakly or strongly crossed questions and relative clauses. Since strongly crossed sentences are ungrammatical for independent reasons, the WH-Constraint is actually relevant only to weakly crossed sentences. Postal’s claim is that, in his dialect, all weakly crossed questions and relatives are ungrammatical.

Although it would obviously be presumptuous to contradict anyone’s claims about his own judgements of grammaticality, in this case it seems that Postal’s dialect is exceedingly rare. Whole some weakly crossed questions and relatives are rejected by many speakers, others appear to be acceptable to virtually everyone. There are a great many borderline cases, and wide variation exists among speakers. For example, few (if any) speakers reject (35a), most speakers reject (35b), and reactions to (35c) are extremely mixed.
Postal's analysis allows for only two dialects: the one with the WH-Constraint and the one without it. The real situation is certainly far more complex than that. Postal might perhaps postulate that there are other dialects with modified versions of the WH-Constraint, but it is far from obvious what form this modification would take. On the other hand, Postal could say that the variation among speakers is a function of the variation regarding right-to-left anaphora. This would be consistent with everything he says, and it would be an automatic consequence of his ordering of the pronominal anaphora rule with respect to WH-fronting.

Notice, however, that such an approach renders highly questionable the need for the WH-Constraint in the first place. If Postal's dialect does indeed reject all weakly crossed questions and relatives, it could simply be stipulated that, for Postal, all WH-words are indeterminate. It would follow that weakly crossed questions and relatives are ungrammatical in his dialect, and the WH-Constraint would no longer be needed. Such an alternative would be preferable to the WH-Constraint in several ways. First, it would correlate the individual variation regarding weakly crossed questions and relatives with the individual variation regarding determinateness. Secondly, it would eliminate the need for a rather lengthy and apparently ad hoc derivational constraint. Thirdly, it would permit weakly and strongly crossed sentences to be treated uniformly.

3.2.x Postal (1970a, 1972a) argues against any analysis constructed along these lines. His argument is based on the fact that, under certain circumstances, WH-words in questions do not get fronted. He observes that the WH-constraint predicts that such sentences would differ considerably from ordinary questions with respect to possible anaphoric relations. The analysis suggested above, on the other hand, would predict that the fronting of WH-words does not affect the possible anaphoric relations. Postal gives a number of examples which allegedly support the prediction of the WH-constraint.

These examples fall into two groups: those in which Postal's factual claims are very questionable,16 and those in which intonational factors provide an explanation for the facts. Examples of the latter type consist of what Postal calls "incredulity question clauses" and "legalistic question clauses." Incredulity question clauses are formed by replacing words or phrases in the immediately preceding sentences with WH-words, and assigning these WH-
words extra heavy stress and, in Postal's words, "a special sharply rising intonation." Legalistic question clauses, according to Postal, "seem natural only in the mouths of courtroom attorneys, police investigators, and quiz program announcers," and are characterized by falling intonation. Examples of these are given in (36).

(36) (a) Nixon appointed who to the Supreme Court?
(b) The person you saw was walking in which direction?

In many cases, certain anaphoric relations in incredulity question clauses and legalistic question clauses seem far more natural than in the corresponding ordinary questions. Thus, in (37)-(40), the (a) sentences seem much better than the (b) sentences.

(37) (a) The newsman who criticized him later belted which official?
(b) Which official did the newsman who criticized him later belt?

(38) (a) Finding out he won surprised which candidate?
(b) Which candidate did finding out he won surprise?

(39) (a) Mr. Jones, for $100,000, the man who appointed him later said what Secretary of State was an imbecile?
(b) What Secretary of State did the man who appointed him later say was an imbecile?

(40) (a) Remembering you are under oath, the witness who claimed he had never seen it was walking towards what building?
(b) What building was the witness who claimed he had never seen it walking towards?

The key fact about such examples is that the intonation and context indicate that the questioner knows the answer, and is trying to elicit this answer from his listener. Thus, it would not be implausible to say that the underlined NP's in the (a) sentences are determinate (i.e., specific). If this is the case, then the non-deviance of the (a) sentences is no problem for the analysis defended here. As for the marginality of the (b) sentences, this can be attributed to the fact that the normal contexts and intonation patterns for these sentences do not force a specific interpretation of the underlined NP's. In fact, if the (b) sentences occur in the same contexts (e.g., after the initial phrases of (39a) and (40a)) and with the same intonation patterns as the (a) sentences, then there is no difference with respect to possible anaphoric relations. Thus, the data in (37)-(40) do not support the WH-constraint over the analysis defended here.
In the remaining examples Postal presents in defense of the WH-constraint, his data are extremely questionable, at best. They consist of questions containing more than one WH-word. In these cases, only one WH-word may be fronted, and the WH-constraint predicts that the other WH-words in the sentence may serve as antecedents to pronouns on their left. Specifically, the WH-constraint predicts a difference in acceptability between the (a) and (b) sentences in (41) and (42).

(41) (a) ?Which columnist reported her victory to which actress' father?  
(b) ?To which actress' father did Joseph Alsop report her victory?

(42) (a) ?What company had his wife spy on what well-known industrialist?  
(b) ?What well-known industrialist did General Motors have his wife spy on?

In these cases, Postal's claims to the contrary notwithstanding, there is little or no difference, so the analysis defended here makes the right prediction, but the WH-constraint does not.15

3.2.2 Another argument in favor of the WH-Constraint might be constructed on the basis of examples like (43).

(43) (a) *He hung Bill's gold-plated cast of Barbara Streisand's nose on the wall.  
(b) *Whose gold-plated cast of Barbara Streisand's nose did he hang on the wall?  
(c) ?Bill's gold-plated cast of Barbara Streisand's nose, he hung on the wall.  
(d) ?It was Bill's gold-plated cast of Barbara Streisand's nose that he hung on the wall.

The difference between WH-fronting and other NP preposing transformations illustrated in (43) could be argued to be a reflex of the WH-Constraint. A little reflection, however, indicates that this is not the case. The most obvious defect in the claim that (43) supports Postal's position is that his reanalysis incorrectly predicts that all of the examples in (43) should be equally deviant (since Bill commands he in both (43c) and (43d)). Furthermore, the intuitions given in (43) are not subject to the same individual or dialectical variations as the WH-constraint. That is, speakers who are perfectly willing to accept weakly crossed sentences like (7) will nonetheless recognize the contrast in (43). For such speakers, Postal would have to say that the
of the WH-constraint, insist of questions contain one WH-word may be her WH-words in the ir left. Specifically, the between the (a) and (b) story to which actresseph Alsop report he on what well-known General Motors have standing, there is little the right prediction, but nt might be constructed Barbara Streisand’s nose Streisand’s nose did be reisand’s nose, be hung Barbara Streisand’s nose preposing transformation of the WH-Constraint. ot the case. The most al’s position is that his des in (43) should be ) and (43d)). Furtherthe same individual or eakers who are perfectly ll nonetheless recognize ld have to say that the WH-constraint operates selectively — a rather unsatisfactory conclusion, especially in the absence of a principle for determining in which cases it does operate.

A further reason for suspecting the claim that (43) supports the WH-constraint is that (43c) and (43d) are acceptable only if Bill receives very weak stress. In each case, if Bill is the item being focused, then the indicated anaphoric relation is impossible. Since in (43b) whose must necessarily be the focus, it appears that the contrast in (43) ought to be explained in terms of anaphoric relations involving the focused element, rather than through an ad hoc device like the WH-constraint.

One way of capturing facts like (43) in the analysis presented here would be to stipulate that, in cases of what Ross (1967a) terms “pied piping,” the NP mentioned in the structural description of the movement transformation leaves behind a trace, and the entire NP which actually gets moved does too. Specifically, in (43b), since the fronting rule mentions only the WH-word, the trace left behind will be something like (44).

\[
\begin{array}{c}
\text{NP} \\
\text{Det} \\
\end{array}
\]

Therefore, both whose and whose gold-plated cast of Barbara Streisand’s nose will be able to enter into only those anaphoric relations which would have been possible from their pre-fronting positions. This analysis also provides an account of the correlation between stress and anaphora in (43c) and (43d). From the rather plausible assumption that Cleft sentence formation and Topicalization should be formulated as rules fronting the focused element, it follows that the indicated anaphoric relations in (43c) and (43d) will be impossible just in case Bill is the NP mentioned by the rule, i.e., just in case Bill is the focus. Since the stress indicates the focus, the relevance of stress in these examples is explained.

Another case in which WH-fronting appears to behave differently from other fronting rules is given in (45).

(45) (a) ??Whose mother did the girl be married insult?  
(b) John’s mother, the girl be married insulted.  
(c) It was John’s mother that the girl be married insulted.
Since (45) does exhibit the variation characteristic of the WH-constraint, and since stress does not affect the judgements in (45), this contrast might at first be taken as support for Postal's reanalysis against the position taken here. There is, however, a perfectly straightforward explanation for (45), namely that whose tends to be interpreted indeterminately, whereas John is determinate. This explanation is supported by the fact that (45b) and (45c) become at least as bad as (45a) if someone is substituted for John.

4. Summary

It was shown early in this chapter that an ordering paradox involving the pronominal anaphora rule and WH-fronting could be duplicated using several other NP movement rules. It was seen that these paradoxes could be resolved either by modifying the notion of movement rule or by introducing a second pronominal anaphora rule. Some evidence in favor of the former solution was given.

It was then shown that either of these solutions to the ordering paradox eliminated the need for Postal's WH-Constraint, provided that individual speakers are permitted a great deal of leeway in assigning determinateness to WH-words. The absence of an independent criterion for assigning determinateness to WH-words (at least in relatives) detracts to some extent from the force of this argument. It has, however, been shown that much of the evidence purportedly supporting the WH-Constraint has an independent explanation, so the need for the constraint is extremely questionable. Certainly, the burden of proof has been shifted back to its proponents.

NOTES

1 Postal also claims to show that the constraint cannot be formulated in terms of shallow structure or in terms of any combination of deep structure, surface structure, and shallow structure. However, his arguments for these claims are circular in that they depend on acceptance of his claim about what the relevant generalization is. Since I cannot see any way to account for the facts in terms of one or more of these levels, I will not consider the question of whether there is some argument against doing so in principle.

2 These terms are used below in a more general sense, viz., to denote any sentence in which an NP is crossed over a pronoun to which it is anaphorically related. In what follows, the context should indicate fairly clearly which sense is intended.

3 There is a great deal of individual variation in judgements of weakly crossed sentences. However, all speakers recognize that they are incomparably better than strongly crossed sentences. In many cases, I found it necessary to explain to informants that the indicated anaphoric relations in examples (1b) and (2b) were logically possible. On the other hand, judgements about the examples in (7) tend to be unsure, often taking the form of remarks
APPENDIX II

WH-constraint, and its contrast might at the position taken planation for (45), zy, whereas John is at (45b) and (45c) for John.

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to the effect that the examples were awkward, but comprehensible. Notice that three of the sentences in (7) were published; in contrast, it is inconceivable that strongly crossed sentences would ever be used.

4 This proposal might be objected to on the grounds that it in essence formulates “chopping rules” (Ross (1967a), Chapter 6) as copying rules in which the copy is phonetically null. This obscures to a large degree the distinction between these types of rules (see Ross (1967a)). If this distinction is indeed as vital as Ross claims, it might be possible to say that chopping rules are those in which the trace is ultimately deleted. If this proposal is tenable, then the Complex NP Constraint (and perhaps Ross’ other constraints) can be restricted to deletion rules alone (cf. Chapter 5, § 2). This might also make it possible to account naturally for dialects in which sentences like (i) are acceptable (cf. Ross (1967a), § 6.2.3).

(i) King Kong is a movie which you’ll laugh yourself sick if you see it.

5 It might be argued that (12) involves WH-fronting followed by optional deletion of the WH-word, i.e., that sentences like (i) are derived from sentences like (ii).

(i) It was John that left.
(ii) It was John who left.

The judgements in (12) would then be an immediate consequence of such an analysis, given example (2). Under this analysis, however, it would be difficult to account for the fact that (iii) and (v) are so much better than their purported sources, viz., (iv) and (vi).

(iii) It was a doctor which John wanted to become.

(iv) *It was a doctor who which John wanted to become.

(v) It was a blonde that John brought to your party.

(vi) ?It was a blonde who John brought to your party.

It seems likely that whatever analysis is adopted for (iii) and (v) could also account for (i). If this is so, then the deviance of (12b) does not follow from the deviance of (2b).

6 (15a) is rather awkward, but this has nothing to do with anaphora, as evidenced by the fact that (i) is equally awkward.

(i) John, Mary claims said Jane kissed Bill.

On the other hand, the deviance of (15b) definitely has something to do with anaphora, as the grammaticality of (ii) shows.

(ii) John, Mary claims Bill said Jane kissed.

7 These examples are not out for all speakers because of the individual variation regarding the definition of “less deeply embedded than” ; see Chapter 4, § 2.2.

8 The examples of (17) are somewhat better than those of (16), but they are considerably less natural than the superficially similar sentences in (i) and (ii).

(i) John is eager for his brother to help.

(ii) John writes to his brother to be careful.

9 I hesitate to label this a case of “idiolect” variation. Rather, I tend to believe that determinateness cannot really be clearly defined, so that there is often a good deal of doubt regarding the feasibility of right-to-left anaphora. This view is supported by the fact that it often happens that a given speaker will respond differently on different days to examples of this sort.

10 If the relative clause is restrictive, there is some reason to think that the head NP is indeterminate, for the restrictiveness of the relative clause indicates that the rest of the context fails to provide sufficient information to assign a referent to the head. If, for example, a complex NP like the man Mary saw is used, it is implicit that the use of the NP the man in its place would not have sufficed to indicate what man is intended. Thus, it seems intuitively correct to stipulate that the head of a restrictive clause is indeterminate. Since the head of a relative is anaphorically related to (and hence non-distinct from) the relative pronoun, it seems reasonable to suppose that relative pronouns in restrictive relative clauses are indeterminate.

Similar reasoning leads to the conclusion that the heads of non-restrictive relative clauses are determinate. The non-restrictiveness of a relative clause is an indication that the informa-
tion contained in that relative clause is not needed for the purpose of identifying the referent of the head NP, i.e., that the head is determinate.

In spite of the very informal character of the above discussion, the hypothesis that the restrictive-non-restrictive distinction for relative clauses corresponds to the determinate-indeterminate distinction for the NP's makes certain empirical predictions which can be tested. In particular, it predicts that proper and generic NP's allow only non-restrictive relatives, and that necessarily indeterminate NP's allow only restrictive relatives. Some facts, given in (i)-(x), seem to bear this prediction out, but others, such as (28), contradict it.

(i) John, who was here yesterday, is now gone.
(ii) *John was here yesterday is now gone.
(iii) I don't trust anyone who votes.
(iv) *I don't trust anyone, who votes.
(v) John is a man who keeps his word.
(vi) *John is a man, who keeps his word.
(vii) I met someone who knows you yesterday.
(viii) ??I met someone, who knows you, yesterday.
(ix) Something that I own is very valuable.
(x) ??Something, which I own, is very valuable.

11 This fact is a mystery to me. No existing theory of anaphora can come close to accounting for it.

12 None of these is bad enough to establish my point very strongly. This is because the pronouns are all objects of prepositions, thus leaving somewhat uncertain the question of whether they are less deeply embedded than their antecedents. Sentences like (i)-(iii) might constitute stronger evidence for my position, but their significance is somewhat dubious because considerations of stress may be sufficient to exclude (ii) and (iii).

(i) The woman who loved John betrayed him.
(ii) *It was him that the woman who loved John betrayed.
(iii) *Him, the woman who loved John betrayed.

13 This argument is not terribly decisive, since it would be quite simple for Postal to modify his proposed second pronominal anaphora rule to account for (33b). Nevertheless, (33) does show clearly that the specific proposal Postal made in the lecture cited above is inadequate.

A third difference between the analyses in question has to do with the ordering of Tough movement and It-replacement. Postal orders these rules before the pronominal anaphora rule, unlike the other NP fronting rules discussed. In contrast, the trace proposal treats these rules just like other NP fronting rules. The crucial examples here are sentences like (17). The trace analysis predicts that they should be just as bad as (16), whereas, according to Postal's analysis, they should be fully grammatical. Unfortunately, it appears that both predictions fail here, for the examples of (17) are too good for my analysis and not good enough for Postal's.

14 There is a problem regarding the notion "WH-form". Postal (1970a) uses (34) in excluding (1).

(i) *Whose friend's father did he criticize?

If the italicized NP in (i) is a WH form, why are sentences like (ii) not similarly excluded?

(ii) How many of John's teachers does he call by their first names?

Postal (1970a) recognizes this problem and devotes a lengthy footnote (footnote 14) to it, but instead of providing an answer, he merely assures the reader that it is possible to provide one. It is interesting to note, by the way, that in his discussion of this problem, Postal refers to "WH-marked nominals". If he conceives of WH-marking as a process which precedes WH-fronting, then he has implicitly abandoned his "orphan preposition" argument against cyclic WH-fronting, for, as Jackendoff (1969), p. 51, shows, the orphan preposition argument fails if WH is a feature of entire nominal phrases.

15 Postal uses the phrase "stipulated coreferents" to mean what I would call "anaphorically related NP's."
Since my intuitions on weakly crossed sentences tend to differ from those of most other speakers, I have checked Postal’s claims with a number of informants. I have been unable to find a speaker who agrees with Postal’s judgements.

(77a) and similar sentences seem to be fully acceptable to most speakers only if they receive the heavy stress of incredulity. If pronounced as normal echo questions, the reactions are mixed.

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