WH-MOVEMENT: ISLANDS, BARRIERS AND SUCCESSIVE-CYCLICITY

Part III. Barriers

1. INTRODUCTION

- **Goal**: an attempt to unify bounding (Subjacency a subcase of which is CED) and government (ECP) through the notion of barrier.

- **General idea**: certain categories in certain configurations are barriers to government and barriers to movement. <u>One barrier</u> blocks government (ECP). <u>More than one barriers</u> block movement (Subjacency, CED).

2. ASSUMPTIONS

2. 1. Phrase structure

X' theory is generalized to non-lexical categories, i.e. to CP and IP

2. 2. Movement

case 1. substitution:

> There is no movement to complement position
> Only heads can move to head positions
> Only XPs can move to specifier positions
> Only heads and XPs are visible to Move α

NB: he takes head movement to be substitution. He discusses V-movement to C (p. 6 in V-2 environments) as an instance of head movement as substitution. Later on, he discusses V-to-I movement. He says that V "amalgamates with" I as a result of V-to-I movement.

case 2. adjunction:

Three crucial assumptions:

(a) No adjunction to IP

p. 5: *"Another possibility is that wh-phrases have clausal scope and <u>cannot be adjoined to IP;</u> hence, they must move to the position of specifier of CP[…]. There is some reason to believe that this stronger condition is required, and I will henceforth assume it.[1]As a result, although the rule of Quantifier raising QR may involve adjunction to IP, this operation is barred for operators of the wh-type."*

(b) No adjunction to argument NPs and CPs

(1) Adjunction is possible only to a maximal projection that is a non-argument.

(p.6, principle 6).

Consequence: Adjunction to VP is allowed.

(c) An adjoined category is not dominated by the XP to which it adjoins:

p. 7:

(2) $[_\beta \quad \alpha \; [_\beta \; ….]]$

(3) α is dominated by β only if it is dominated by every segment of β

2.3. Government

(4) α governs β iff α <u>m-commands</u> β and there is no γ, γ a barrier for β, such that γ <u>excludes</u> α

(5) α <u>m-commands</u> β iff α does not dominate β and every γ (XP) that dominatesα dominates β

(6) α <u>excludes</u> β if no segment of α dominates β

3. THE SYSTEM

3.1. Two notions of barrier:

a) XP barriers:

(7)   …α…$[\gamma$….β…..$]$

γ is an XP with the relevant properties. This type of barrier is relevant for movement (Subjacency/ CED) and for government (ECP).

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[1] In fn. 6 he says that the reason is the ungrammaticality of "*who thinks that who, I like" which according to Lasnik (work in progress back then, Lasnik and Saito) involves adjunction to IP.

b) Minimality barriers:

(8) ….α….[$_{\gamma'}$…..γ^0…..β….]

γ' is a barrier even though it is not an XP because it dominates a head γ^0 which is a closer governor of β than α. This type of barrier (which reduces ambiguity of government) is relevant only for government (ECP).

In what follows, I will concentrate on XP-barriers returning to Minimality Barriers later on.

3.2. XP-barriers

CP and IP

Neither CP alone nor IP alone are barriers for government.

IP is not a barrier: ECM

CP is not a barrier: No (e.g. Complementizer deletion depends on government from outside, Stowell 1981).

Together, CP and IP are barriers, e.g. PRO in spec,IP is ungoverned in a structure like

[CP [IP PRO…..]]

Barrier

(9)   γ is a barrier for β iff (a) or (b)
        a. γ immediately dominates δ, δ a BC for β
        b. γ is a BC for β, γ ≠ IP

Blocking Category (BC)

(10)   γ is a BC for β iff γ is not L-marked and γ dominates β

L-marking

(11)   α L-marks β iff α is a lexical category that θ-governs β

θ-government

(12)   α θ-governs β iff α is a zero-level category that θ-marks β, and α, β are sisters

p. 13

θ-marking: only the notion of "direct θ-marking" (i.e. a zero level category α directly θ-marks β only if β is the <u>complement</u> of α in the sense of X-bar theory) is relevant to L-marking. Indirect θ-marking of the subject by the verb mediated by the VP is not relevant for L-marking.

NB. On page 20 he discusses the relation of I to VP. He assumes that I, not being a lexical category, does not L-mark VP. Therefore VP is a BC and a barrier.

He considers the following case that could suggest that I does L-mark VP:

(13)   fix the car, I wonder whether he will

The fact that extraction across a wh-island is ok, seems to suggest that the VP trace is properly governed.

Nevertheless, Chomsky assumes that I does not L-mark VP [this creates complications for head movement and NP movement].

3.3. ECP

(14)   A non-pronominal empty category must be properly governed

(15)   α properly governs β iff α θ-governs or antecedent-governs β

Mechanism (from Lasnik and Saito 1984): **γ-marking**. If α properly governs β it assigns the feature [+γ] to it. If α does not properly govern β it assigns the feature [-γ] to it. γ-marking is permanent. γ-marking takes place at S-structure for elements of chains terminating in an A position and at LF for elements in chains terminating in an A' position.

3.4. Subjacency

(16)   If (α_i, α_{i+1}) is a link of a chain, then α_{i+1} is subjacent to α_i,

"subjacent"= 1-subjacency.

best case: 0-subjacency
well-formedness: 1-subjacency

ungrammaticality: if two or more barriers are crossed.

(17)   β is n-subjacent to α iff there are fewer than n+1 barriers for β that exclude α

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4. ACCOUNTING FOR WELL-FORMED MOVEMENT AND FOR ISLAND VIOLATIONS

4.1. Well-formed movement:

Arguments

Short distance:

(18)   who did [John see _] ?

w.r.t. ECP: the object trace is θ-governed by *see*, hence it is properly governed.

w.r.t. Subjacency:

Movement to [Spec,CP] proceeds through adjunction to VP:

(18')   who did [IP John [VP t' [VP see t]]]

Movement from t to t' does not cross the category VP (it only crosses one segment of VP). Movement from t' to the landing site does not cross any barrier. Only one segment of VP is crossed, and IP (which is a BC but not a barrier).

Long distance:

(19)   Who do you believe [that Mary said [that Sam visited _]]

Movement proceeds through adjunction to VP and Spec,CP:

(19')   Who do you [VP t5 [VP believe [CP t4 that [Mary [VP t3 [VP said [CP t2 that [Sam [VP t1 [VP visited t]]

1. Movement from t to t1 crosses only one segment of VP
2. Movement from t1 to t2 crosses one segment of VP and IP (not a barrier).
3. Movement from t2 to t3 crosses CP (L-marked hence not a BC, hence not a barrier)
And so on…..

Adjuncts

In order for the ECP not to be violated <u>not a single barrier</u> must be crossed (Subjacency is satisfied every time ECP is satisfied).
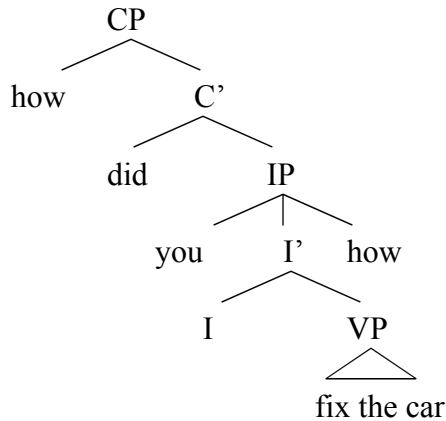
(20)   how did you fix the car _ ?

One possible analysis:

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<u>Adjunct external to IP</u> (page 19):

(20')   how did [IP you [VP fix the car] t]

Possible configuration (see Manzini 1992: for spelling this out):

```
              CP
           /      \
        how         C'
                 /     \
              did        IP
                      /     \
                   you       I'    how
                          /     \
                        I        VP
                               /  \
                            fix the car
```

Only one BC includes the trace and not the antecedent, IP, and IP is not a barrier. ECP and Subjacency satisfied.

Alternative analysis:

<u>VP-internal </u>(page 29):

suggested by VP-topicalization cases like *John wanted to fix the fender with a crowbar, and fix it that way, he did*.

4.2. Islands
1. CED

a) Subject Islands
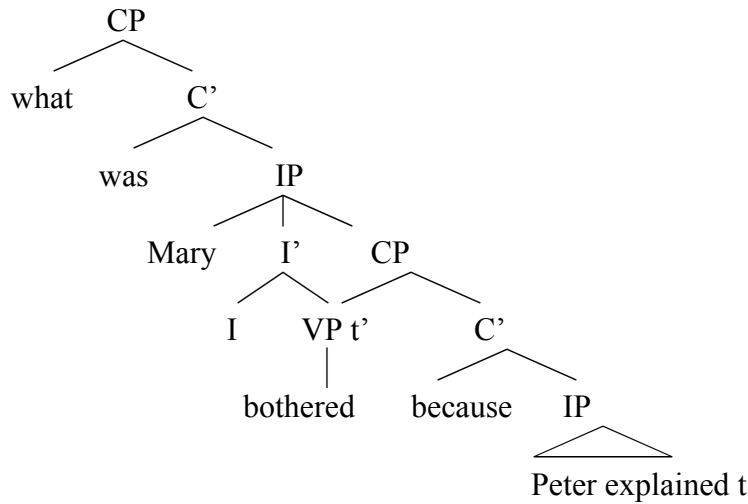
(22)   a.   *the man who [IP [NP pictures of _] are on the table]
         b.   * the book that [IP [NP reading _] would be fun]
         c.   who does [IP [CP _ that Mary likes _] surprise you]

The Subject XP is not L-marked and hence a BC and a barrier. IP inherits barrierhood from the Subject since it immediately dominates it. Two barriers are crossed.

b) Adjunct Islands

(23)   a.   *to whom did [IP they leave [before speaking t]]
         b.   *who did [IP they leave [before speaking to _]]

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The adjunct is not L-marked, hence a barrier. IP inherits barrierhood (tree below from Manzini 1992: 10)

```
                    CP
                  /    \
              what      C'
                       /  \
                    was     IP
                           /  \
                       Mary    I'     CP
                             /   \   /  \
                           I   VP t'    C'
                               |       /   \
                           bothered  because  IP
                                             /\
                                   Peter explained t
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3. Wh-islands

Cases he considers:

Argument movement out of a tensed and an infinitival clause:

(24)   a.   what$_i$ did you wonder [CP to whom$_j$ John gave t$_i$ t$_j$]
       b.   to whom$_i$ did you wonder [CP what$_j$ John gave t$_j$ t$_i$]
       c.   what$_i$ did you wonder [CP to whom$_j$ to give t$_i$ t$_j$]
       d.   to whom$_i$ did you wonder [CP what$_j$ to give t$_j$ t$_i$]

A weak Subjacency violation arises from crossing one CP which inherits barrierhood from IP.

Adjunct extraction

(25)   a.   *How did John tell you [when to fix the car t]
       b.   How did John know [which car to fix t]

ECP: one barrier is crossed.

Tense effects

-To account for the [+tense] restriction (many people find (24c,d) more acceptable than (24a,b), and with non-argument wh-phrases things improve even more:

(26)   a.   which car did John tell you how to fix
       b.   which car did he wonder whether to fix

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Suggestion: *"tensed IP is an inherent barrier (possibly weak) to wh-movement, over and above the system just outlined, this effect being restricted to the most deeply embedded tensed IP…"* (p.37).

Cases with p-stranding:

(27)   *who did you wonder [what John gave t to t]

They are more severe because of a ban of double adjunction of NP to VP.