

Handout #2

Part II: Barriers and Relativized Minimality

Notes on the Barriers System

The *Barriers* System is a program to unify Subjacency, CED and ECP (building on the results described in Handout 10). Under the pre-*barriers* system, CED and ECP are unified by the notion of (proper) government (both make crucial reference to that notion). Subjacency, however, makes reference to the notion of “bounding nodes”. In *Barriers* (1986), Chomsky attempts to unify all three conditions redefining the notion of government in terms of the notion of “a barrier”, according to which a “bounding node” is also a barrier. Under this new definition, both Subjacency and CED rule out cases of movement that cross two or more barriers. ECP rules out cases where a trace is separated from its lexical governor or antecedent governor by one (or more) barriers.

1. Important definitions

1. L-Marking
 α L-marks β iff α is a lexical category that theta-governs β . ($\alpha = N, V, A, P$ but not T, C)
2. θ -government
 α θ -governs β iff α is a X^0 category that θ -marks β .
3. Blocking Category (BC)
 γ , an X^{\max} , is a BC for β iff γ dominates β and γ is not L-marked.
4. Barrier
 γ is a Barrier for β iff (a) or (b):
 (a) γ immediately dominates δ , δ a BC for β , or
 (b) γ is a BC for β , $\gamma \neq IP$
 In (4a), γ is a barrier by inheritance. In (4b), γ is an inherent barrier.
5. Government
 α governs β if and only if
 (i) α is either an X^0 (A, N, V, P, I^0), or α and β are coindexed;
 (ii) α c-commands β ;
 (iii) no barrier intervenes between α and β
 (iv) minimality is respected
6. Minimality Condition on Government
 There is no γ such that γ satisfies (i)-(iii) and α c-commands γ

2. Unifying ECP, CED and Subjacency

Old theory:

ECP = Traces must be properly governed

CED = Extraction domain must be properly governed

Subjacency = Movement cannot cross two or more bounding nodes

Under the *Barriers* system: (ignore VP for a while)

ECP = Traces must be properly governed, where government by a proper governor X (a lexical category N, V, A, P or an antecedent phrase) is defined in terms of the non-existence of a barrier between the proper governor and the trace. (Viz., each must not be separated by any barrier from a lexical category (N, V, A, P, or I) or an antecedent which minimally c-commands it.)

- *Who did you wonder [why t bought the book]?
- *Why did you wonder [who bought the book t]?
- **What about:**
 - *Why do you make [the claim [that John was late t]]?
 - *On which table did you buy [the books t]?
 - Of which city did you witness [the destruction t]?
 - (All the bracketed categories are L-marked, hence there is no barrier for antecedent-government. But the first two sentences are bad.)

CED = Movement cannot cross two or more barriers.

- (a) *Who did [_{IP} [_{NP} pictures of t] please you?
Who did you like [_{NP} pictures of t]?
- (b) *Who did [_{IP} you get jealous because [_{CP} [_{IP} I spoke to t]]]?
Who do you think [_{CP} that [_{IP} I have spoken to t]]?
- (c) *Which table did [_{IP} you buy [_{NP} the book [_{PP} on t]]]?
Which city did you witness the destruction of t?
Of which city did you witness the destruction t?

Subjacency = Movement cannot cross two or more barriers.

- (a) Normally long-distance movement
- (b) WIC violations
- (c) CNPC violations

ECP: A trace cannot be separated from its governor by one barrier

Subjacency and CED: Movement cannot cross two or more barriers.

3. VP Adjunction and Barrierhood

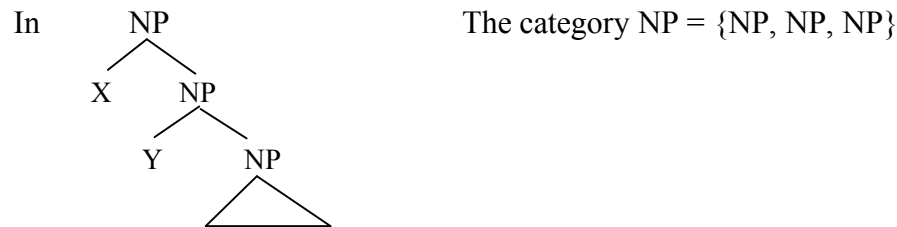
The above system incorrectly rules out these simple, grammatical cases, because VP is a barrier.

- (a) What did you eat t?
- (b) What did you think that John will buy t?

Proposed solution:

- (a) Movement may proceed by adjunction to VP
- (b) By the definition of ‘dominate’ below, adjunction to a barrier may **de-barrierize** that barrier.

- Adjunction creates segments of a category. In an adjunction structure, a full category is the sum of all the segments of that category



Domination (Inclusion): α dominates (includes) β iff every segment of α dominates β

Exclusion: α excludes β iff no segment of α dominates β

Cover: α covers β iff α neither excludes nor includes β

→ if β is adjoined to node α , β is neither included nor excluded by α

In more current terminology: X, and Y above are located in an “edge”.

An edge is like a “balcony” (Haegeman) or threshold or ‘hengang’ (Japanese). Being in an edge of XP is like half way out of XP.

- Hence: adjunction through a barrier provides an ‘escape hatch’.
- As in the case of comp-to-comp movement, apparent long-distance movement consists of successive short movements.
- Cf. Chomsky (2001, 2002) DBP:
 - Derivation by Phase
 - CP and vP = core phases
 - PIC: Phase Impenetrability Condition

Other references:

Sprouse 2005 handout: ‘The rise and fall of the *Barriers* empire’

Boeckx 2006 handout: ‘Forward to the past?’

Notes on Relativized Minimality (Rizzi 1990)

4. Minimality Condition

*Who did you say [that [t left]]?

*What buy John will t?

Why would John t do this t?

(Why can *why* skip the minimality barrier defined by *would*, etc.?)

Why do you think [that [John was late t]]?

5. A'-specifiers block A'-Movement

(Not all of these follow from ECP or Subjacency as originally formulated.)

- WIC under adjunct *wh*-movement (re. Huang 1982)

(1) *How did you wonder [which car you should fix x]?

- Pseudo Opacity (Obernauer 1984)

(2) Jean a consulté [beaucoup de livres]

John has consulted much books

John has consulted many books

(3) Jean a beaucoup consulté [de livres]

Jean has much consulted books

John has consulted many books.

(4) Combien a-t-il consulté [t de livres]?

How-many has-he consulted of books

How many books he has consulted?

(5) [Combien de livres] a-t-il consulté?

How-many of books has-he consulted

How many books has he consulted?

(6) [Combien de livres] a-t-il beaucoup consulté?

How-many of books has-he much consulted

How many books has he consulted a lot?

(7) *Combien a-t-il beaucoup consulté t de livres?

How-many has he much consulted of books

*How many has he much-consulted [t books]?

In (7), adjunct trace not antecedent-governed. Blocked by *beaucoup*.)

- Inner Island (Ross 1983)

(8) Which car didn't he fix?

(9) How did he fix the car?

- (10) *How didn't he fix the car?
- (11) They don't exploit their fans [because they love them]. (ambiguous)
- (12) Why don't they exploit their friends? (not)
- (13) John is stupid, which you know already.
- (14) John is stupid, which you may not know.
- (15) John is stupid, as you know.
- (16) *John is stupid, as you don't know.

→ NOT is a Spec of Neg P, an A'-position

- (17) A filled A'-position specifier α blocks antecedent government of an A'-trace t by another A'-specifier β higher than α .
[... β ... [α [... t ...]]] (α, β are in A'-positions)

6. A-Specifiers block A-specifiers

- Super-Raising

- (18) *The train seems that it is likely [t to be late].
- (19) It seems that the train is likely [t to be late].

- Super passive

- (20) *the students seem that it was told t that there would be extra rations.
- (21) It seems that the students were told t that there would be extra rations.
- (22) A filled A-position specifier α blocks antecedent government of an A-trace t by another A-specifier β higher than α .
[... β ... [α [... t ...]]] (α, β, t are in A-positions)

7. Head Blocks Head Movement

- The Head Movement Constraint

- (23) *Have he could t done it?
- (24) Could he t have done it?
- (25) A head α blocks antecedent government of a head trace by another head β higher than α .
[... β ... [α [... t ...]]] (α, β and t are heads)

8. Relativized Minimality

- (26) **Relativized Minimality Condition**
X antecedent-governs Y only if there is no Z such that
(d) Z is a typical potential antecedent governor for Y

- (e) Z c-commands Y but does not c-command X
- (27) Typical Potential Antecedent Governor**
Z is a typical potential antecedent governor for Y iff
- (c) Y is in an A-chain, and Z is an A-specificer c-commanding Y, or
 - (d) Y is in an A'-chain, and Z is an A'-specifier c-commanding Y, or
 - (e) Y is in a head-chain, and Z is a heading c-commanding Y
- (28) Antecedent Government**
X antecedent-governs Y iff
- a. X and Y are coindexed
 - b. X c-commands Y
 - c. No barrier intervenes
 - d. Relativized minimality is respected