WH-MOVEMENT: ISLANDS, BARRIERS AND SUCCESSIVE-CYCLICITY

Part II. CED, ECP

[The handout incorporates a lot of material included in David Pesetsky’s previous handouts on the topic.]

1. HUANG’S (1982) CONDITION ON EXTRACTION DOMAINS

(1) CED
A phrase A may be extracted out of a domain B only if B is properly governed

properly governed: governed by a lexical head
extraction out of complements allowed / out of adjuncts and subjects not

Facts subsumed under CED (Huang 1982 drawing on Kayne 1981):

Subject-Object asymmetries in extraction
Adjunct – Object asymmetries in extraction

Generalizing: Non-complement (subject, adjunct) – complement (object) asymmetries in extraction.

Illustrating:

Subjects: Extraction from subjects illformed / extraction from objects wellformed:

case 1: subject DPs

(2) a. *Who did [DP pictures of _] please you?
   b. Who did you see [DP pictures of _]

case 2: subject CPs

(3) *John, who [ [that Sue spoke to __ ] surprises me]

case 3: subject PPs (in locative inversion)

(4) *the room, which [ [in the middle of __ ] sat a frog]
Adjuncts

case 1: adjuncts in CP/TP/VP

(5) a. ??The Minimalist Program, which [ Mary left [before she could finish __] ]
   b. ??The Minimalist Program, which [ Mary bought [so that she could read __ on
      the plane]
   c. *What did John arrive yesterday [sad about __]?
   d. * Who did John come back [before I had a chance to talk to __]?

case 2: adjuncts in DPs

(6) a. *The Minimalist Program, which I regret
       [your departure [before you could finish __]]
   b. *The Minimalist Program, which we witnessed
       [a purchase [so that someone could read on the plane]]
   c. *Which table do you like [the books on __]?

vs.

(7) Which city did you witness [the destruction of __]?

case 3: relative clause modifiers of DPs.

(8) a. ??The Minimalist Program, which I'd love to meet [the person [who wrote __]]
   b. *The Minimalist Program, which I'd love to meet
       [the person [who you talked to about __]]
   c. *Who do you like [books [that criticize __]?

Notes:

- This does not include the wh-island condition.
- This presumes that extraction from a complement CP does not require an intermediate
  landing site in Spec,CP.

2. SUBJACENCY ([CP OR TP] + DP) VS. CED:

1. The subjacency idea:
   a. Do not cross two among CP/TP or DP in a single move. Therefore, LD
      movement must stop in available landing sites. Landing site for A-bar
      movement is SPEC,CP.
   b. This does not get complement/non-complement asymmetry.

2. The CED idea:
   a. Do not cross a non-complement node in a move.
b. This does not get the *wh-island condition.

3. **Overlaps:**
   a. Rel clauses: subjacency and CED
   b. subject DPs: subjacency and CED

4. **Non-overlaps:**
   a. subject sentences: only CED (unless it is stipulated that CP is dominated by DP)
   b. adjunct CPs: only CED
   c. fact-that islands: only subjacency
   d. *wh islands: only subjacency

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3. **A COMMON VIEW IN THE EIGHTIES: SUBJACENCY AND CED AFFECT ONLY OVERT MOVEMENT**

1. Evidence that *wh-islands* do not apply at LF (Baker 1970, discussed in Huang 1982: 495):

   (9) a. *What do you remember where I bought _?*
   b. Who remembered where we bought what?

2. Evidence that the **Sentential Subject Constraint** does not apply at LF (Huang 1982: 495-496):

   (10) a. *Who did he say that [for Bill to marry _] was a surprise?*
   b. ?Who said that [for Bill to marry who] was a surprise?

**Note:**

No significant contrast between the following:

(11) a. *Who did [that Bill married _] surprise you?*
    b. *Who said that [that Bill married who] surprised you?

The ungrammaticality of (11b) is linked to the ungrammaticality of (12), which does not display movement:

(12) *He said that that Bill married Ann was a surprise

3. Evidence that the **Subject Condition** does not apply at LF (Huang 1982: 497):

   (13) a. *Who do you think that [pictures of _] would please John?*
    b. Who thinks that [pictures of who] would please John?
4. Evidence that the bridge vs. non-bridge distinction does not apply at LF (p.497):

(14) a. ??Who did John whisper that he saw _?
    b. Who whispered that he saw who?

5. Evidence that the Adjunct Condition does not apply at LF (p. 497, 499, 503):

(15) a. *Who did John come back [before I had a chance to talk to _]?
    b. Who came back [before I had a chance to talk to whom]?
(16) a. *Which class did you fall asleep [during _]?
    b. Who fell asleep [during which class]?
(17) a. *Which table do you like [the books on _]?
    b. Who likes [the books on which table _]?
(18) a. *Who did Mary cry [after John hit _]?
    b. Who cried [after John hit who]?

6. Evidence that the Complex NP Constraint does not apply at LF (p. 492):

(19) a. *In order to foil this plot, we must find out which senator the agent
    has [DP buts [CP that are trained to kill _]]
    b. In order to foil this plot, we must find out which agent
    has [DP buts [CP that are trained to kill which senator]
(20) a. *Who do you like [DP books [CP that criticize _]?
    b. Who likes [DP books [CP that criticize who]?

4. The ECP:

ECP phenomena

1. That-t effects

Original motivation for the ECP (empty category principle): “that-trace” effects:

(21) a. *Who do you think [that [_ saw John]]?
    b. Who do you think [that [John saw _]]?
(22) a. *Who do you wonder [how [_ bought the book]]?
    b. ??What did you wonder [how [he bought t]]

Subjacency had nothing to say about this asymmetry (the number of nodes crossed in
subject movement and object movement are exactly the same).

(23) ECP
A (non-pronominal) empty category must be properly governed
**Working definition of the ECP** (in Hornstein and Weinberg 1995: 246)

(24) An empty category must be:
    (a) Lexically/head governed: governed by a lexical $X^0$, or
    (b) Antecedent governed: bound by (coindexed with and c-commanded by)
        a category that governs it

Definition of government (Aoun and Sportiche 1981):

(25) A governs B iff for all X, X a maximal projection, X dominates A iff X dominates B

*The that-t effect explained:*

-Object trace is governed by V, a lexical governor
-Subject trace is not lexically governed, hence it must be antecedent governed.

The intermediate trace does not c-command the subject trace (no generalized X-bar for COMP); the trace is properly contained in COMP:

*[[who$_i$ [do you think $[S' [COMP t_i$ that $] [t_i$ saw John]]]]]

C-command is satisfied when the complementizer is empty because the entire COMP is identified with $t_i$ which it exclusively dominates.

**Cases that have been brought under the ECP**

2. **Personne in French**

Kayne (1981): Subject-object asymmetries also hold at LF:

(26) a. *Je n’ai exige que personne soit arrête*
    I didn’t require that anybody arrested

   b. Je n’ai exige que la police arête personne
    I didn’t require that the police arrest anybody

Kayne: at LF *personne* raises to the clause where *ne* indicates scope leaving a trace. Subject trace is not properly governed. Object trace is:

(27) a. *
    $[TP$ personne $[TP$ je n’ai exige $[CP$ _ que $[TP$ t soit arrête]]]]

   b. $[TP$ personne $[TP$ je n’ai exige $[CP$ _ que $[TP$ la police arête t]]]]


   b. Who remembers why we bought what?
(29)  
   a. *Who$_j$ who$_i$ [$_i$ remembers [why$_k$ [ $t_j$ bought the book $t_k$ ]]
       problem: $t_j$ not properly governed
   b. What$_j$ who$_i$ [$_i$ remembers [why$_k$ [ we [bought $t_j$ $t_k$ ]]]
       ok: $t_j$ properly governed

(30)  
   a. I don’t recall who bought what
   b. *I don’t recall what who bought
   c. *I don’t recall who left why
   d. *I don’t recall why who left
   e. *I don’t recall what Bill sang why
   f. I don’t recall why Bill sang what

The idea is that S-structure movement of adjuncts and subjects brings them to a position
where they can properly govern their trace (they can c-command it) but LF movement of
adjuncts and subjects leads them to a position where they can’t antecedent govern their
trace (they can’t c-command it). On the other hand, LF movement of object wh-phrases is
ok because their trace is properly governed (lexically head governed).

4. Huang’s observation: Adjunct extraction out of wh-islands leads to severe violations.
They can fall under the ECP, i.e. they behave similarly to extractions of subjects out of
wh-islands:

The subject cases (see Huang, p. 562):

(31)  
   a. *Who$_i$ did you wonder why$_j$ $t_i$ came $t_j$
   b. *Who$_i$ did you wonder how$_j$ $t_i$ came $t_j$
   c. *Who$_i$ did you wonder where$_j$ $t_i$ worked $t_j$
   d. *Who$_i$ did you wonder when$_j$ $t_i$ will come $t_j$

The adjunct cases (see Huang, p. 537):

(32)  
   a. *Why$_i$ did you wonder what$_j$ I bought $t_j$ $t_i$
   b. *How$_i$ did you wonder what$_j$ I bought $t_j$ $t_i$
   c. *Where$_i$ did you wonder what$_j$ I bought $t_j$ $t_i$
   d. *When$_i$ did you wonder what$_j$ I bought $t_j$ $t_i$

vs.  
   e. ??What$_i$ did you wonder why$_j$ I bought $t_i$ $t_j$

5. Wh-in-situ. Multiple Wh-questions involving LF movement of an adjunct or a subject
are ill-formed, while when the object undergoes movement the sentence is wellformed
(cases discussed in Hornstein and Weinberg, p. 248):

(34)  
   a. Who believes that John dropped what?
   b. *Who believes that what fell?
   c. *Who believes that John dropped the ball why?
Note: the data are controversial (see fn 6 in Hornstein and Weinberg. Lasnik and Saito claim that (34b) is good with who instead of what. For alternative judgments see Aoun, Hornstein and Sportiche (1981), Kayne (1983), Aoun, Hornstein, Lightfoot and Weinberg (1987).


Discussed in Hornstein and Weinberg (1995: 249). But data are controversial:

(35) a. Jean a dit que Pierre a vu qui
    Jean said that Pierre saw who
b. *Jean a dit que qui est venu
    Jean said that who came

7. Subjacency, CED, ECP

Conceptually, CED and ECP are close, as they require reference to proper government.

CED and ECP differ in that CED does not apply at LF, unlike ECP. In this respect, CED patterns with Subjacency.