

WH-MOVEMENT: ISLANDS, BARRIERS AND SUCCESSIVE-CYCLICITY

PART 1. Subjacency

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

1. BACKGROUND. ISLANDS

Unlike A movement which cannot cross a finite sentence boundary, wh-movement can do so. Wh-movement is said to be unbounded:

- (1) a. Sam was likely _ to win
- b. *Sam was likely that _ won
- (2) a. Who do you believe [that Mary said [that Sam will visit _]]
- b. The person [which you believe [that Mary said [that Sam will visit _]]]
- c. That man [I believe [that Mary said [that Sam will visit _]]]

Wh-movement is not entirely free though. For example, it cannot take place across sentential subjects and complex NPs. Contexts which do not allow wh-movement are called **islands** (Ross 1967).

2. (SOME) OF ROSS'S ISLANDS TO WH-MOVEMENT AND SUBJACENCY

2.1. Ross's Islands

The sentential subject constraint

(3) subject CPs

*Who did [[that Sue spoke to _] surprise me]

The Complex NP-Constraint

(4) case 1: relative clause modifiers of DPs.

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 _]]

(5) case 2: CP complements to N.

- a. ??John, who I regret [the fact [that I must invite ___ to the party]]
- b. ??Pinochet, who the TV reported
[a rumor [that the British would soon release ___]]
- c. ??*The Minimalist Program*, which Mary offered
[a proof [that Francis Bacon had written ___]]

2.2. Subjacency and successive cyclic movement

Chomsky (1973, 1977): Ross's islands can be given a uniform account under Subjacency:¹

Subjacency

- (6) No rule may move an element from the position Y to the position X
X.....[α[βY.....].....X.....
 where α and β are bounding nodes

Bounding nodes in English: DP, CP (in Chomsky 1977).

Apparent unbounded movement proceeds through Comp.

- (7) **Escape hatches**
Wh-movement targets Spec,CP. There is only one Spec,CP.
- (8) [Who do_[TP] you believe [_{CP}_ that [_{TP} Mary said [_{CP}_ that [_{TP} Sam will visit ___]]

Movement of *who* never violates Subjacency, since it proceeds through C.

A note on 'bridges'

Long distance *wh*-movement is allowed only under, so called, 'bridge verbs'.
 Complements of non-bridge verbs are islands to extraction.²

- (9) **case 1: "manner of speaking" verbs**
 ??Tom, who [the king whispered [that we should behead ___]]
- (10) **case 2: factive verbs (worst with *it*)**
- a. ?Mary, who Sue regretted [that she had to talk to ___]
 - b. *Mary, who Sue regretted it [that she had to talk to ___]

¹ Chomsky (1977) assumes that subjacency is a property of cyclic rules, i.e. part of the definition of the Cycle. He suggests that no cyclic rule can move Y to X, where α and β are cyclic nodes.

² Bridge verbs (Erteschik-Shir 1973) typically include *verba sentiendi et dicendi* and verbs expressing speech (e.g. *hear, believe, know, say, claim*).

Bridge verbs strongly correlate to class of predicates allowing matrix clause phenomena (complementizer deletion, topicalization, negative preposing) discussed, among others, in Holmberg & Platzack 1995. The class of verbs permitting embedded V2 in Mainland Scandinavian languages is much smaller than the class allowing extraction (cf. Vikner 1995: 70).

In Chomsky (1977) it is suggested that rules of interpretation have to take care of the bridge condition (p.85) .

2.3. Subjacency and Ross's islands

If movement proceeds successive cyclically and if Subjacency holds, then Ross's islands can be given a uniform explanation:

The Complex NP-Constraint

(11) **case 1: relative clause modifiers of DPs.**

- a. ??*The Minimalist Program*, which [_{TP}I'd love to meet [_{DP}the person [_{CP}Who [_{TP} wrote ___]]]

Movement crosses CP, DP.

(12) **case 2: CP complements to N.**

- a. John, who [_{TP}I regret [_{DP} the fact [_{CP} _ that I must invite ___ to the party]]]

Movement crosses CP and DP.

Sentential subjects

(13) *Who did [_{DP} [_{CP} _ [that Sue spoke to ___] surprise me]

-Movement crosses a CP and a DP.

Crucial assumption: sentential subjects are dominated by a DP node.

Apparent unbounded movement never crosses two bounding nodes because it proceeds successive cyclically. Only one CP is crossed in every step

- (14) a. [_{CP}Who do you believe [_{CP}_ that Mary said [_{CP}_ that Sam will visit ___]]
b. The person [_{CP} which you believe [_{CP}_ that Mary said [_{CP}_ that Sam will visit ___]]]
c. That man [I believe [_{CP}_ that Mary said [_{CP}_ that Sam will visit ___]]]

2.4. Evidence for successive cyclicity

[see Jason Merchant's handout "Evidence for successive cyclic movement"]

1) **West Ulster English (McCloskey 2000)**

- *Wh*-movement can strand *all* in the trace position:

- (15) a. What all did you give ___ to the kids?
b. What did you give ___ all to the kids?
- (16) a. Who all did you send ___ to the shops?
b. Who did you send ___ all to the shops?
- (17) a. Tell me what all you got ___ for Christmas.
b. Tell me what you got ___ all for Christmas.
- It is important to make sure that the *all* is not simply free to occur anywhere. It really does seem to stand next to the trace of the *wh*-word. It cannot occur in random places:
- (18) *Who did he tell ___ he was going to resign all.
- (19) a. What did you do ___ all after school the day?
b. *What did you do ___ after school the day all?
c. *What did you do ___ after school all the day.
- *All stranding in C*:
- (20) a. What all did he say [_{CP} ___ (that) he wanted ___]?
b. What did he say [_{CP} ___ (that) he wanted all ___]?
c. What did he say [_{CP} all ___ (that) he wanted ___]?
- (21) a. What were you trying [_{CP} all ___ to say ___]?
b. What did you mean [_{CP} all ___ for me to do ___]?

2. Successive Inversion

Aux inversion in Belfast English (Henry 1995)

- (22) a. Who did John hope [would he see ___]?
b. What did Mary claim [did they steal ___?]
c. I wonder what did John think would he get ___?
d. Who did John say [did Mary claim [had John feared [would Bill attack ___]?

Obligatory Inversion in Spanish (Torrego 1984, Pesetsky & Torrego 2001)

- (23) a. A quién prestó *Juan* el diccionario?
to whom lent John the dictionary
- b. Con quién podrá *Juan* ir a Nueva York?
with whom will-be-able J. to go to NY
- c. Qué pensaba *Juan* [que le había dicho *Pedro* [que había publicado *la revista*]].
what thought John that him had told Peter that had published the journal
'What did John think that Peter had told him that the journal had published?'

Stylistic Inversion in French (Kayne and Pollock 1979)

- (24) a. Avec qui a prétendu Marie que sortirait Jean ?
with whom claimed Mary that would leave Jean?
'Who did Mary claim that Jean would leave with?'
- b. Sur qui a prétendu Marie que tirerait Jean ?
on whom claimed Mary that would shoot Jean?
'Who did Mary claim that Jean would shoot at?'

compare to:

- (25) a. Comment sait Marie que Luc est mort ?
How knows Marie that Luc is dead
'How is it that Mary knows that Luc is dead?'
- b. *Comment sait Marie qu'est mort Luc?

[inversion in the embedded clause is not licensed when the wh-word is extracted from the main clause]

3. Languages with wh-agreement (Haik 1990; Chung 1998; McCloskey 1990, 2002 among others).

Irish

Irish has three complementizers: aL, aN, go

(L = triggers 'lenition' on following word; N = triggers 'nasalization' on following word)

- (26) Deir siad [CP gur [TP ghoid na síogaí í]].
say they go-PAST stole the fairies her
'They say that the fairies stole her away.'
- (27) an ghirseach [CP a [TP ghoid na síogaí ___]]
the girl aL stole the fairies

- (28) ‘the girl that the fairies stole away’
 an ghirseach [CP ar [TP ghoid na síogaí í]]
 the girl aN stole the fairies her
 ‘the girl that the fairies stole away’

aL occurs in structures in which wh-movement has occurred.

Relative clauses: [see (27)]

Questions:

- (29) Cá fhad a bhí siad fá Bhaile Átha Cliath t ?
 WH length aL be[PAST] they around Dublin
 ‘How long were they in Dublin?’

Clefts:

- (30) Ba i nDoire a dúradh a fuarthas é t.
 COP[PAST] in Derry aL was-said aL was-found it
 ‘It was in Derry that it was said it was found.’

It occurs in every position through which wh-movement has taken place:

- (31) Cén fear aL thiteann go talamh
 which man C falls to earth
 ‘Which man falls to earth?’
- (32) Cé [aL bhuail tú] ?
 who C struck you
 ‘Who did you hit?’
- (33) Cé aL mheas tú aL chonaic tú?
 who C thought you C saw you
 ‘Who did you think that you saw?’
- (34) Cén t-úrsceál aL mheas mé aL dúirt sé aL thuig sé.
 which novel C thought I C said he C understood he
 ‘Which novel did I think he said he understood?’
- (35) Níl a fhios agam cén fear a thiteann go talamh
 I don't know which man C falls to earth
 ‘I don't know which man falls to earth.’
- (36) Níl a fhios agam cé [a bhuail tú]
 I don't know who C struck you
 ‘I don't know who you hit.’
- (37) Níl a fhios agam cén t-úrsceál aL mheas mé aL dúirt sé aL thuig sé.
 I don't know which novel C thought I C said he C understood he
 ‘I don't know which novel I thought he said he understood.’

4. Intermediate copies

Child English (Crain and Lillo-Martin 1999)

- (38) a. **What** do you think **what** Cookie Monster eats? (age 5;0)
 b. **Who** do you think **who** Grover wants to hug? (age 4;9)
 c. **What** do you think **what's** in that box? (3;3)

Dutch dialects (Barbiers, Koenenman & Lekakou 2007):

- (39) **Wie** denk je **wie** ik gezien heb?
 WHO think you who I seen have
 ‘Who do you think I have seen?’

5. Partial wh-movement (McDaniels 1989, Horvath 1997)

(but see Horvath 1997 for arguments that partial wh-movement constructions do not result from movement).

German

- (40) Was glaubst du, mit wem er gesprochen hat?
 what think you with whom he spoken has
 ‘With whom do you think that he spoke?’

Hungarian

- (41) Mit gondolsz, hogy kit látott János?
 what.ACC you.think that who.ACC saw.3sg J.NOM
 ‘Who do you think that Janos saw?’

6. Reconstruction (was extensively discussed in previous classes)

Fox 1999:

- (42) a. [Which paper that he₁ wrote for Ms. Brown₂] did every boy₁ hope that she₂ 'd regrade? (Example answer: His worst one.)
 b. * [Which book that he₁ asked Ms. Brown₂ for] did she₂ say every boy₁ had to return by Monday?

2.5. Some more islands

Subject DPs (“The Subject Condition” Chomsky 1973)

- (43) *Who did [_{DP} comments about ___] surprise me]

Wh-islands (the wh-island condition Ross 1967)

(44) ?*The Minimalist Program*, which Bill asked [_{CP} who [_{TP} we had spoken to ___ about ___]

In its present form, Subjacency can't account for these islands. In (43) only a DP is crossed. In (44) only a CP is crossed.

Question: Can we account for these islands in terms of Subjacency?

Answer: Yes, if we include TP in the bounding nodes.

Then, wh-movement crosses a DP and a TP in (43):

(43') *Who [_{TP} did [_{DP} comments about ___] surprise me]

And wh-movement crosses two TPs and a CP in (44):

(44') ?*The Minimalist Program*, [which [_{TP} Bill asked [_{CP} who [_{TP} we had spoken to ___ about ___]

If C allows only one specifier, movement is impossible from a clause whose Spec,CP is occupied by a distinct *wh*-phrase.

Some complications

... *With respect to the Subject Condition:*

movement across a DP is not ill-formed in English:

- (45) a. Who did [_{TP} he find [_{DP} a picture of _] ?
b. What books did [_{TP} he write [_{DP} reviews of _] ?

Chomsky (1977: 114) proposes that these involve extraposition of the PP:

- (46) a. He saw [_{DP} a picture [_{PP} of John]]
b. He saw [_{DP} a picture t] [_{PP} of John]

Wh-movement targets the extraposed PP, and Subjacency is not violated.

... *With respect to the Wh-island Condition*

An alternative derivation has to be ruled out:

If in (44) (i) *which* moves to embedded COMP, then (ii) *which* moves to matrix COMP and then (iii) *who* moves to embedded COMP, then Subjacency is not violated.

Step (iii) violates the Strict Cycle Condition.

(47) *Strict Cycle Condition* (Chomsky 1973: 243)

No rule can apply to a domain dominated by a cyclic node A in such a way as to affect solely a proper subdomain of A dominated by a node B which is also cyclic node

Assumption: CP and DP are cyclic nodes. Step (iii) violates the Strict Cycle Condition.
