Wh-movement, Islands, Incorporation and Covert Movement

1. The possibility of "successive-cyclic" wh-movement

Can wh move to the closest C — whether interrogative or not?

- **Answer**: yes it can (many of us think)
- This is called the "successive cyclic" property of wh-movement.
- Wh-phrases can hop from specifier of CP to specifier of CP.

**West Ulster English**

(1) a. What-all did he say [CP (that) he wanted]?
   b. What did he say [CP (that) he wanted -all]?

(2) a. What were you trying [CP -all to say]?
   b. What did you mean [CP -all for me to do]?

(3) a. What-all do you think (that) he’ll say (that) we should buy?
   b. What-do you think (that) he’ll say -all (that) we should buy?
   c. What-do you think (that) he’ll say -all (that) we should buy -all?

(4) a. Who-did you arrange -all for your mother to meet at the party?
   b. *Who-did you arrange for your mother -all to meet at the party?

(5) **Binding evidence:**
   a. *[1Tom asked [2 which picture of himself] Mary thought [3 that the kids liked]]
   b. *[1Tom asked [2 which picture of herself] Mary thought [3 that the kids liked]]
   c. *[1Tom asked [2 which picture of themselves] Mary thought [3 that the kids liked]]

(6) **Binding Principle A is observed in this construction:**
   a. *[[1Tom's sister asked [2 which picture of himself] Mary thought [3 that the kids liked]]]
   b. *[[2 which picture of herself] Mary's brother thought [3 that the kids liked]]
   c. *[[2 which picture of themselves] Mary thought [3 that the kids's teacher liked]]

2. The necessity of "successive-cyclic" wh-movement: Subjacency

In fact, it looks as though wh-movement cannot cross more than one CP at a time, nor can it cross a DP and a CP at a time.

Constraints on extraction out of particular domains are called **island conditions**. Domains out of which extraction is forbidden are called **islands**.

- **The DP+CP case is:**

  (7) The "Complex NP Constraint"
   a. **CP complement to N is an island**
      *Who did Mary resent [DP our claim [CP that Bill had invited]]?*
   b. A relative clause (CP modifier of N') is an island
      *What did Mary want to meet [DP the scientist [CP who had discovered]]?*

- **The CP+CP case is:**

  (8) The "Wh-island constraint"
   (crossing a that-clause and then an interrogative)
   *What did Mary ask [CP who said [CP that Bill had bought]]?*

**Problem for thought at home:**

Are there instances of the wh-island effect that are also ruled out by Attract Closest? Is (8) a case of this sort?

(9) **The Subjacency Condition**

Movement may cross at most one bounding node at a time.

(10) **Bounding nodes (version 1):** CP, DP.

Actually, for many speakers, simpler examples than (8) are also bad:

(11) Wh-island constraint (cross just an interrogative)

*What did Mary ask [CP who bought]?*

- **A suggestion: due to Rizzi (1979)**

(12) **Bounding nodes (version 2):** IP, DP.
3. Another island condition: the Condition on Extraction Domains (CED)

(13) **Condition on Extraction Domains**
Wh-movement is forbidden from non-complements.

For example...

...from subjects:
(14) *Who are [pictures of ___] on sale at the Coop?
(15) *Who would [for Mary to talk to ___] annoy Peter?

...from modifiers/adjuncts:
(16) a. ??Who will Bill be unhappy [unless I invite ___]?
   b. *To whom did Sue leave the room [because she had spoken ___]?
   c. *What will Mary get mad [since I didn't finish ___]?

4. The unity of movement: CED effects on head movement

[Research of Mark Baker (1984, 1987). See also his book *Atoms of Language.*]

**Incorporation:**

*V to V incorporation*
Chichewa:
(17) a. Mtsikana a-na-ch-its-a kuti mtsuko u-gw-e.
   girl do-cause that waterpot fall
   b. Mtsikana a-na-gw-ets-a mtsuko.

...make pot fall... ----> fall-make pot...

Japanese:
(18) John-ga Mary-ni susi-o tabe-sase-ta.

*P to V incorporation*
Kinyarwanda:
(19) a. Umwaana y- a- taa-ye igitabo mu maazi
   child SP-past-throw-ASP book in water
   b. Umwaana y- a- taa-ye-mo]amaazi igitabo

[SP=subject agreement prefix]

5. The Coordinate Structure Constraint (CSC)

(20) **Coordinate Structure Constraint**
1. A conjunct in a coordinate structure may not be moved out of that coordinate structure [strong effect]; and
2. Extraction out of a conjunct is also forbidden [weak effect]

(21) **CSC1**
 a. *Which book did you read *Harry Potter* and ___?
 b. *Which book did you read ___ and *Harry Potter*?

(22) **CSC2**
 a. [*] How many languages does [Mary speak ___ fluently] and [has a translator's certificate from the UN]?
   b. [*]What kind of chocolates did John open [a jar of jelly-beans] and [a box of ___]

*but:*
 c. What kind of chocolates did John [go to the store] and [buy ___]

(23) "Across the Board" (ATB) exceptions
 a. How many languages does Mary [speak ___ fluently] and [have a translator's certificate for ___]?
   b. What kind of chocolates did John open [a jar of ___] and then [a box of ___]
6. A-movement vs. non-A ("A-bar") movement

Movement to Spec,CP is special in some ways:

(24) **Does not create a new binder for Principle A**
   
a. John seems to himself [ __ to be smart] vs.
   
   *Which woman did herself invite __ to the party?
   *Which man did [a picture of himself] fall on __?
   etc.

(25) **Creates "weak crossover effects" [see tree on blackboard!]**
   
a. ??Who did it seem to [his teacher] that Mary had chosen ___
   b. John seemed to [his teacher] [ ___] to have chosen Mary

(26) **May move "long distance" over intervening subjects [via Spec,CP]**
   
a. Who did Sue prefer for it to seem [that Bill liked ___]
   b. *Mary was preferred for it to seem [ __ to be happy].

Note especially:
   c. *Who was preferred for it to seem [ ___ to be happy].
      [Why?]

Movement that --
  *[] does create a new binder for Principle A
  *[] does not yield Weak Crossover Effects
  *[] may not proceed via Spec,CP
  -- is called "A-movement" (A for argument)

Movement that --
  *[] does not create a new binder for Principle A
  *[] yields Weak Crossover Effects
  *[] may proceed via Spec,CP and looks "long distance"
  -- is called "A-bar" (non-A) movement

7. A theory of movement

*[] Movement is "Internal Merge", i.e.
  (i) make a copy of a constituent inside the current tree; and
  (ii) merge the copy, forming a specifier (or adjoined position)

*[] The copies formed by movement are coindexed and form an object called a chain.
*[] Lower copies in a chain are called traces.

(27) [C uWh] Mary bought which book --> [which book_i [C uWh] Mary bought which book_i]

Chain: (which book, which book)

(28) **Pronunciation Principle:**
  Pronounce the top member of the chain.

8. Covert Movement

Pronounce the trace?

(29) **Japanese: matrix questions**
   
a. John-ga1 Mary-ni na-ni-o ageta no?
   John-NOM Mary-DAT what-ACC gave Q
   'What did John give to Mary?'
   
b. John-ga na-ze kubi-ni natta no?
   John-NOM why was fired Q
   'Why was John fired?'

(30) **Wh-in-situ in an embedded clause: matrix questions**
   
a. Bill-ga [John-ga Mary-ni na-ni-o agete tte] itta no?
   Bill-NOM [John-NOM Mary-DAT what-ACC gave] said Q
   'What did Bill say that John gave ___ to Mary?'
   
b. Bill-ga [John-ga na-ze kubi-ni natta tte] itta no?
   Bill-NOM [John-NOM why was fired] said Q
   'Why did Bill say [that John was fired ___]?'

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1 To a Japanese speaker, this sentence, and others like it, sounds more natural if the nominative marker -ga is replaced with the topic marker -wa. Our examples ignore this fact, in the interests of clarity.
In considering (30b), note the ambiguity in (31)
Why did Bill say (that) John was fired?

a. Why did Bill say [that John was fired __i]?  
   [asks for the reason John was fired, according to Bill]

b. Why did Bill say [that John was fired] __i?  
   [asks for the reason Bill said what he said, namely that John was fired]

Because in Japanese, you pronounce the "trace", we can control the ambiguity to some extent.

a. Bill-ga John-ga naze kubi-ni natta tte itta no?  
   [downstairs why only]

b. Bill-ga naze John-ga kubi-ni natta tte] itta no?  
   [ambiguous]

c. Naze Bill-ga John-ga kubi-ni natta tte] itta no?  
   [favors upstairs why, unless intonation indicates that naze has scrambled]

Embedded questions also show wh-in-situ

Mary-ga [CP John-ga nani-o katta-ka] sitte-iru  
Mary-NOM John-NOM what-ACC bought-Q know  
'I know what John bought'  [lit. 'I know John bought what']

Is there really any wh-movement in Japanese?

Yes, probably, because there are island effects (yes, really --- well, sort of):

- Normally, island effects are hard to detect on wh-in-situ in Japanese:

  a. Complex NP Constraint
  %Mary-ga [DP [CP John-ni nani-o ageta] hito-ni] atta-no?  
     Mary-NOM John-DAT what-ACC gave man-DAT met - Q  
     'What did Mary meet [the man who gave _ to John]?'

  b. Adjunct island effect (from CED)
  %Mary-ga [John-ga nani-o yomu mae-ni] dekaketa-no?  
     Mary-NOM John-NOM what-ACC read before left - Q  
     'What did Mary leave [before John read ___]?'

- But if the wh-phrase is modified by the intensifier *ittai 'on earth' (lit. one body)  
  [as in what on earth], an effect emerges:

  a. Complex NP Constraint
  %Mary-ga [DP John-ga nani-o yonda koto-o] koto-o  
     Mary-NOM John-NOM on-earth what-ACC read fact-ACC  
     wasureteiru-no?  
     remembered- Q  
     'What on earth did Mary remember the fact that John read ___'

  b. Adjunct island effect (from CED)
  %Mary-ga [John-ga nani-o yomu mae-ni] dekaketa-no?  
     [= (34b) with ittai]

The effect also emerges (quite strongly) if the wh-in-situ is an adjunct like naze 'why':

  a. Complex NP Constraint
  %Mary-ga [DP [CP John-ni naze hon-o ageta] hito-ni] atta-no?  
     [= (34a) with ittai]

  b. Adjunct island effect (from CED)
  %Mary-ga [John-ga naze hon-o yomu mae-ni] dekaketa-no?  
     Mary-NOM John-NOM why book-ACC read before left - Q

This parallels English, where island effects are often squishy with extraction of DPs but quite robust with extraction of adjuncts.
(40)  a. %What did Mary resent [the fact that they had fixed__ with a wrench]?
     b. *How did Mary resent [the fact that they had fixed the car __]?
     c. *Why did Mary resent [the fact that they had fixed the car __]?

9. Tentative conclusion: the model

In Japanese, when a verb selects a +Q complementizer, the requirement of wh-movement to specifier of CP is met by "covert movement" in the embedded clause.

How this fits in the model:

(41)   Possibility #1 (traditional idea)
       Wh-movement may happen before or after Spellout -- the point at which the syntactic derivation makes contact with phonology. Movement after Spellout is covert, since it does not feed the phonology. The Pronunciation Principle in (28) is correct.

(42)   Possibility #2
       Wh-movement always happens the same way. The Pronunciation Principle is wrong. The EPP property of certain heads dictates that you pronounce the new top of the chain formed by movement. The EPP property of other heads dictates that you pronounce the old top of the chain formed by movement.

...You decide!