

### **A/A'-Asymmetry: Finiteness Sensitivity in Wh-Movement**

The aim of this presentation is to clarify some properties of so-called “Tense-islands”. The main claims are the following two points: [1] finiteness sensitivity in wh-movement is observed only in A-to-A'-movement, not in A'-to-A'-movement, and [2] the observation in [1] can be drawn from the Case-system proposed in Pesetsky and Torrego (2001, 2002, 2004).

As shown in (1), infinitival T ameliorates wh-island violation. If an extracted wh-phrase is an adjunct, however, no amelioration is observed as in (2). Although several approaches to this problem have been proposed, most of them refer only to finiteness: finite T strengthens the island violation (Chomsky 1986, Manzini 1992). However, this type of approach could suffer from dealing with adjunct cases as in (2), because (2a) and (2b) are equally unacceptable. The only difference between (1) and (2) is that the extracted wh-phrase is an argument in (1) or an adjunct in (2). The contrast in (1) and (2) seems to imply argument/adjunct asymmetry in finiteness sensitivity in wh-movement. However, (3a) is unacceptable despite the fact that an extracted wh-phrase is an argument wh-phrase and embedded clauses are all infinitival.<sup>1</sup> If we put the data in (3) into a certain context as in (4)-(7), an interesting contrast comes out: finiteness sensitivity in wh-movement is observed only in A-to-A'-movement, not in A'-to-A'-movement (A/A'-asymmetry). In (4b)-(7b), “which book” crosses a wh-island in the step from an A-position to an A'-position as illustrated in (8). (4b) and (5b) are acceptable, where a “when”-clause is infinitival. Meanwhile, (6b) and (7b) are unacceptable, where a “when”-clause is finite. This tells us that A-to-A'-movement shows finiteness sensitivity. In (4a)-(7a), on the other hand, “which book” crosses a wh-island in the step from an A'-position to an A'-position as illustrated in (9). A “when”-clause is finite in (4a) and (7a), while the clause is infinitival in (5a) and (6a). Regardless of that difference, (4a)-(7a) are all unacceptable. Infinitival T in (5a) and (6a) does not ameliorate the island violation in contrast with (4b)-(5b). This shows that A'-to-A'-movement is not sensitive to finiteness. The same thing is observed in adjunct cases in (2). Since adjuncts are at A'-positions from the beginning, every step of the movement is from an A'-position to an A'-position. That is why (2) does not show the contrast observed in (1).

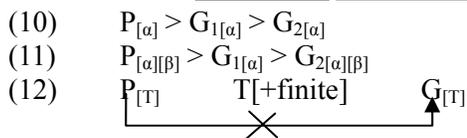
In order to capture this observation, first, I assume that C, (v,) T and DP all have T-features [T] in accordance with Pesetsky and Torrego (2001 and others). In their system, structural case on DP is an uninterpretable instance of T-feature [uT]. Second, the probe-goal system suggested in Chomsky (2000) assumes that P chooses G1 in (10) based on the closest c-command. In (11), in terms of feature-matching, P matches G2 better than G1. In terms of the closest c-command, on the other hand, P c-commands G1 more closely than G2. Let us say that both G1 and G2 can be goals of P in this case with slight modifications of Chomsky's system. Third, I assume that Agree between T-related elements, which mean elements with [T], is blocked by [+finite]T as in (12). I will show only the derivation for the key data as follows. In (13), [uQ] on a wh-phrase has to be deleted by Agree with [iQ] on C. At Step2, C chooses both “where” and “what” as goals based on (11). However, Agree between C and “what” is not allowed because of (12). Meanwhile, “where” is an adjunct, not a T-related element. Nothing prevents Agree between C and “where”. At Step3, “where” is attracted to [Spec,CP] by the EPP feature. At Step 4, since [uQ] on “what” is still active, the matrix C agrees with it. Note that the effect in (12) does not show up in this Agree relation because [uT] on “what” already disappeared at the end of the CP-cycle. The EPP feature on the matrix C has to attract “what” after Agree, but the Phase Impenetrability Condition (PIC) prohibits this movement. Thus, the EPP feature which remains undeleted causes the crash of the derivation. In (14), the embedded clause is [-finite]. The blocking effect in (12) does not arise, in contrast with (13). As in Step3, both of the wh-phrases are attracted to [Spec,CP] based on (11), and [uQ] on “what” at an intermediate landing site is deleted by the matrix [+Q] as in Step5. The derivation converges. In (15), the EPP feature attracts “which” to the edge position without Agree as in Step2, because C is [-Q]. Note that [uQ] on “which” is not marked for deletion yet but [uT] is already deleted. At Step3, the next clause is introduced to the derivation. This clause includes another wh-phrase “when” and [+Q]C. Within the domain of C, there are two [uQ]: “when” and “which”. C has to choose [uQ] on “when” based on (10). As in Step4, “when” is attracted to the edge of CP after Agree. [uQ] on “which” still remains undeleted. At Step5, since C is marked with [+Q], this can agree with [uQ] on “which”. Again, the EPP feature cannot attract “which” because of PIC. It causes the crash of the derivation.

The proposed system can successfully derive the sentences presented here. The (un)availability of [T] enables us to capture them. The system can also capture problems with superiority effects in (16)-(18) and locality effects in *tough*-constructions in (19). Further, the discussion here implies that only CP, not both vP and CP, is the cycle (phase) of wh-movement. This view is also supported by McCloskey (2000, 2002) and others.

<sup>1</sup> Richards (2001) is also pointing out the same kind of data in (3a).

- (1) a. \*What did Bill ask Susan [when he should buy  $t_{\text{what}}$   $t_{\text{when}}$ ]?  
 b. What did Bill ask Susan [when to buy  $t_{\text{what}}$   $t_{\text{when}}$ ]?
- (2) a. \*How did Bill wonder [where he should buy the book  $t_{\text{where}}$   $t_{\text{how}}$ ]?  
 b. \*How did Bill wonder [where to buy the book  $t_{\text{where}}$   $t_{\text{how}}$ ]?
- (3) a. \*Which book did Bill ask Susan [when to decide  $t_{\text{when}}$  [to buy  $t_{\text{which}}$ ]?  
 b. ?Which book did Bill decide [to ask Susan [when to buy  $t_{\text{which}}$   $t_{\text{when}}$ ]?
- (4) finite-infinitival  
 a. \*Which book did Bill ask Susan [when he should decide  $t_{\text{when}}$  [to buy  $t_{\text{which}}$ ]?  
 b. ?Which book did Bill decide [he should ask Susan [when to buy  $t_{\text{which}}$   $t_{\text{when}}$ ]?
- (5) infinitival-infinitival  
 a. \*Which book did Bill ask Susan [when to decide  $t_{\text{when}}$  [to buy  $t_{\text{which}}$ ]?  
 b. ?Which book did Bill decide [to ask Susan [when to buy  $t_{\text{which}}$   $t_{\text{when}}$ ]?
- (6) infinitival-finite  
 a. \*Which book did Bill ask Susan [when to decide  $t_{\text{when}}$  [he should buy  $t_{\text{which}}$ ]?  
 b. \*Which book did Bill decide [to ask Susan [when he should buy  $t_{\text{which}}$   $t_{\text{when}}$ ]?
- (7) finite-finite  
 a. \*Which book did Bill ask Susan [when he should decide  $t_{\text{when}}$  [he should buy  $t_{\text{which}}$ ]?  
 b. \*Which book did Bill decide [he should ask Susan [when he should buy  $t_{\text{which}}$   $t_{\text{when}}$ ]?

(8) [which book ... [CP ... [CP when ... t ]]] (9) [which book ... [CP when ... [CP ... t ]]]



(13) The derivation for (1a)

- 1: [CP he  $C_{[EPP][iQ][\text{wh}]} <he>$  should buy what $_{[uQ][\text{wh}]}$  where $_{[uQ]}$ ]  
 (C > where > what)  
 2:  $C_{[EPP][iQ][\text{wh}]}$  T[+finite] where $_{[uQ]}$  what $_{[uQ][\text{wh}]}$   
 3: [CP where $_{[\text{wh}]}$  he should buy what $_{[uQ][\text{wh}]}$ ]  
 4: [CP did( $C_{[EPP][iQ][\text{wh}]}$ ) John ask Mary [CP where $_{[\dots]}$  ... what $_{[uQ][\dots]}$ ]]
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(14) The derivation for (1b)

- 1: [CP  $C_{[EPP][iQ][\text{wh}]}$  PRO to buy what $_{[uQ][\text{wh}]}$  where $_{[uQ]}$ ]  
 2:  $C_{[EPP][iQ][\text{wh}]}$  T[-finite] where $_{[uQ]}$  what $_{[uQ][\text{wh}]}$   
 3: [CP what $_{[\text{wh}]}$  where $_{[\text{wh}]}$  to buy \_ ]  
 4: [CP did ( $C_{[EPP][iQ][\text{wh}]}$ ) John ask Mary [CP what $_{[uQ][\dots]}$  where $_{[\dots]}$  ]]  
 5:  $C_{[EPP][iQ][\text{wh}]}$  [+finite] what $_{[uQ][\dots]}$   
 6: [CP what $_{[uQ][\dots]}$  did( $C_{[EPP][iQ][\text{wh}]}$ ) John ask Mary [CP where $_{[\dots]}$  . . ]]

- (16) a. Who bought what?  
 b. \*What did who buy?
- (17) a. I am wondering where to buy what.  
 b. I am wondering what to buy where.

(15) The derivation for (3a)/(5a)

- 1: [CP  $C_{[-Q][EPP][\text{wh}]} T[-\text{finite}]$  which $_{[uQ][\text{wh}]}$ ]  
 2: [CP which $_{[uQ][\dots]}$  . . . . ]  
 3: [CP (he)  $C_{[EPP][iQ][\text{wh}]}$  T[-finite] when $_{[uQ]}$  [CP which $_{[uQ][\dots]}$  . . ]]  
 4: [CP when $_{[uQ]}$  C [CP which $_{[uQ][\dots]}$  ]]  
 5: [CP  $C_{[EPP][iQ][\text{wh}]}$  T[+finite] [CP when $_{[\dots]}$  [CP which $_{[uQ][\dots]}$  ]]
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- (18) He reported yesterday that I broke the glass.  
 a. When did he report \_ that I broke what?  
 b. \*What did he report when that I broke \_?

- (19) a. John is easy (for us) to convince Bill to arrange [for Mary to meet \_].  
 b. ?John is easy (for us) to convince Bill to tell Mary [that Tom meets \_]. (Chomsky 1977: 103-104)  
 c. John is easy (for us) to convince Bill [that he should arrange] for Mary to meet \_

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