

## Weakest Island Effects

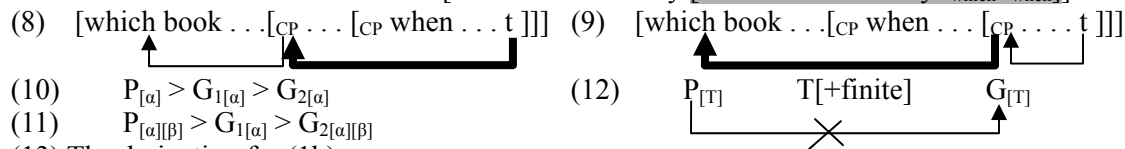
The aim of this presentation is to clarify some properties of “Tense-islands”, which we call “weakest islands”. The main claims are the following two points: [1] finiteness sensitivity in wh-movement is observed only in A-to-A'-movement, not in A'-to-A'-movement, and [2] the observation in [1] can be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

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). They tell us that some additional factor as well as finiteness has something to do with weakest islands (contra Chomsky 1986 and others). Interestingly, (3a) is unacceptable despite the fact that an extracted wh-phrase is an argument wh-phrase like (1) and embedded clauses are all infinitival (The same type of data as (3a) is also pointed out by Richards (2001)). If we put (3) into a context as in (4)-(7), an interesting fact 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” crosses a wh-island in the step from an A-position to an A'-position as in (8). (4b)/(5b) is acceptable, where a “when”-clause is infinitival. Meanwhile, (6b)/(7b) is unacceptable, where a “when”-clause is finite. This tells us that A-to-A'-movement is sensitive to finiteness. In (4a)-(7a), on the other hand, “which” crosses a wh-island in the step from an A'-position to an A'-position as in (9). A “when”-clause is finite in (4a)/(7a), while the clause is infinitival in (5a)/(6a). Regardless of that difference, (4a)-(7a) are all unacceptable. Infinitival T in (5a)/(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). (2) does not show finiteness sensitivity, for adjuncts are at A'-positions from the beginning and every step of the movement is A'-to-A'-movement.

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): 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), as in Step1, [uQ] on wh-phrases has to be deleted by [iQ] on C. As in Step2, “where” and “what” can be goals of C based on (11). Since the clause is [-finite], nothing blocks the Agree relations, contra (1a). C agrees with both of the wh-phrases, but it has a single [iQ]. Suppose that [uQ] on either of the wh-phrases is deleted by [iQ] on C but the EPP feature attracts both of them. As in Step3, [uQ] on “where” is deleted and [uQ] on “what” remains unvalued. Then, EPP attracts both of them. In Step4, note that “what” at [Spec,CP] is no longer a T-related element because [uT] is already deleted at the end of the CP-cycle (but [uQ] is still active). At Step5, the matrix C agrees with “what”. Since “what” is not a T-related element, this Agree relation is not sensitive to finiteness. The EPP feature attracts “what”, and the derivation converges. In (14), 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.

Our system can successfully derive the sentences presented here by assuming the (un)availability of [T]. It can also capture problems with superiority effects in (15)-(17), where the order of “what” and “where” is flexible as in (16). Further, the system also captures locality effects in *tough*-constructions in (18) under the null operator movement analysis in Browning (1987). In addition, the discussion here implies that only CP is the cycle (phase) of (wh-)movement, not both vP and CP. This consequence is also supported by McCloskey (2000,2002) and others: traces of wh-movement are observed only at [Spec,CP], not [Spec,vP]. From these points, the discussion in this presentation seems to be empirically supported.

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



(13) The derivation for (1b)

- 1: [CP C<sub>[EPP][iQ][+F]] PRO to buy what<sub>[uQ][+F]</sub> where<sub>[uQ]</sub>]</sub>
- 2: C<sub>[EPP][iQ][+F]</sub> T[-finite] where<sub>[uQ]</sub> what<sub>[uQ][+F]</sub>
- 3: [CP what<sub>[+F][uQ]</sub> where<sub>[+F][uQ]</sub> to buy \_ \_]
- 4: [CP did (C<sub>[EPP][iQ][+F]</sub>) John ask Mary [CP what<sub>[uQ][+F]</sub> where<sub>[+F]</sub> ]]
- 5: C<sub>[EPP][iQ][+F]</sub> [+finite] what<sub>[uQ][+F]</sub>
- 6: [CP what<sub>[+F][uQ]</sub> did(C<sub>[EPP][iQ][+F]</sub>) John ask Mary [CP where<sub>[+F]</sub> . . . ]]

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

- 1: [CP C<sub>[-Q][EPP][+F]</sub> T[-finite] which<sub>[uQ][+F]</sub>]
- 2: [CP which<sub>[uQ][+F]</sub> . . . . .]
- 3: [CP (he) C<sub>[EPP][iQ][+F]</sub> T[-finite] when<sub>[uQ]</sub> [CP which<sub>[uQ][+F]</sub> . . . ]]
- 4: [CP when<sub>[uQ]</sub> C [CP which<sub>[uQ][+F]</sub> ]]
- 5: [CP C<sub>[EPP][iQ][+F]</sub> T[+finite] [CP when<sub>[+F]</sub> [CP which<sub>[uQ][+F]</sub> ]]

- (15) a. Who bought what?  
 b. \*What did who buy?

- (16) a. I am wondering where to buy what.  
 b. I am wondering what to buy where.

(17) 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 \_?

(18) a. John is easy (for us) to convince Tom to arrange [for Mary to meet \_].

- b. ?John is easy (for us) to convince Tom to tell Mary [that Bill should meet \_].

(Chomsky 1977: 103-104)

c. John is easy (for us) to convince Tom [that he should arrange] for Mary to meet \_

**Selected References:** Browning, M.(1987)*Null Operator Constructions*. Ph.D dissertation. MIT.  
 Chomsky, N.(1986)*Barriers*. MIT Press. Chomsky, N.(2000)Minimalist Inquiries: The Framework. In *Step by Step* MIT Press. McCloskey, J.(2000)Quantifier Float and Wh-Movement in an Irish English. LI31. McCloskey, J.(2002)Resumption, Successive Cyclicity, and the Locality of Operations. In *Derivation and Explanation in the Minimalist Program*. Blackwell. Pesetsky, D, and E. Torrego.(2001)T-to-C Movement: Causes and Consequences. In *Ken Hale: A Life in Language*. MIT Press. Richards, N.(2001)*Movement in Lnguage*. Oxford University Press.