

### **Sloppy Identity and re-binding: Focus intervention by reconstruction**

**1. What Re-Binding is, and when it's possible.** From the pattern of available sloppy identity interpretations in VP ellipsis sentences, Sag (1976) and Williams (1977) conclude that bound variables that are free within a deleted constituent must be co-bound with a parallel variable in an antecedent constituent. This exclusion of *re-binding* (binding of parallel variables by distinct  $\lambda$ -operators external to the ellipsis site) correctly rules out a sloppy identity interpretation in sentences such as (1). Since that seminal work, however, a growing body of research (summarized in Takahashi and Fox [T&F, 2004, 2005]) has demonstrated the possibility of re-binding in certain circumstances (e.g. (2)). According to T&F, the pattern of acceptable re-binding is predicted by a modified version of Merchant's recent proposal that ellipsis must target the largest possible constituent within a Parallelism Domain (Rooth 1992) – MaxElide. MaxElide correctly predicts that VP ellipsis (4) is generally unacceptable where sluicing (3) is licensed. However, if an intervening focused element (IF) is present between a deleted variable and its overt re-binder, MaxElide may only target a constituent small enough to allow the IF to be spoken. It is in these cases that re-binding is acceptable; the presence of IF licenses a sloppy identity interpretation in (5) and makes VP ellipsis possible where sluicing would otherwise be required in (6,7). IF does not affect the Parallelism Domain, but rather restricts ellipsis to the largest possible constituent not containing the focused element.

**2. A class of potential counter-examples.** The present formulation of MaxElide predicts that VP ellipsis should be disallowed in wh-extraction sentences, except in the presence of IF. In this talk, I will discuss examples of wh-extraction sentences where VP ellipsis is acceptable despite the fact that the contrasting focused element is too high to count as IF. Specifically, such examples contain material that has been pied-piped outside of IP along with the wh-operator and its restriction, as in (8). Here, VP ellipsis is more acceptable (8a) than sluicing (9), contrary to what one would expect under MaxElide.

**3. Turning the problem on its head.** I will then attempt to show that given two independently supported claims, this class of apparent counter-examples does not contradict the pattern predicted by MaxElide, but rather provides further support for (T&F's version of) it. These two claims are:

- i) that pied-piped material is reconstructed at a site lower than Spec, CP at LF, and
  - ii) that the reconstruction occurs not at theta-position, but at a VP-peripheral intermediate landing site.
- **Pied-piped material reconstructs.** Pied-piped material in questions (as in (10a)) is semantically interpreted as if it were at a site lower than Spec, CP (10b) (Heim 1987, Karttunen 1977). A standard approach to this phenomenon is to claim that this is the result of syntactic reconstruction at LF (10c).
  - **Reconstruction is to an intermediate site.** The syntactic approach to reconstruction in pied piping is compatible with various possibilities for where the reconstruction site is: at the theta position, or an intermediate landing site. I will argue that the pied-piped material reconstructs at an intermediate site, based on Nissenbaum's (2000) evidence for intermediate landing sites in parasitic gap constructions. In this type of construction (11), the gap left by movement of an operator in the parasitic adjunct is understood as identical to the trace left by wh-movement in the main VP. Nissenbaum argues for a compositional approach to the construction in which the VP and the adjunct compose by predicate modification, on the premise that wh-movement leaves an intermediate trace just above the adjunct (11b). Pied piping in a parasitic gap construction (12,13) provides evidence that the pied-piped material must reconstruct to the intermediate position. The gaps in (12,13) are both understood as the entire wh-phrase *whose dog*; thus (12) sensible but (13) is not. This pattern would follow if the LF is like (14a) and not (14b). The VP and the parasitic adjunct form a predicate of the pied-piped phrase, not a simple wh-trace.

**5. The apparent counter-examples turn out to support MaxElide** If these two claims are correct, then the apparent counter-examples to MaxElide actually follow from it. Given that the focused, pied-piped material (in 15) is reconstructed at a VP-peripheral position at LF (16), deletion of any constituent including this site should be disallowed. Sluicing is therefore ruled out (17), and MaxElide is satisfied with VP-ellipsis. To the extent that the two assumptions are justified, the pattern of acceptable deletion in the class of potential counter-examples in fact provides support for T&F's reformulation of Merchant's MaxElide.

### Examples:

#### **Impossibility of re-binding rules out sloppy identity:**

(1) Bill<sub>i</sub> said Martha likes his<sub>i</sub> dog, and JOHN<sub>j</sub> said she does < >, too. <> = likes his<sub>(i/\*j)</sub> dog

#### **An environment where sloppy identity is possible despite re-binding:**

(2) Bill<sub>i</sub> said MARTHA likes his<sub>i</sub> dog, and JOHN<sub>j</sub> said KATHY does < >. <> = likes his<sub>(ij)</sub> dog

#### **MaxElide disallows VP ellipsis where sluicing is possible: (T&F 2005)**

- (3) John knows which professor we invited t, but he is not allowed to reveal which one <we invited t>.  
(4) \*John knows which professor we invited t, but he is not allowed to reveal which one we did <invite t>.

#### **IF prevents MaxElide from requiring deletion of the re-binder, allowing a sloppy reading:**

(5) John<sub>1</sub> argued that Mary hit him<sub>1</sub>, but Bill<sub>2</sub> DENIED that she did < hit him<sub>1/2</sub> > (T&F 2005)

#### **IF prevents sluicing, making VP ellipsis acceptable: (Schuyler 2001; T&F 2005)**

- (6) I think you SHOULD adopt one of these puppies, but I can't predict which one you actually WILL <adopt t>.  
(7) John knows which professor YOU invited, but he doesn't know which professor WE did <invite t>.

#### **Apparent counter-examples to MaxElide:**

- (8) a. John knows which HISTORY professor we invited t, but he doesn't know which LINGUISTICS professor we did <invite t>.  
b. John knows whose DOG I fed t, but he doesn't know whose CAT I did <feed t>.  
(9) ?? John knows which HISTORY professor we invited t, but he doesn't know which LINGUISTICS professor <we invited t>.

#### **Reconstruction of pied-piped material:**

(10) a. Whose dog did you feed? b. For which x: [you fed x's dog] c. Who<sub>i</sub> [you fed t<sub>i</sub>'s dog]

#### **Evidence for an intermediate landing site from Parasitic Gaps:**

(11) a. What did you file \_\_ without reading \_\_? b. What<sub>1</sub> did you t<sub>1</sub> [file t<sub>1</sub>][O<sub>2</sub> without reading t<sub>2</sub>]

#### **Parasitic Gaps argue that pied-piped material reconstructs to an intermediate position:**

- (12) Whose dog did you feed before petting \_\_\_?  
(13) #Whose dog did you feed before asking permission from \_\_\_?  
(14) a. Who<sub>1</sub> did you [t<sub>1</sub>'s dog]<sub>2</sub> [[feed t<sub>2</sub>][O<sub>3</sub> before petting t<sub>3</sub>]]  
b. NOT: Who<sub>1</sub> did you t<sub>1</sub> [[feed [t<sub>1</sub>'s dog]][O<sub>3</sub> before {petting/asking permission from} t<sub>3</sub>]]

#### **Pied-piping of focused material in extraction of possessive wh-phrases:**

- (15) I know whose FATHER you visited, but I don't know whose MOTHER you did <visit t>.  
(16) ... who<sub>1</sub> you [t<sub>1</sub>'s FATHER]<sub>2</sub> [visited t<sub>2</sub>] ... who<sub>3</sub> you [t<sub>3</sub>'s MOTHER]<sub>4</sub> <visited t<sub>4</sub>>  
(17) ??I know whose FATHER you visited, but I don't know whose MOTHER <you did visit t>

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