

# Wrapping up SynR and SemR

LING 252 · Ethan Poole · 15 April 2020

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## 1 Some open questions

### 1.1 Availability of modes of interpretation?

- Ruys (2015) proposes that a type- $e$  trace is always available as a default:<sup>1</sup>

<sup>1</sup> See Cresti (1995) for a similar proposal.

#### (1) CONDITION ON TRACE TYPING

If  $D$  is a trace, then  $D$  is translated as a variable of some type  $\tau$ . If  $D$  is attracted to a phase-accessible target  $B$ , and  $D$  is identical to the sister of  $B$ , then  $\tau$  can be the type of any nontrace interpretation of  $D$ . Alternatively,  $\tau$  can default to type  $e$ .

⇒ Hindi-Urdu  $\bar{A}$ -scrambling poses a challenge to this claim because it instantiates a movement type for which scope reconstruction is obligatory.

#### • Questions

Let us assume that there is genuine variability in whether a given movement type allows SynR, SemR, individual-type traces, or some combination thereof.

- Are all logically possible  $2^3$  options attested?
- Does the availability of a given mode of interpretation correlate with some independently observable property of the language or the movement type?

### 1.2 I→C as the right generalization?

- Recall that  $Q \rightarrow C$  and  $I \rightarrow C$  were both initially posited on the basis of English. Keine and Poole (2018) argue that Hindi-Urdu obeys  $I \rightarrow C$  and not  $Q \rightarrow C$ . Where then does English fit into the picture?
- It is instructive to observe that the original evidence for  $Q \rightarrow C$  in Romero (1997, 1998) and Fox (1999) does not control for intensionality.

#### ⇒ Controlling for intensionality

Keine and Poole (2018) claim that once intensionality is controlled for, a reconstructed-scope, transparent reading appears to be possible (as Sharvit 1998 claims):<sup>2</sup>

<sup>2</sup> At the moment, I am not terribly confident about the judgements. The wide-scope transparent reading is also available, perhaps preferred, which muddles things.

- (2) *Scenario: John is picking out pictures to suggest to the editor for the Sunday Special. Unbeknownst to him, the pictures are the pictures that he himself took in Sarajevo. He intends to suggest 20 pictures in total, but has so far only picked out 10 of these 20.*

[ How many pictures [<sub>RC</sub> that **John**<sub>2</sub> took in Sarajevo ] ]<sub>1</sub> does **he**<sub>2</sub> want the editor to publish \_\_\_<sub>1</sub> in the Sunday Special?

Answer: 20

reconstructed scope, transparent

(3) **Potentially relevant modifications**<sup>3</sup>

<sup>3</sup> These are due to Dylan. The modifications try to make the ‘2o’ reading more natural. There might also be a ‘o’ reading?

- a. [ How many pictures that John<sub>2</sub> took in Sarajevo ] has he<sub>2</sub> decided [ to recommend for publication \_\_\_\_ ]?
- b. [ How many of the pictures that John<sub>2</sub> took in Sarajevo ] has he<sub>2</sub> decided [ to recommend for publication \_\_\_\_ ]?
- c. [ How many of those pictures that John<sub>2</sub> took in Sarajevo ] has he<sub>2</sub> decided [ to recommend for publication \_\_\_\_ ]?

- It is conceivable that reconstruction for scope preferentially coincides with reconstruction for referential opacity (plausibly as a parsing principle), and that as a result, scope reconstruction is degraded in cases where reconstruction for referential opacity is blocked (as in Condition C configurations).
- This is consistent with (2), where intensionality is controlled for, bringing to the fore the otherwise dispreferred reconstructed-scope interpretation.

• **Hindi vs. English**

It seems reasonable at this point to suppose that there is no fundamental difference between the two languages:

- Both languages in principle allow scope reconstruction in the presence of a potential Condition C violation.
- Such reconstruction is more easily detectable in Hindi because it is the only available reading.
- In English, on the other hand, the general availability of a surface-scope interpretation might mask the presence of the reconstructed-scope (transparent) reading.

⇒ **A-movement**

– Fox (1999) claims that  $Q \rightarrow C$  holds for A-movement as well:

- (4) a. [ A student of **David’s**<sub>1</sub> ] seems to **him**<sub>1</sub> [ \_\_\_\_ to be at the party ].  
 $\exists \gg \text{seem}; * \text{seem} \gg \exists$
- b. [ A student of **his**<sub>1</sub> ] seems to **David**<sub>1</sub> [ \_\_\_\_ to be at the party ].  
 $\exists \gg \text{seem}; \text{seem} \gg \exists$
- (5) a. [ (At least) one of **Napoleon’s**<sub>1</sub> soldiers ] is expected by **him**<sub>1</sub> [ \_\_\_\_ to die in every battle ].  
 $\exists \gg \forall; * \forall \gg \exists$
- b. [ (At least) one of **his**<sub>1</sub> soldiers ] is expected by **Napoleon**<sub>1</sub> [ \_\_\_\_ to die in every battle ].  
 $\exists \gg \forall; \forall \gg \exists$

- The judgements for A-movement, however, are not as clearcut. It is reported that many speakers do not have the above contrasts.
- Here are some attempts at testing  $I \rightarrow C$  with A-movement (judgements not given):

- (6) *Scenario: David is throwing a party at his house tonight, and since he religiously separates work from his private life, he didn’t invite any of his students to it. Therefore he doesn’t expect any of them to come. David is also close friends with the bartenders at the local bar, so he invited them to the party. He expects at least one of them to accept the offer and come (although there is no specific one he expects to come). Unbeknownst to him, all the bartenders he invited are*

actually students of his. There is no specific person (at all) such that David has an expectation that they will come.<sup>4</sup>

[ At least one **David's**<sub>1</sub> students ] is expected by **him**<sub>1</sub> [ \_\_\_\_ to come to the party ].

(7) **Potentially relevant modification**

a. [ At least one of **David's**<sub>1</sub> students ] seems to **him**<sub>1</sub> [ \_\_\_\_ to have come to the party ].

b. [ At least one of **his**<sub>1</sub> students ] seems to **David**<sub>1</sub> [ \_\_\_\_ to have come to the party ].

<sup>4</sup> This context should isolate the narrow-scope transparent reading. So, the question then is whether the sentence is true in the scenario.

### 1.3 What about Poole (2017, 2019)?

\* Poole (2017, 2019) proposes a general ban on higher-type traces:<sup>5</sup>

(8) **TRACE INTERPRETATION CONSTRAINT (TIC)**

\* [ XP<sub>1</sub> λf<sub>σ</sub> ... [ ... [ f<sub>σ</sub> ]<sub>1</sub> ... ] ], where σ is not an individual type

• This proposal is at odds with Keine and Poole (2018).<sup>6</sup>

⇒ A substantive difference between the two proposals is the kind of evidence considered. Keine and Poole (2018) focus on Condition C connectivity, while Poole (2017, 2019) focuses on instances where reconstruction is blocked or is obligatory.

• **Property traces**

Poole (2017, 2019) also looks at property traces (type  $\langle e, t \rangle$ ) and argues that they are unavailable. We will see these arguments next week.

<sup>5</sup> See also Chierchia (1984); Landman (2006).

<sup>6</sup> Reconciling these two proposals is what keeps me up at night ...

### 1.4 More open questions

• **Phenomena that have been analyzed with higher-type traces**

– sloppy VP ellipsis (Hardt 1999; Schwarz 2000; cf. Tomioka 2008)

– verb clusters (Keine and Bhatt 2016)

– *as*-parentheticals (Potts 2002a,b; cf. LaCara 2016)

• **Anaphora**

Are anaphora and traces the same thing or subject to the same constraints? Are there higher-type anaphora? (Chierchia 1984; Landman 2006)

• **Head movement**

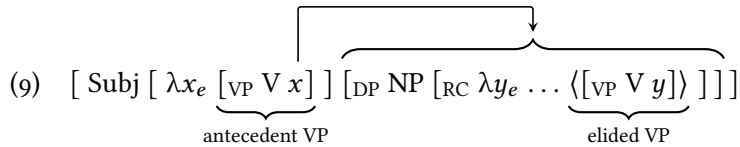
What about head movement? Verbs denote higher-type expressions. Head movement has very limited semantic effects (Lechner 2006, 2007). Could restrictions on traces explain why the semantic effects of head movement are so limited?

## 2 Non-Condition C arguments against GQ traces

### 2.1 Antecedent Contained Deletion (ACD)

- It is standardly assumed that ellipsis is resolved in ACD by covertly moving the host (i.e. the DP hosting the ellipsis site) to a VP-external position:<sup>7</sup>

<sup>7</sup> E.g. Sag (1976); Larson and May (1990); Fox (2002)



- This analysis is independently supported by the fact that the host in ACD configurations obligatorily takes scope above VP:<sup>8</sup>

<sup>8</sup> Sag (1976); Larson and May (1990)

(10) a. **Baseline**

Rose wanted every painting that Blanche painted.

✓want >> ∀; ✓∀ >> want

b. **ACD**

Rose wanted every painting that Blanche did Δ.

\*want >> ∀; ✓∀ >> want

c. **No ellipsis**

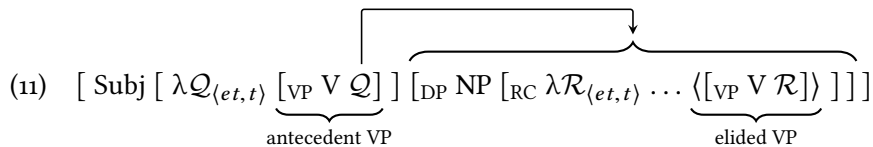
Rose wanted every painting that Blanche wanted.

✓want >> ∀; ✓∀ >> want

⇒ Movement of the host leaving an entity trace not only creates a suitable antecedent for ellipsis, it also makes a nontrivial, correct prediction about the host's scope.

- What if the trace were a GQ trace?**

A GQ trace would also provide a suitable antecedent for ellipsis:



⇒ However, a GQ trace would fail to derive the scope pattern in (10b) because the host would be interpreted as taking scope inside VP.

⇒ Thus, if GQ traces were available in the grammar, then some additional constraint would need to be invoked to block them in ACD.

## 2.2 Extraposition

- **Williams's Generalization**

Williams (1974) observes that extraposition of an adjunct from a DP forces that host DP to take scope at least as high as the extraposition site.<sup>9</sup>

<sup>9</sup> See also Fox and Nissenbaum (1999); Fox (2002).

- **Baseline**

(12) I read every book [ before you did Δ ]. [Fox 2002:72]

(13) a. I  $\underbrace{[\text{VP read every book}]}_{\text{antecedent VP}}$  [ before you did  $\langle \underbrace{[\text{VP read every book}]}_{\text{elided VP}} \rangle$  ] before  $\gg \forall$

b. [ every book ]<sub>1</sub> [ I  $\underbrace{[\text{VP read } t_1]}_{\text{antecedent VP}}$  [ before you did  $\langle \underbrace{[\text{VP read } t_1]}_{\text{elided VP}} \rangle$  ] ]  $\forall \gg$  before

- **Target sentence**

When the RC is extraposed, the host DP only has the second reading from (12):

(14) a. I read every book **that John had recommended** [ before you did Δ ].

b. I read every book [ before you did Δ ] **that John had recommended**.

[Fox 2002:72]

- **Late Merge derivation**

Fox and Nissenbaum (1999) propose that extraposition involves a derivation in which the adjunct late-merges to the host DP after the host DP has undergone rightwards movement to the extraposition site:

(15) a. ... [  $\underbrace{[\text{VP read [ every book ]}_1]}_{\text{antecedent VP}}$  [ before you did Δ ] ] [ ~~every book~~ that John had recommended ]<sub>1</sub>

b. LF: ... [  $\lambda x_e$  [  $\underbrace{[\text{VP read } x]}_{\text{antecedent VP}}$  [ before you did Δ ] ] ] [ every book that John had recommended ]

- **What if the trace were a GQ trace?**

- A GQ trace would still allow for a late-merge extraposition derivation.

- But it would fail to derive Williams's Generalization because the moved host DP would be interpreted as taking scope in its base position.

⇒ Thus, if GQ traces were available in the grammar, then there would have to be some other constraint blocking them in extraposition.

## 2.3 Parasitic gaps

- **Nissenbaum's (2000) analysis of parasitic gaps**

(16) [ Op<sub>1</sub> [ ... t<sub>1</sub> ... ] ]  $\rightsquigarrow$  LF: [  $\lambda x_e$  [ ... x ... ] ]

- A parasitic gap is created by a null operator moving from the parasitic-gap position to the edge of the adjunct clause.

- This is interpreted as a  $\lambda$ -operator binding a variable located in the gap position, viz. a trace.

- This derived predicate then conjoins with the  $\lambda$ -abstraction independently created by the  $\bar{A}$ -movement step in the matrix clause.

- **What if the trace were a GQ trace?**

Nissenbaum assumes that the trace in the parasitic gap is type  $e$ , but consider if the trace were instead type  $\langle et, t \rangle$ .

- Because only expressions of the same type may be conjoined, a GQ trace in the parasitic gap would require the trace of the matrix  $\bar{A}$ -movement step to be a GQ trace as well.
- Both traces being type  $\langle et, t \rangle$  crucially makes the prediction that the moved expression should be able to be interpreted as taking reconstructed scope in *both* the matrix gap and the parasitic gap:

$$(17) \quad [ DP [ [ \lambda Q_{\langle et, t \rangle} [ \alpha \dots Q ] ] [ \lambda R_{\langle et, t \rangle} [ \beta \dots R ] ] ] ] \quad \alpha \gg DP; \beta \gg DP$$

matrix clause
parasitic-gap adjunct

- **Testing the prediction**

- Testing whether DP can scope below  $\alpha$  is complicated, if not impossible, because parasitic-gap adjuncts attach to  $vP$  (Nissenbaum 2000), below modals and such.
- But the following sentences tests whether DP can scope below  $\beta$ :<sup>10</sup>

(18) ?[ **How many people** ]<sub>1</sub> did Alex blackmail \_\_\_<sub>1</sub> [ because she **wanted** to extort *pg* for money ]?      ✓how many  $\gg$  want; \*want  $\gg$  how many

- To the extent that (18) is acceptable, *how many people* cannot take scope below *want* in the adjunct.
- This hypothetical reading is paraphrased as follows: what is the number  $n$  such that there are  $n$ -many people that Alex blackmailed because in all of his doxastic alternatives, there are  $n$ -many people that Alex extorts for money.
- Such a reading might be used, e.g., in a context where Alex is blackmailing people in order to extort not them, but their spouses.

- The absence of reconstructed scope in (18) reveals that (17), where the trace is type  $\langle et, t \rangle$ , is not a possible LF for parasitic-gap constructions.

⇒ Thus, if GQ traces were available in the grammar, then there would have to be a constraint blocking them in parasitic gaps.

<sup>10</sup> The acceptability of (18) is independently degraded because the adjunct is a finite clause, and parasitic gaps prefer nonfinite clauses (Engdahl 1983).

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