

Reconstruction two ways: Evidence from Hindi-Urdu

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Background: It is well-known that movement may reconstruct for interpretive processes such as scope, but that such reconstruction is systematically blocked in certain cases. Two basic mechanisms have been proposed to derive scope reconstruction: (i) **SYNTACTIC RECONSTRUCTION** (SynR), whereby reconstruction results from the interpretation of a lower copy (Romero 1998, Fox 1999), and (ii) **SEMANTIC RECONSTRUCTION** (SemR), whereby movement leaves a higher-typed trace (Cresti 1995, Rullmann 1995). A key difference between the two accounts is that SynR predicts that reconstruction for scope should coincide with reconstruction for Condition C (Fox 1999) (1). SemR does not make this prediction, unless additional assumptions are invoked (Ruys 2015). The empirical evidence is interestingly complex. Romero, Fox, and Ruys advance (1) based on the ban on scope reconstruction in (2); they argue that the narrow-scope reading of *many* is unavailable because it would trigger a Condition C violation.

(1) Scope reconstruction correlates with Condition C reconstruction.

(2) [How many slides of **Jonathan**₁'s trip to Kamchatka]₂ did **he**₁ decide to show *t*₂ at the party?
(\checkmark many > decide; *decide > many)

On the other hand, Sharvit (1998) and Lechner (to appear) argue that (1) is incorrect and that Condition C reconstruction instead correlates with reconstruction for *world-variable binding* (3). Their argument is based on Sharvit's (1998) observation that the moved DP can in fact reconstruct for scope, but only if it is interpreted *de re* (4) (this is the so-called "third reading"). Unavailable in (4) is a genuine *de dicto* reading.

(3) Reconstruction for world-variable binding correlates with Condition C reconstruction.

(4) [How many students who hate **Anton**₁]₂ did **he**₁ hope [*t*₂ will buy him₁ a beer] ?
(\checkmark de re+wide scope; \checkmark de re+narrow scope; *de dicto+narrow scope)

Claim: The two generalizations (1) and (3) are mutually incompatible. We present novel data from Hindi-Urdu (henceforth Hindi) that provides particularly clear evidence that scope and Condition C reconstruction do *not* correlate, contra (1), but that Condition C does correlate with world-variable binding, supporting (3). We argue that these facts indicate that SemR and SynR are both needed (Lechner 1998).

Scope and Condition C: Hindi provides a good testing ground for (1) because scrambling that leaves a finite clause (= 'long scrambling') obligatorily reconstructs for scope. (1) predicts that an R-expression inside the moved element should invariably reconstruct for Condition C. This prediction is crucially incorrect. In (5), only a reconstructed scope reading is possible, and it is not obstructed by coreference between the R-expression *Ram-ko* and the pronoun *us-ne*. The same is true of *how many*-questions (6).

(5) [har kitaab jo **Ram-ko**₁ pasand hai]₂ **us-ne**₁ kisii laṛkii-se kahaa [ki Mina-ne *t*₂ bec dii]
every book that Ram-DAT like AUX 3SG-ERG some girl-INSTR said that Mina-ERG sell give
'Every book that Ram₁ likes, he₁ told some girl that Mina sold.'
(?* \forall > \exists ; \checkmark \exists > \forall)

(6) [kitnii pictures [jo **Sita-ne**₁ lii]]₂ **us-ne**₁ tay kiyaa [ki **vo**₁ *t*₂ dikhaaegii] ?
how many pictures that Sita-ERG took she-ERG decide did that she will show
'How many pictures that Sita₁ took did she₁ decide that she_i will show?'

(?*many > decide; \checkmark decide > many)

In the absence of movement, the R-expression in the relative clause (RC) induces a Condition C violation:

(7) ***us-ne**₁ tay kiyaa [ki **vo**₁ [ve pictures [jo **Sita-ne**₁ lii]] dikhaaegii] (cf. (6))
she-ERG decide did that she the pictures that Sita-ERG took will show

The independence of reconstruction for scope and for Condition C in (5)–(6) indicates that (1) is not a universal constraint on reconstruction. Because (1) is a consequence of SynR (Fox 1999), reconstruction in (5)–(6) cannot be the result of SynR. Consequently, at least some reconstruction is not syntactic.

Condition C and opacity: Despite the clear non-interaction of Condition C with scope, Condition C does correlate with reconstruction for opaque readings, supporting (3). (8) shows that a DP moved over an attitude predicate can be interpreted opaquely w.r.t. that predicate, i.e. reconstruction for world-variable binding is possible. Crucially, such reconstruction is subject to Condition C connectivity, as shown in (9), where the R-expression in the RC forces the moved DP to be interpreted *de re*. Thus, (9) but not (8) commits the speaker to the actual existence of a ghost. This provides novel support for (3) over (1) as a general characterization of reconstruction. The same facts can be shown with *how many*-questions.

(8) [ek bhuut [jo **us-se**₁ pyaar kartaa hai]]₂ **Pratap**₁ soctaa hai [ki Sangita-ne *t*₂ dekhaa]
 a ghost that he-INSTR love do AUX Pratap thinks AUX that Sangita-ERG saw
 ‘A ghost that loves him₁, Pratap₁ thinks that Sangita saw.’ (✓*de dicto*; ✓*de re*)

(9) #[ek bhuut [jo **Pratap-se**₁ pyaar kartaa hai]]₂ **vo**₁ soctaa hai [ki Sangita-ne *t*₂ dekhaa]
 a ghost that Pratap-INSTR love do AUX he thinks AUX that Sangita-ERG saw
 ‘A ghost that loves Pratap₁, he₁ thinks that Sangita saw.’ (**de dicto*; ✓*de re*)

Proposal: The data above strongly suggest that a comprehensive theory of reconstruction requires *both* SemR and SynR (Lechner 1998, to appear), as the interpretive effects of neither are reducible to the other. SemR is motivated by (5)–(6), where scope reconstruction does not correlate with Condition C connectivity, and hence is not the result of SynR. The schematic structure of (6) is given in (10), where the trace of movement over the attitude predicate translates into a variable of the generalized-quantifier type $\langle et, t \rangle$ (notated as ‘T’), thus producing the ‘*decide > many*’ reading. Because no syntactic reconstruction takes place, *Sita* does not incur a Condition C violation w.r.t. to the pronouns. Furthermore, because reconstruction is obligatory in (5)–(6), a higher-typed trace is not only possible, but obligatory in this case.

(10) [DP how many picture that **Sita**_{*i*} took] [λ_1 [**she**_{*i*} decided [that T₁ ^{$\langle et, t \rangle$} [λ_3 [**she**_{*i*} will show *t*₃^{*e*}]]]]]

To constrain SemR, we adopt Lechner’s (to appear) proposal that *traces only map onto extensional types*. Assuming with Percus (2000) that world variables are saturated inside the DP, this constraint entails that SemR cannot produce reconstruction for world-variable binding. The structure for (9) is given in (11), where λ_{w_0} is the only viable binder for the world variable in the *ghost* DP despite SemR having taken place. Consequently, only a *de re* interpretation of the *ghost* DP is possible.

(11) [λ_{w_0} [DP a ghost in $w_{0/*2}$ that loves **Pratap**_{*i*}] [λ_1 **he**_{*i*} thinks in w_0 [λ_{w_2} [that T₁ ^{$\langle et, t \rangle$} [λ_3 [Sangita saw *t*₃^{*e*} in w_2]]]]]] (✓*de re*; **de dicto*)

Additionally, we provide two arguments for the existence of SynR alongside SemR. The first argument is based on (8), where a *de dicto* reading is available when the RC does not contain an R-expression coindexed with an offending pronoun. Because SemR does not allow reconstruction for world-variable binding, the reconstruction therefore must be achieved syntactically:

(12) [λ_{w_0} [**Pratap**_{*i*} thinks in w_0 [λ_{w_2} [that [DP a ghost in $w_{0/2}$ that loves **him**_{*i*}] [λ_3 [Sangita saw *t*₃^{*e*} in w_2]]]]]] (✓*de re*; ✓*de dicto*)

Crucially, SynR gives rise to Condition C connectivity effects. As such, SynR is blocked in configurations like (9), thereby deriving the contrast between (8) and (9) from the division of labor between SemR and SynR. The second argument for SynR comes from the fact that long scrambling can reconstruct for pronominal binding, as in (13), where reconstruction of *uske kutte-ko* allows it to be bound by *har larḱii-ne*, an interpretation that cannot be produced by SemR (see Romero 1998).

(13) [**uske**₁ kutte-ko]₂ **har larḱii-ne**₁ socaa [ki Ram-ne *t*₂ ghumaayaa thaa]
 his/her dog-ACC every boy-ERG thought that Ram-ERG walked AUX
 ‘Every boy *x* thought that Ram had walked *x*’s dog.’

English vs. Hindi: We argue that the apparent evidence supporting (1) in English is a byproduct of not controlling for intensionality. For example, in (2), in a scenario where Jonathan is deciding on slides to show at the party and is unaware that the stack of slides in his hands are of his own trip to Kamchatka, the narrow-scope reading reappears. In this scenario, one can answer ‘100’ if Jonathan has decided to show 100 of the slides in his hands, but has only picked out 55 of these 100. We further speculate that one reason the English and Hindi judgements diverge is that English constituent questions are ambiguous between a reconstructed and non-reconstructed reading, while Hindi long scrambling obligatorily reconstructs.

Implications: The Hindi data provide novel evidence for (3) and against (1), supporting the need for SemR as well as SynR, contra proposals that assume only one or the other. It then follows that some, but not all instances of reconstruction amount to interpreting a lower copy. Moreover, the preference for a reconstructed reading in Hindi long scrambling, e.g. (6), suggests that type *e* traces are not always available (contra Ruys 2015) and that there exist movement chains that require reconstruction.