A plea for optional QR

Assumptions

- The two following assumptions are commonly made:
  1. The Copy Theory of Movement: Moved elements leave behind full copies of themselves rather than traces. PP and LF then pronounce/interpret one copy and delete the other.
  2. Movement for Type Reasons: When a quantifier occurs in object position, its type clash is resolved by moving it to a position where it is interpretable.

Consequence: Free inverse scope

- If we make these two assumptions, a sentence like (1) has the structure in (2): every boy is first merged as the object of the verb and a girl is merged in its vP-internal position. Every boy has to move up for type reasons. The first node of type t it comes across is the vP node above a girl, so this is where it attaches. A girl moves to its final position in TP.

  (1) A girl loves every boy.

  (2) [TP (a girl) [TP [vP [NP every boy] [VZ loves] [NP a girl]]]]

- When the semantics interprets this structure, it can choose to interpret the higher copy of every boy and either the higher or the lower copy of a girl (Horstmein, 1995; Johnson & Tomkics, 1997).

  Crucially, no extra movement operation is necessary for every boy to take scope over a girl: the same syntactic structure leads to both scope configurations, so you get inverse scope 'for free'.

Claim

- The fact that no extra movement step is necessary to yield an inverse scope configuration is problematic. We need a system where QR is truly optional.

Argument 1: Scope Economy

- Scope Economy (Fox, 2000): a scope shifting operation cannot be semantically vacuous.
- Mary and every teacher are scopally commutative. Therefore, every teacher cannot move over Mary in the ellipsis sentence in (3). In ellipsis constructions, the antecedent and ellipsis sentence have to have parallel LFs (the Parallellism Condition). Therefore, every teacher cannot move over a boy in the antecedent sentence, either. This is why we do not get inverse scope in (3), while we do get inverse scope in (4).

  (3) A boy admires every teacher. Mary does too.

  (4) A boy admires every teacher. A girl does too.

- The problem: If you make the two assumptions listed above, there is no way to prevent inverse scope in (3). As shown in (5), every teacher moves over the lower copy of Mary for type reasons.

  - Type-driven movement is exempt from Scope Economy. Mary wrongly moves up for EPP reasons.
  - The semantic component then receives a structure with two copies of Mary that have been generated in the syntax: one is higher than every teacher and the other is lower. Inverse scope can be attained simply by deleting the higher copy and interpreting the lower copy of Mary. No movement is required for this, so there is no movement operation that can be blocked by Scope Economy. Thus, the prediction is that inverse scope is possible in (3).

  (5) [Mary [ every teacher [Mary [ a boy [loves every teacher]]]]]

Argument 2: Processing

- In a series of experiments, Anderson (2004) shows that inverse scope configurations are more difficult to process than surface scope configurations: people find them more difficult to get even when the context is biased towards inverse scope. Self-paced reading experiments show that people read inverse scope configurations more slowly.

- The problem: In the derivation in (2), inverse scope is no more complex than surface scope. Our theory fails to predict that the inverse scope configuration in (5) occurs a higher processing cost than the surface scope configuration in (3). There is no reason why interpreting the lower copy and deleting the higher one should be more complex than interpreting the higher copy and deleting the lower one.

Solution: Only optional QR

- I propose to solve the problem by allowing object quantifiers to be interpreted in situ. This way, an object quantifier only moves for scope reasons.

- It is a convention to account for object quantifier type clashes and scope ambiguities in the same manner (syntactic movement), but as far as I know there is no reason why this should be an

  concrete proposal. A hybrid movement/lexical types account. Object quantifiers are ambiguous à la Montague (1973); Partee and Rooij (1987). Hendriks (1993) and can be interpreted in the position where they are base-generated.

- A boy loves every boy.

  (a) [Surface scope: [a girl [a girl [loves every boy]]]]

  (b) Inverse scope: [a girl [a girl [loves every boy]]]

- This solves the issues described above in the following way:

  - Scope Economy can restrict QR because it does not happen automatically (argument 1)
  - Inverse scope requires an extra movement step and involves a more complex structure, in line with processing data (argument 2)
  - As QR does not take place obligatorily, we can formulate constraints on it (argument 3)

QR vs. Reconstruction

- This account ensures that QR is an optional movement step, but Reconstruction still merely involves interpreting the lower copy of the subject rather than the higher one.

- We thus expect an asymmetry between QR and Reconstruction: whenever Reconstruction is not possible, this cannot be due to a constraint on movement. The most obvious alternative is a constraint on interpretability: this means that whenever two operations a and b occur in a sentence and a cannot reconstruct to a position below b, this must be because the scope configuration b > a is, for some reason, uninterpretable. This is difficult to test, but the data in (14) and (15) seem to indicate that this idea is on the right track.

  (14) A girl is allowed to invite more than half of the students.

  (15) John is invited to at most five suitcases in her car.

- This way, an

  argument is not possible.

  mq > q > m

- At most five people can fit in this car.

  at most > m

- Mary can fit at most five suitcases in her car.

  at most > m

References


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