

Logical Form

Antecedent Contained Deletion and the Syntax of Quantification

1 Antecedent Contained Deletion

1.1 The problem of infinite regress (Bouton 1970)

- (1) Beck recognized every suspect Kollberg did.
 (2) Beck [_{VP} recognized every suspect Kollberg did [_{VP} recognize every suspect Kollberg did [_{VP} recognize every suspect Kollberg did [_{VP} ...]]]]]

1.2 ACD and Logical Form

VP-deletion is licensed at a level of logical representation (Sag 1976, Williams 1977, May 1985, Fiengo & May 1994).

- (3) [_{IP} [_{DP} every suspect [_{CP} Op_i Kollberg did recognize t_i]]]_i [_{IP} Beck recognized t_i]]
 (4) *The argument for QR from ACD*
 (i) A deleted VP must be licensed by an identity relation which holds between syntactic structures at Logical Form.
 (ii) Quantifier Raising is the only means of generating a well-formed LF which licenses deletion in ACD.
 ∴ If ACD, then QR.

1.3 Outline

- (i) Outline recent challenges to the QR account of ACD.
 (ii) Show that the argument for QR from ACD remains.

2 The A-Movement Account of ACD

Rethinking QR

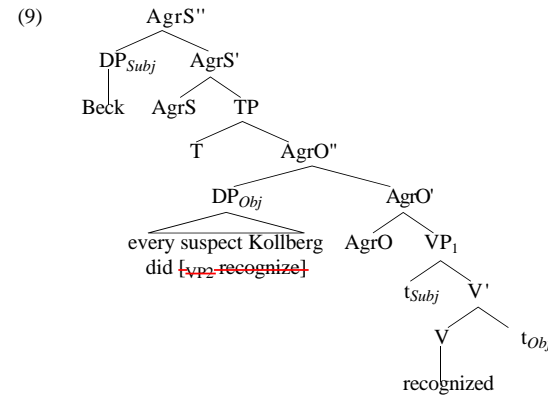
Considerations of economy dictate that the restriction of an operator should remain in its surface position (Chomsky 1993; see also Reinhart 1995, Fox 1995); Condition C facts support this position (if BT applies at LF).

- (5) *Who said he_i liked how many pictures that John_i took?
 (6a) [_{CP} who_x [_{how many} pictures that John_i took]_y [_{IP} t_x said he_i liked t_y]]
 (6b) [_{CP} who_x how many_y [_{t_x said he_i liked} [_{IP} t_y pictures that John_i took]]]
 (7) *He_i liked every picture that John_i took.
 (8a) [_{IP} [every picture that John_i took]_x [_{IP} he_i liked t_x]]
 (8b) [_{IP} he_i liked [every picture that John_i took]]

If QR does not move an entire DP, then how is ACD resolved?

The theory of case assignment to arguments outlined in Chomsky 1993 provides an alternative analysis of ACD which does not rely on Quantifier Raising (Hornstein 1994, Lasnik 1993, Takahashi 1993).

- (i) Arguments must check case features in the specifier of an Agr(ement) projection.
 (ii) Movement to SpecAgr involves movement of an entire XP.
 (iii) ACD is resolved by movement of a VP internal XP to a VP external SpecAgr at LF.



The importance of the A-movement alternative

If the A-movement account is correct, then ACD does not provide empirical support for an operation of Quantifier Raising.

3 The arguments for QR

3.1 Scope of the restriction

If the subject of a non-finite complement of *want* contains an ACD, as in (10), then the restriction of the associated quantifier must be interpreted *de re*, as in (11); the *de dicto* interpretation represented by (12) is unavailable (cf. Sag 1976, Larson & May 1990, Fiengo & May 1994).

- (10) Kollberg wants everyone Beck does to answer these questions.
 (11) every_x(Beck wants *x* to answer these questions)(Kollberg wants *x* to answer these questions)
 (12) *Kollberg wants [every_x(Beck wants *x* to answer these questions)(*x* to answer these questions)]

This is not the case if the subject does not contain an ACD:

- (13) Kollberg wants everyone Beck wants to interrogate to answer these questions.

If ECM subjects must move to a higher SpecAgrO to receive case, then the fact that (13) is ambiguous means that SpecAgrO₁ is within the scope of *want* at LF. But if ACD in (10) is resolved by movement of the ECM subject to SpecAgrO₁, then it is not clear why the restriction of the quantifier must be interpreted *de re*: *on the A-movement account, (10) (= (14)) and (13) (= (15)) are structurally identical at LF:*

- (14) [_{IP₁} Kollberg [_{AgrO₁} [_{DP} everyone Beck does]_{*i*} [_{VP₁} wants [_{IP₂} *t_i* to answer these questions]]]]]]
(15) [_{IP₁} Kollberg [_{AgrO₁} [_{DP} everyone Beck wants to interrogate] *i* [_{VP₁} wants [_{IP₂} *t_i* to answer these questions]]]]]]

On the QR account, the ECM subject adjoin to IP₁ in order to eliminate antecedent containment, which moves the DP out of the scope of *want*, forcing the *de re* reading.

- (16) [_{IP₁} [_{DP} everyone Beck does]_{*x*} [_{IP₁} Kollberg [_{AgrO₁} [_{VP₁} wants [_{IP₂} *t_x* to answer these questions]]]]]]]]

3.2 ACD and restructuring

(17) is ambiguous between a "matrix" and "embedded" construal of the deleted VP (Sag 1976, Larson & May 1990, Hornstein 1994).

- (17) Kollberg wants to question every suspect Beck does.

Matrix reading

- (18) Kollberg wants to question every suspect Beck wants to question.

Embedded reading

- (19) Kollberg wants to question every suspect Beck questions.

How is the matrix reading derived in the A-movement account?

- (20) [_{IP₁} Kollberg [_{AgrO₁} [_{VP₁} wants [_{IP₂} PRO to [_{AgrO₂} [_{VP₂} question [_{DP} every suspect Beck does]]]]]]]]]]

Hornstein (1994) suggests that *want* is a member of a class of "restructuring" verbs (cf. Aissen & Perlmutter 1983, Rizzi 1978), and restructuring has the effect of licensing A-movement of the embedded DP to SpecAgrO₁.

- If we admit the possibility of restructuring, then the empirical differences in the two accounts become very fine-grained: a restructuring to license "long" A-movement also licenses "long" QR, in that it eliminates the effect of clause-boundedness.

A prediction of the A-movement account:

Matrix readings should be unavailable in contexts that do not license restructuring.

Matrix readings in nonrestructuring contexts

- I. Overt ECM subjects should block restructuring (Rizzi 1978), but matrix readings of ACD are available:
- (21) Betsy's father wants her to read every book her boss does. (from Sag 1976)
(22) Erik wants Polly to buy the very same stock her broker does.
- II. Multiple embeddings should block restructuring (Norbert Hornstein, p.c.), but matrix readings of ACD are judged to be available in these contexts:
- (23) Now that we're both in therapy, Marie wants to begin to make the same changes in lifestyle that I do.
...*want to begin to make*
(24) When she started the program, Elyse had to begin to learn every language I did.
...*had to begin to learn*
- III. Nonrestructuring verbs may license matrix readings, particularly when contextual or morphological clues favor the matrix construal:
- (25) If Max plans to visit every city I do, then he had better expect a long vacation.
(26) If you like to work the long hours that Jorge does, then you should get along just fine.
(27) Tim is hoping to visit the same cities Marlene is.
(28) The First Lady is obliged to attend every state dinner the President is.

3.3 Adjunct ACD

- (29) Melander has slept under every desk Larsson has.
(30) Kollberg found a clue on the same street Beck did.

Evidence for VP adjunction

- (31) Melander said he would sleep under every desk, so sleep under every desk he did.
(32) Melander has slept under every desk Larsson has, and Ronn has, too.
...*and Ronn has slept under every desk Larsson has, too.*
*...*and Ronn has slept, too.*
- (33) Kollberg said he would find a clue on every street, and find a clue on every street he did.
(34) Kollberg found a clue on every street Beck did, and Larsson did, too.
...*and Larsson found a clue on every street Beck did, too.*
*...*and Larsson found a clue, too.*

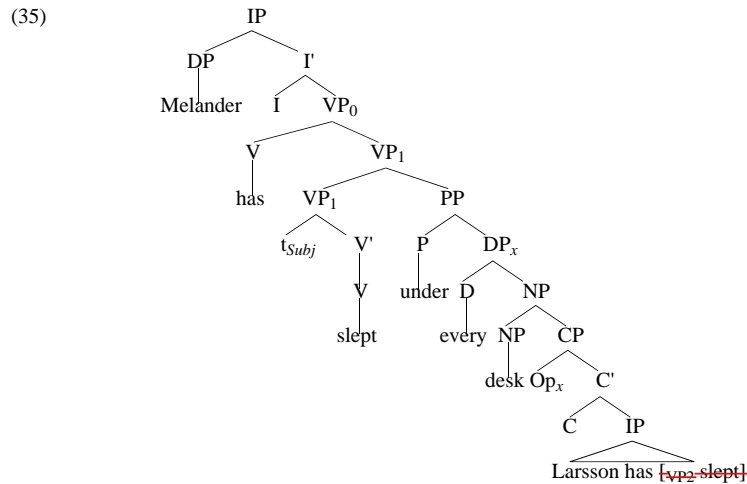
Working assumptions

- The relative operator must bind a variable of the appropriate type at LF ("Full Interpretation").
- Adjuncts do not move to case positions at LF (Chomsky 1993, Hornstein 1994, Lasnik 1993).
- The object of a preposition does not need to check case features outside PP, therefore the DP which contains the ACD remains inside the adjunct at LF (Chomsky 1993).

Two problems for the A-movement account

I. Vacuous quantification

If the DP which contains the ACD cannot move out of the adjunct, then no variable will be licensed for the relative operator to bind, and the LF should crash.



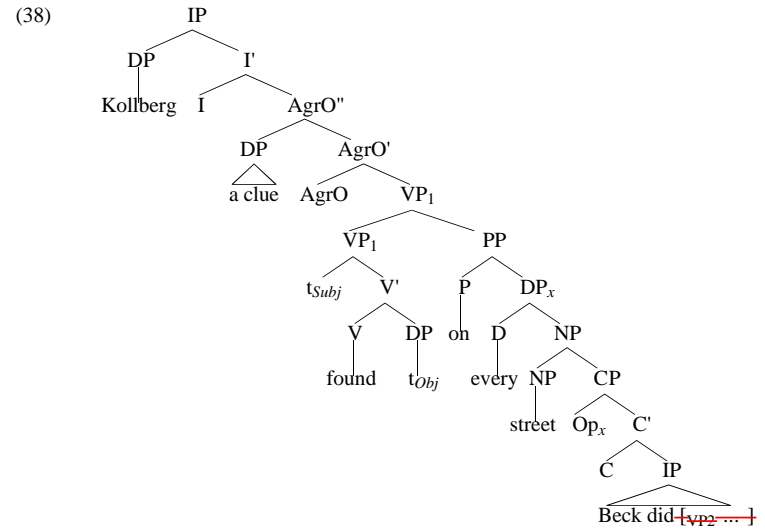
(36) *Melander has slept under every desk Larsson has slept.

II. Infinite regress

(37) Kollberg found a clue on the same street Beck did.

If the direct object must move to SpecAgrO, then reconstruction must target AgrO".

- (a) If the adjunct is VP-adjoined, then antecedent containment persists at LF, and (37) should result in infinite regress.



- (b) If the adjunct is adjoined to AgrO", then antecedent containment is avoided. But if this is the case, then movement of a direct object to SpecAgrO does not eliminate antecedent containment in the standard cases of ACD, so the A-movement account is unavailable.

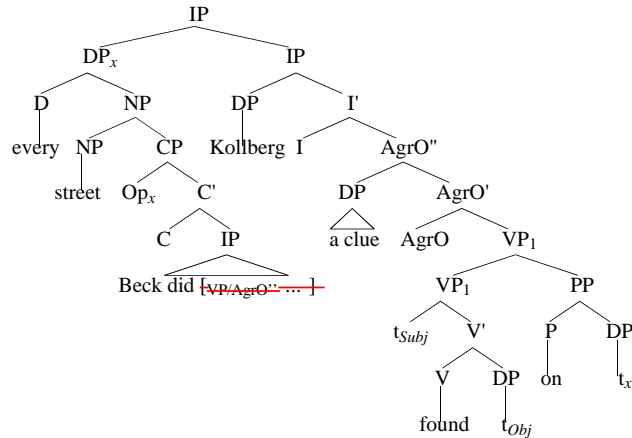
The QR account

QR of the constituent which contains the ACD provides a variable for the relative operator to bind.

(39) [IP [DP every desk Larsson did [VP ~~tVP2 slept~~ [PP under t_x]]] [IP Melander [VP [VP slept] [PP under t_x]]]]

This analysis goes through regardless of whether VP deletion targets VP or AgrO":

(40)



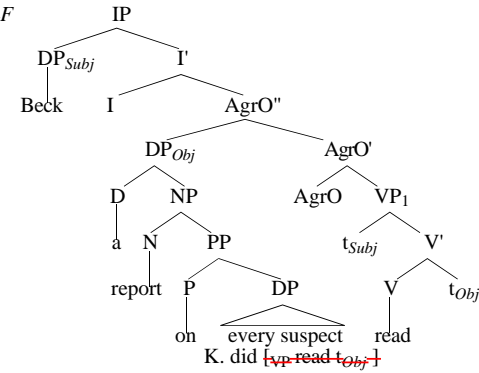
3.4 NP-contained ACD

- (41) Beck read a report on each suspect Kollberg did.
- (42) Melander requested copies of most of the tapes Larsson did.
- (43) Kollberg took pictures of the same people Ronn did.
- (44) Beck read a report on every suspect Kollberg read a report on.
- (45) Melander requested copies of most of the tapes Larsson did.
- (46) Kollberg took pictures of the same people Ronn took pictures of.

The A-movement account does not permit generation of a Logical Form which accurately represents the meaning of sentences involving NP-contained ACD.

- (47) [IP Beck [AgrO'' [VP read [DP a report on [DP every suspect Kollberg did [VP e]]]]]]

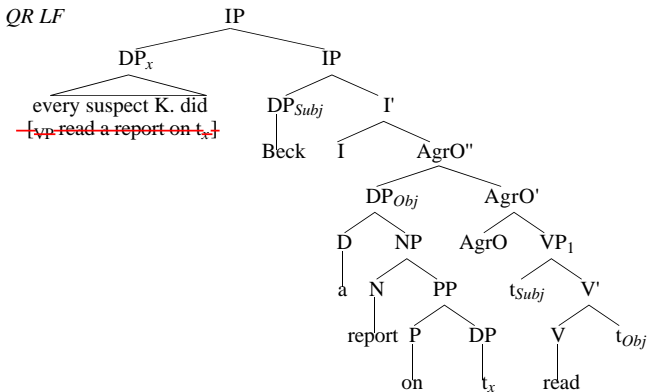
(48) The A-mvt LF



- (49) [IP Beck [AgrO'' [DP a report on every suspect Kollberg did [VP2 read]] [VP1 read]]]

- (50) *Beck read a report on every suspect Kollberg read.

(51) The QR LF



The importance of NP-contained ACD

If objects move to SpecAgrO, then (41-43) indicate that ACD must target AgrO''. If this is true, then only QR generates a structure which licenses reconstruction.

