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]

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, Kollberg did [recognize every suspect Kollberg did]]], [IP Beck recognized t1]]

(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, liked how many pictures that John, took?
(6a) [cp who1 how many pictures that John, took], [vp t1, said he, liked t1]]
(6b) [cp who1 how many, [t1, said he, liked [vp t1, pictures that John, took]]]
(7) *He, liked every picture that John, took.
(8a) [vp every picture that John, took], [vp he, liked t1]]
(8b) [vp he, liked [every picture that John, 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(eement) 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.

(9) *AgrS''

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) every1 (Beck wants x to answer these questions) (Kollberg wants x to answer these questions)
(12) *Kollberg wants [every1 (Beck wants x to answer these questions) (x to answer these questions)]

1
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 SpecAgrO is within the scope of want at LF. But if ACD in (10) is resolved by movement of the ECM subject to SpecAgrO, 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], [VP1 wants [IP2 t1 to answer these questions]]]]
(15) [IP1 Kollberg [AgrO1] [DP everyone Beck wants to interrogate], [VP1 wants [IP2 t1 to answer these questions]]]]

On the QR account, the ECM subject must 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], [IP1 Kollberg [AgrO1] [VP1 wants [IP2 t1 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 & Perlmuter 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.
Working assumptions

- The relative operator must bind a variable of the appropriate type at LF ("Full Interpretation").
- 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.

(35)  

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

(36)  

(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)  

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

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.
3.4.1 Additional evidence for A-bar movement in NP-contained ACD

Specificity effects (Postal 1974:406)

(i) Jill bought a picture of the same orgy Arthur did.
(ii) *Jill bought Melvin's/that picture of the same orgy Arthur did.
(iii) Which orgy did Jill buy Melvin's/that picture of?

• If reconstruction of a deleted VP is a necessary condition for convergence, then the derivation represented by (55) does not converge.

If ACD, then QR.

4 Conclusions

4.1 Restating the argument

(i) A deleted VP must be reconstructed (cf. Hankamer & Sag 1976).
(iii) Only QR generates structures with respect to which identity between VPs can be established and reconstruction licensed for the full range of ACD constructions.

∴ If ACD, then QR.

• The argument for QR from Antecedent Contained Deletion remains.

4.2 Extending the argument: The optimality of QR in ACD

Assuming QR is available as a marked option (Reinhart 1995, Fox 1995), what forces it in ACD?

• If reconstruction of a deleted VP is a necessary condition for convergence, then the derivation represented by (54) is optimal, since the derivation represented by (55) does not converge.

References