

A-reconstruction – problems and mysteries

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- (1) Two women₁ seem t₁ to be expected t₁ to dance with every senator. *ambiguous*
- 1st reading*: There are two women who are expected to dance with every senator.
 - 2nd reading*: It is expected that every senator will dance with (possibly different) two women.

In principle, you could imagine two ways to obtain inverse scope in (b): Either lower *two women* (reconstruction) or raise *every senator*. In practice, only the first option exists (perhaps because QR is clause-bound). How do we know?

- (2) The trapping effect

Two women₁ seem to each other₁ t₁ to be expected t₁ to dance with every senator.

Unlike (1), this sentence is *unambiguous* – only reading (1a) exists.

If reconstruction is the only option, we understand this fact. Reconstruction places *two women* in its base position (only when two quantifiers are clausemates can they take ambiguous scope). That position is too low to bind the reciprocal in the matrix clause. If QR could raise *every senator* above *two women*, we should have been able to get the inverse scope without sacrificing binding.

⇒ Condition A and scope relations are established at a single level (otherwise, we could satisfy inverse scope at LF and binding at SS in the example above). This is Lebeaux's *Single Tree Condition* (there is just one interpretive interface).

- (3) More evidence against long QR

Mary seems to two women t₁ to be expected t₁ to dance with every senator.

Unambiguous: Only $2x \gg \forall y$.

The lack of inverse scope shows that it is in virtue of the A-chain in (1) that *every senator* obtains wider scope than *two women*. Since *two women* does not form a chain in the above example, inverse scope is not observed.

A second argument

- (4) Anaphors inside moved NPs can be bound from at their base position.
- a. Each other's₁ presents please the two children₁.
 - b. Each other's₁ presents are expected t₁ to please the two children₁.
 - c. ?* The presents₂ are expected by each other's₁ parents t₂ to please the two boys₁.

(a) shows that psych-verbs allow backward binding within the same clause. (b) shows that A-reconstruction can feed binding. (c) shows, like (3), that long QR cannot place *the two boys* in a position high enough to bind the reciprocal in the matrix clause.

- (5) Same with variable binding:
- a. His₁ mother pleases every man₁.
 - b. [His₁ mother]₂ seems t₂ to please every man₁.
 - c. * Mary₂ seems to his₁ mother t₂ to please every man₁.

A third (Lebeaux's fourth) argument

- (6) Long distance control by deeply embedded arguments.
- a. [PRO₁ seeing Claire]₂ seems t₂ to be expected t₂ to make Mark₁ happy.
 - b. [PRO₁ seeing Claire]₂ made Mark₁ happy.

The idea is that PRO can only be controlled by a clausemate of the gerund. But is it so? Lebeaux (1984) himself gave examples like (c), and (d) shows that PRO in this position can be controlled from discourse.

- c. [PRO₁ hiding the money] showed that Mark₁ was guilty.
- d. Mary₁ was disappointed. [PRO₁ helping her best friend] wasn't appreciated.

Lebeaux cites another argument based on linked readings of two arbitrary PROs. Overall, the case for A-reconstruction is compelling.

- (7) Crucially, *A-reconstruction is optional*. If it were obligatory, (a) would violate both conditions A and C at LF.

- a. John₁ seems to himself₁ t₁ to be a genius.

A puzzle: Why is A-bar reconstruction obligatory? In fact, why do the two types of reconstruction differ in this regard?

- b. * Which remarks about Bill₁ did he₁ ignore?
 - cf. c. Which remarks about him₁ did Bill₁ ignore?
- (8) At this stage, Lebeaux laboriously shows that abandoning the Single Tree Condition overgenerates non-existing readings. This could consist in either letting some interpretive conditions apply at one level (e.g., SS) and others at another level (e.g., LF); or in complicating the definition of c-command to allow binding through traces. Either option is not restrictive enough.
- (9) The following conditions/processes all apply at LF:
- a. Fixing the relative scope of quantifiers.
 - b. Variable binding.
 - c. Binding condition A.
 - d. Idiom interpretation.

By contrast, negative conditions (binding B and C) apply everywhere.

Condition C applies everywhere

(If any stage in the derivation of a sentence S violates condition C, S is ungrammatical).

- (10) Evidence: Contexts where A-reconstruction – shown to exist – could undo the configuration which violates condition C, in fact remain ungrammatical.

- a. * He₁ seems to John's₁ mother t₁ to be expected t₁ to win.
Possible LF: e seems to John's₁ mother e to be expected he₁ to win.

- b. * He₁ seems to every man₁ t₁ to be quite wonderful.
Possible LF: e seems to every man₁ he₁ to be quite wonderful.

No WCO c. [His₁ mother]₂ seems to every man₁ t₂ to be quite wonderful.

Actually, in order to rule out Strong Crossover in (b) as a violation of condition C, it is necessary to force QR *before* reconstruction of the pronoun. It's unclear why this should be so.

(11) Lebeaux doesn't consider Condition B, but the facts are the same. The following example, from Chomsky (1995), shows that reconstruction can't undo a condition B violation:

a. * John₁ expected him₁ to seem to me t₁ to be intelligent.

(12) The argument from psych verbs is based on the false idea that they necessarily involve reconstruction.

a. * Himself₁ pleases John₁.

b. Each other's₁ parents please the two boys₁.

Lebeaux argues that (b) must involve reconstruction of the subject to a position lower than the experiencer. This must be also available in (a); the fact that the latter is still bad proves that the SS-violation of condition C cannot be undone by reconstruction (hence, Condition C applies everywhere).

But the assumption that (b) must involve reconstruction is false; in fact, backward binding tells us nothing about structure, and falls outside sentence grammar (involving *logophoricity*; see my first handout). Without this assumption, it may well be that condition C is violated only at LF in (a), and doesn't apply "everywhere".

Comparison with A-bar reconstruction

(13) A-bar reconstruction

Condition A and variable binding (the "positive" conditions) can be satisfied by any position in the chain.

a. John wondered [[which picture of himself]₁ Bill₁ said [t₂ that Steve liked t₂]]?

b. [Which of his₁ parents]₂ did Freud say [t₂ that a man₁ loved best t₂]?

Condition C (the "negative" condition) is violated if any chain position violates it.

- c. * Which remarks about Bill₁ did he₁ ignore?
- d. * [Whose hurting John₁]₂ did he₁ persuade Bill of t₂?

A-reconstruction: reminder

As in A-bar chains, Condition A and variable binding can be satisfied by any position in the A-chain.

- e. [Each other's₁ parents]₂ are expected t₂ to seem to the boys₁ t₂ to be quite wonderful.
- f. [Pictures of his₁ father in his youth]₂ are known t₂ to seem to every man₁ t₂ to be quite wonderful.

However, unlike A-bar chains, the low (reconstructed) position in A-chains does not violate condition C.

- g. John₁ seems to himself₁ t₁ to like cheese.
- h. [John's₁ mother]₂ seems to him₁ t₂ to be wonderful.

(14) Stating the puzzle

We have incontrovertible evidence that A-reconstruction exists. We also have such evidence that Condition C does not tolerate a bound R-expression in any position in A-bar chains. Why, then, does it tolerate this in A-chains?

A-bar chain: (13c)

- a. * Which remarks about Bill₁ did he₁ ignore ~~which remarks about Bill₁?~~

A-chain: (13f)

- b. John's₁ mother seems to him₁ ~~John's₁ mother~~ to be wonderful.

Note: I use the copy notation instead of Lebeaux's derivational notation. There is reason to do that, but for now, we can state the problem in 3 different ways; notice that each formulation points to a different type of answer.

- i) Why are early violations of condition C lethal in A-bar chains but not in A-chains?
- ii) Why is reconstruction (lowering) obligatory in A-bar chains but not in A-chains?
- iii) Why are low copies necessarily visible in A-bar chains but not in A-chains?

Lebeaux's reasoning will follow (i).

Late insertion of lexical arguments

The logic of the problem is similar to that of the argument/adjunct asymmetry in reconstruction, discussed by Lebeaux (1988, 1991).

- (15) a. * Whose claim that John₁ stole the money did he₁ reject?
b. Whose claim that John₁ had heard before did he₁ reject?

The argument clause in (a) must be merged at the base position, so the name it contains is bound by the pronoun. The adjunct clause in (b) can be merged after *wh*-movement, so the name it contains is never bound.

Lebeaux's intuition is that just like late merger of adjuncts explains their invisibility to condition C in A-bar chains ("optional reconstruction"), so can late merger of lexical arguments explain their invisibility to condition C in A-chains.

If the argument is late inserted – what moves in an A-chain? *pro* (phi-features + index).

(16) Derivation

- a. e seems to himself₁ pro₁ to like cheese. *A-movement* →
b. pro₁ seems to himself₁ t₁ to like cheese. *Lexical insertion* →
c. John₁ seems to himself₁ t₁ to like cheese.

Note: Lexical insertion may, but need not, apply late. To obtain binding of the base position in a chain, early merger must be chosen.

(17) Crucially, late lexical insertion of arguments is barred in A-bar chains.

- a. he₁ likes pro. *Lexical insertion* →
b. he₁ likes which pictures of John₁. *Condition C* →
c. * he₁ likes which pictures of John₁. *A-bar movement* →
d. * Which pictures of John₁ does he₁ like?

Note: We must insert the entire *which pictures of John* in one step. In particular, *John* cannot be inserted *after* A-bar movement, or we lose the condition C violation. A reasonable way to impose this is by cyclicity.

Therefore, the distinction in A- and A-bar reconstruction (the answer to (14i-iii)) boils down to: Lexical insertion of arguments may apply at any position in an A-chain, but at the lowest position in an A-bar chain. Why? Because A-bar movement cannot apply to *pro*. WHY?

Given this, no distinction in the actual process of reconstruction is needed between A- and A-bar chains, or anaphors and names – a desirable result.

(18) An intricate prediction

- a. [DP ... $pron_1$... $name_2$]₃ ... QP₁ ... t'_3 ... $pron_2$... t_3 ...
- b. * [DP ... $pron_1$... $name_2$]₃ ... $pron_2$... t'_3 ... QP₁ ... t_3 ...

In (a), t'_3 provides a consistent LF position – $pron_1$ is bound and $name_2$ is free. By contrast, in (b) there is no consistent LF position: In the surface position, $pron_1$ is unbound; in t'_3 , $name_2$ is bound and $pron_1$ is unbound; in t_3 , $name_2$ is again bound.

- c. Her₁ picture of Sting₂ seemed to every fan₁ to be seen by him₂ to be a real intrusion.
- d. * Her₁ picture of Sting₂ seemed to him₂ to be seen by every fan₁ to be a real accomplishment.

In deriving (c), we first move *pro* to the intermediate position, past the pronoun *him*; only then do we insert *her picture of Sting* – still within the c-command domain of *every fan* but already outside the c-command domain of *him*.

(19) Explaining the big WHY (brief version)

The crucial distinction was between A-movement of *pro* (possible) and A-bar movement of *pro* (impossible). In the rest of the paper, Lebeaux derives this result from the Stray Affix Filter (SAF), which is an “everywhere” negative condition (like condition C). The reasoning is as follows. Case features are affixes, assigned to DPs at case positions. *pro* is caseless. While A-movement may move the caseless *pro* up the tree, the moment it reaches a case position, where the case

affix is inserted, lexical insertion must apply, to avoid a violation of SAF. Consequently, A-bar movement (always proceeding from a case position) will already apply to a lexically filled DP.

(20) Restating the problems in Copy Theory (A-chains only)

- a. For scope, only one position in a chain is visible at LF:

$QP_1 \dots t_1 \dots [IP \dots t_1 \dots QP_2 \dots]$

Possible: $QP_2 \gg QP_1$ [caveat: unless QP_1 is a strong quantifier]

- b. For condition A and variable binding, only one position in a chain is visible at LF:

$[_{DP} \text{anaphor}_1/\text{bound variable}_1]_2 \dots t_2 \dots DP_1/QP_1 \dots t_2$

Consequence: (a) and (b) together produce the scope trapping effect:

- i. Two women₁ seem to each other₁ t₁ to be expected t₁ to dance with every senator. *unambiguous*
- c. For condition B, all positions are visible at LF.
- i. * John₁ expected [him₁ to seem to me [t₁ to be intelligent]].
- ii. * John₁ seems to me [t₁ to be expected [t₁ to like him₁]].
- iii. * He₁ was expected [t₁ to seem to him₁ [t₁ to be intelligent]].

Condition B is violated by the top position of the pronoun in (i), the base position of the binder in (ii) and the intermediate position of the binder in (iii).

- d. For condition C, only the top position is visible at LF.

i. [John's₁ mother]₂ seemed to him₁ [t₂ to like rock music].