

## ATB extractions without coordination and their implicated restrictions on a multidominant syntax

**Background**— Linearization algorithms like those in Kayne (1994) and Fox & Pesetsky (2005) are known to have problems with multidominant structures. Specifically, these algorithms predict that the multidominated node  $z$  (Fig. 1 at right) should both precede and follow  $c$  and  $d$ , in violation of the requirement that the linear position of every terminal relative to every other terminal be uniquely determined (Kayne 1994:67 already notices this). This problem can be resolved in two ways. First, one can modify the linearization algorithm so that it allows a licit linearization of  $z$  at the right edge of  $A$  (Wilder 1999, Bachrach & Katzir 2007): this results in Right Node Raising (RNR). Second, one can disambiguate the set of linearization statements by extracting  $z$  to a position outside  $A$ , provided that a suitable movement trigger exists (Citko 2003, 2005): this results in across-the-board (ATB) extraction.

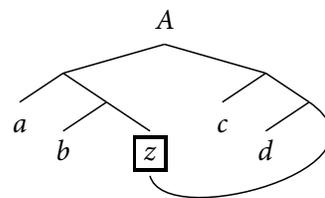


Figure 1

**Proposal**— Although RNR and ATB extractions are usually found in coordinate structures, many of the linearization algorithms above don't make reference to coordination. In the case of RNR, this is a good feature, as it correctly predicts the existence of non-coordinate RNR (Hudson 1976, Postal 1994, Phillips 1996).

- (1) a. Those who like [<sub>RNR</sub>\_\_\_] outnumber those who dislike [<sub>RNR</sub> horror movies].
- b. He was sitting on the edge of [<sub>RNR</sub>\_\_\_] rather than in the middle of [<sub>RNR</sub> the puddle].

By extension, non-coordinate ATB extractions also ought to exist. On the basis of examples like (2), I show (this page) that this prediction is correct, reversing previous claims that ATB extraction requires coordination. I also show (next page) that some ATB and RNR gaps have the same distributional restrictions as movement gaps, and that these patterns follow from the implementation of movement in a multidominant syntax.

- (2) a. Who did you give pictures of [<sub>ATB</sub>\_\_\_] to [<sub>ATB</sub>\_\_\_]?  
       *[possible answer: I gave pictures of Jack to Sally]*
- b. Which degree did the Provost encourage holders of [<sub>ATB</sub>\_\_\_] to get [<sub>ATB</sub>\_\_\_]?  
       *[possible answer: he encouraged holders of a BA to get a PhD]*

**These aren't parasitic gaps**— The few authors that have noted such examples (e.g., Munn 1992, Culicover 2001) have only hinted, without supporting evidence, at a parasitic gap analysis (with the exception of Postal 1993, for which see below). This hypothesis is incorrect, as several tests group these examples together with coordinate ATB extractions. First, note that the gaps in (2) are non-covariant, which allows an interpretation of these examples as multiple questions (Munn 1992:fn. 3). Gaps left by coordinate ATB extractions can also be non-covariant ((3a), Munn 1999), but parasitic gaps necessarily covary with their licensing gaps (3b).

- (3) a. Where did Mary vacation [<sub>ATB</sub>\_\_\_] and Peter decide to live (in) [<sub>ATB</sub>\_\_\_]?  
       *[possible answer: Mary vacationed in Paris and Peter decided to live in Toronto]*
- b. Where did Mary vacation [<sub>LG</sub>\_\_\_] before Peter decided to live (in) [<sub>PG</sub>\_\_\_]?  
       *[impossible answer: Mary vacationed in Paris before Peter decided to live in Toronto]*

Second, ATB extractions allow symmetric reconstruction of the *wh*- phrase to either gap ((4a), Salzmann 2013 and references), but comparable examples with a parasitic gap only allow asymmetric reconstruction into the licensing gap ((4b), Nissenbaum 2000). Non-coordinate ATB extractions exhibit the same symmetric reconstruction pattern as their coordinate brethren (4c).

- (4) a. What kind of pictures of himself<sub>*i*/<sub>*k*</sub></sub> did Jack<sub>*i*</sub> hoard [<sub>ATB</sub>\_\_\_] and Dan<sub>*k*</sub> sell [<sub>ATB</sub>\_\_\_]?
- b. What kind of pictures of himself<sub>*i*/<sub>*\*k*</sub></sub> did Jack<sub>*i*</sub> hoard [<sub>LG</sub>\_\_\_] after Dan<sub>*k*</sub> sold [<sub>PG</sub>\_\_\_]?
- c. What kind of pictures of himself<sub>*i*/<sub>*k*</sub></sub> did you introduce a hoarder<sub>*i*</sub> of [<sub>ATB</sub>\_\_\_] to a seller<sub>*k*</sub> of [<sub>ATB</sub>\_\_\_]?

I will provide more parallelisms during the talk and show that all of them reduce to the different underlying syntaxes of ATB extractions and parasitic gaps (Postal 1993, Nissenbaum 2000).

**Apparent parasitic gap effects...** — Postal (1993) provides several examples like (5a), claiming that their ungrammaticality follows from a parasitic gap analysis because (i) the licensing gap c-commands the parasitic gap, and (ii) the parasitic gap is an argument of a parasitic gap antilicensing predicate (i.e., *bother*). In contrast, Postal claims, analogous examples featuring ATB extraction are grammatical (5b).

- (5) a. \* Who did they convince [<sub>LG</sub>] that Greg would bother [<sub>PG</sub>] with his problems?  
 b. Who did Tony respect [<sub>ATB</sub>] and Greg bother [<sub>ATB</sub>] with his problems?

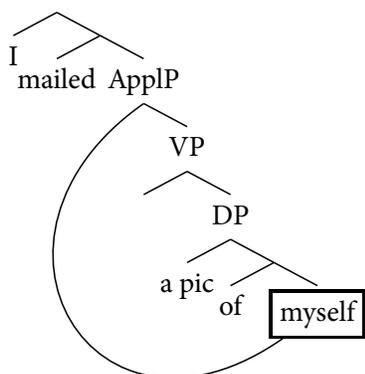


Figure 2: a syntax for (6a)

**...follow from restrictions on multidomination**— Under closer scrutiny, the ungrammaticality of (5a) reflects restrictions on multidomination, rather than on the distribution of parasitic gaps. Contrary to Postal’s claim, (5a) and (5b) don’t form a minimal pair: they differ in that neither gap in (5b) c-commands the other, but the first gap does c-command the second in (5a). This is significant because non-coordinate RNR, which is not reducible to a parasitic gap analysis, is also ungrammatical if one of the mother nodes of the multidominated constituent dominates the other ((6) and Fig. 2 at left).

- (6) a. I mailed [<sub>RNR</sub>] a picture of [<sub>RNR</sub> myself].  
 [≠ ✓ I mailed myself a picture of myself]  
 b. \* I persuaded [<sub>RNR</sub>] PRO to take a picture of [<sub>RNR</sub> myself].

The relevance of the geometric relation between the mother nodes is further supported by the fact that (5a) and (6) become grammatical if further embedding of the first gap disrupts the dominance relation (7); note specifically that (7c) is grammatical even though it retains the parasitic gap antilicensing predicate. This pattern supports an analysis of (5a) as an illicit ATB configuration, rather than an illicit parasitic gap.

- (7) a. I mailed [a friend of [<sub>RNR</sub>]] a picture of [<sub>RNR</sub> Jack].  
 b. I persuaded [a friend of [<sub>RNR</sub>]] PRO to take a picture of [<sub>RNR</sub> Jack].  
 c. Who did they convince [a friend of [<sub>ATB</sub>]] that Greg would bother [<sub>ATB</sub>] with his problems?

**Whence these restrictions?**— Gaps left by movement exhibit the same distributional restrictions as the RNR and ATB gaps above (8). Clearly, we want to derive both patterns from the same factors.

- (8) a. \* They convinced Alice<sub>i</sub> that Greg would bother *t<sub>i</sub>* with his problems. [cf. (5a)]  
 b. \* I mailed myself<sub>i</sub> a picture of *t<sub>i</sub>*. [cf. (6a)]  
 c. \* I persuaded myself<sub>i</sub> PRO to take a picture of *t<sub>i</sub>*. [cf. (6b)]

If we take movement in general to be a special case of multidomination (Citko 2005, i.a.), we also need to postulate (9) to capture the fact that “movement” respect constraints like locality, minimality, etc (however they are to be implemented), whereas other multidomination configurations don’t (Bachrach & Katzir 2007).

- (9) For any node *a* with mother nodes *M* and *N*, the configuration is *movement-like* if either *M* or *N* dominates the other, and *sharing-like* if neither *M* nor *N* dominates the other.

Crucially, if the distinction between movement-like and sharing-like multidomination depends on the geometric relation between the mother nodes, then we expect to find movement-related restrictions even among positions that wouldn’t be classically related by movement, so long as the relevant geometry obtains. This explains the parallelism between (5a)/(6) and (8).

**REFERENCES:** Bachrach & Katzir 07 RNR & delayed Spell-Out. Ms., MIT • Citko 03 ATB & the nature of Merge. *NELS* 33 • Citko 05 On the nature of Merge. *LI* 36 • Culicover 01 Parasitic gaps: a brief history. In *Parasitic gaps*. OUP • Fox & Pesetsky 05 Cyclic linearization of syntactic structure. *TL* 31 • Hudson 76 Conjunction reduction, gapping, & RNR. *Language* 52 • Kayne 94 *The antisymmetry of syntax*. MIT Press • Munn 92 A null operator analysis of ATB gaps. *TLR* 9 • Munn 99 On the identity requirement of ATB extraction. *NLS* 7 • Nissenbaum 00 Investigations of covert phrase movement. PhD, MIT • Phillips 96 Order & structure. PhD, MIT • Postal 93 Parasitic gaps & ATB phenomenon. *LI* 24 • Postal 94 Parasitic & pseudoparasitic gaps. *LI* 25 • Salzmann 13 Deriving reconstruction asymmetries in ATB by means of ellipsis. *NELS* 41 • Wilder 99 RNR & the LCA. *WCCFL* 18.