

ATB extraction without coordination

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What are the preconditions for ATB extraction?

*There is an important class of rules to which [the Coordinate Structure Constraint] does not apply. These are **rule schemata** which move a constituent out of all the conjuncts of a coordinate structure.*

[Ross 1967. Constraints on variables in syntax. PhD, MIT]

“ATB extractions are, of course, a special case of coordinate structures.”

[Postal 1993. Parasitic gaps and ATB phenomenon. *LI* 24]

“Across the board wh- movement [...] involves simultaneous movement of a single wh- phrase from two or more conjuncts.”

[Citko 2006. Interaction between ATB movement and LBE. *Syntax* 9]

“Coordination is certainly an important factor.”

[de Vries 2015. ATB phenomena. *Blackwell Companion to Syntax*]

Goal of this talk: to show that ATB extraction doesn't require a *coordinate* structure, but a *multidominant* structure.

Strategy

- ▶ Show that multidominant analyses of ATB extraction predict the existence of *non-coordinate* ATB extraction.
- ▶ Show that non-coordinate ATB extraction actually exists, and that it is distinguishable from parasitic gaps.

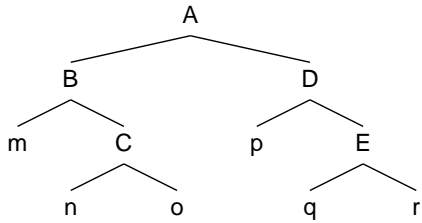
Assumption: the linear order of every terminal relative to every other terminal must be unambiguously specified.

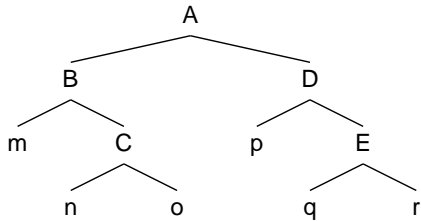
[Kayne 1994. *The Antisymmetry of syntax*. MIT Press]

[Nunes 2004. *Linearization of chains and sideward movement*. MIT Press]

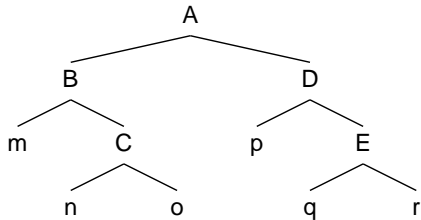
[Fox and Pesetsky 2005. Cyclic linearization of syntactic structure. *TL* 28]

... and many others





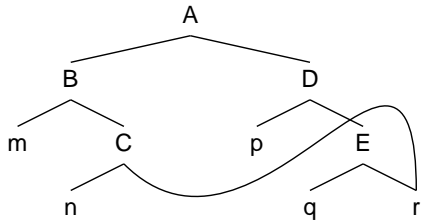
$$\left(\begin{array}{ccc} m < n & n < o & m < o \\ p < q & q < r & p < r \\ m < p & m < q & m < r \\ n < p & n < q & n < r \\ o < p & o < q & o < r \end{array} \right)$$



$$\left\{ \begin{array}{lll} m < n & n < o & m < o \\ p < q & q < r & p < r \\ m < p & m < q & m < r \\ n < p & n < q & n < r \\ o < p & o < q & o < r \end{array} \right\}$$



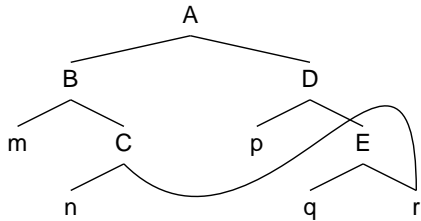
$$m < n < o < p < q < r$$



$$\left(\begin{array}{ccc} m < n & n < o & m < o \\ p < q & q < r & p < r \\ m < p & m < q & m < r \\ n < p & n < q & n < r \\ o < p & o < q & o < r \end{array} \right)$$

↓

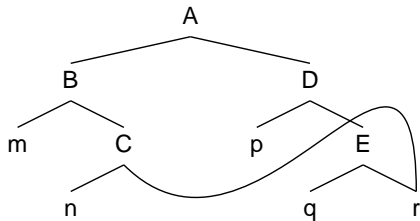
$$m < n < o < p < q < r$$



$$\left(\begin{array}{ccc} m < n & n < r & m < r \\ p < q & q < r & p < r \\ m < p & m < q & m < r \\ n < p & n < q & n < r \\ r < p & r < q & \end{array} \right)$$

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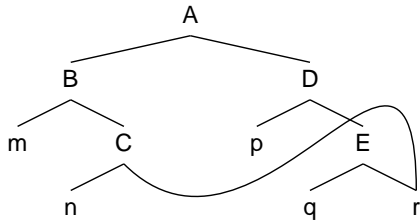
$$m < n < o < p < q < r$$



$$\left(\begin{array}{ccc} m < n & n < r & m < r \\ p < q & q < r & p < r \\ m < p & m < q & m < r \\ n < p & n < q & n < r \\ r < p & r < q & \end{array} \right)$$

$$\downarrow$$

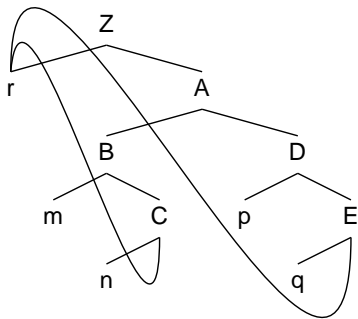
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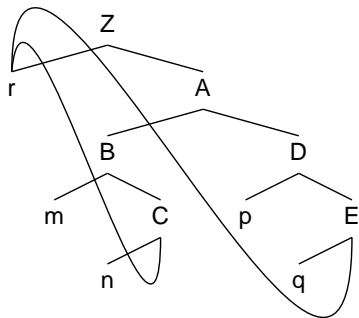


$$\left\{ \begin{array}{lll} m < n & n < r & m < r \\ p < q & q < r & p < r \\ m < p & m < q & m < r \\ n < p & n < q & n < r \\ r < p & r < q & \end{array} \right\}$$

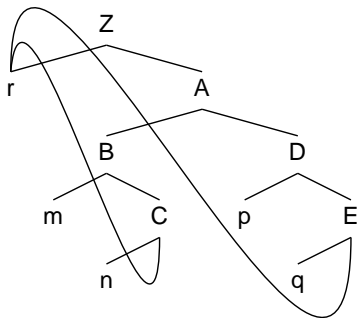


no unambiguous linearization





$$\left\{ \begin{array}{ll} r < m & r < n \\ r < p & r < q \\ m < n & p < q \\ m < p & m < q \\ n < p & n < q \end{array} \right\}$$

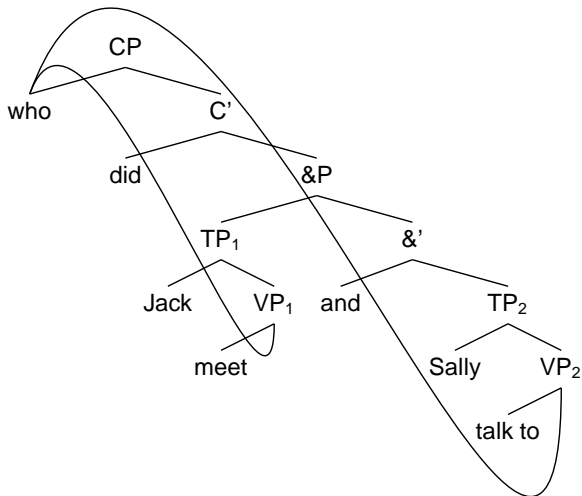


$$\left\{ \begin{array}{ll} r < m & r < n \\ r < p & r < q \\ m < n & p < q \\ m < p & m < q \\ n < p & n < q \end{array} \right\}$$

$$\downarrow$$

$$r < m < n < p < q$$

(4) Who did [[Jack meet [_{ATB}__]] and [Sally talk to [_{ATB}__]]]?



With this analysis, we understand why . . .

- ▶ one filler can be associated to multiple gaps.
- ▶ covert ATB extraction is unattested.
- ▶ ATB extraction triggers form identity effects.
- ▶ ATB extraction is immune to CSC effects.

[Citko 2003. ATB movement and the nature of Merge. NELS 33]

[Citko 2005. On the nature of Merge. *LJ* 36]

[. . . and handout]

Observation: ATB extraction correlates with *multidominant* structures, not with *coordinate* structures.

Prediction: ATB extraction is possible in the absence of coordination, so long as there is multidomination.

Difficulty: Non-coordinate ATB extraction superficially will look a lot like genuine parasitic gaps.

- ▶ Case #1: locality violations with “parasitic gaps”.
- ▶ Case #2: “parasitic gaps” in Germanic.
- ▶ Case #3: “parasitic gaps” with sloppy readings.

- ▶ **Case #1: locality violations with “parasitic gaps”.**
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(10) *Linearization Well-Formedness Condition*

Every terminal completely dominated by node A appears in the D -list of A exactly once.

[in prose: multidominated nodes are pronounced only once]

(12) *Linearization Mapping Condition*

In ordering $A = \langle a_1, \dots, a_m \rangle$ to the left of $B = \langle b_1, \dots, b_n \rangle$, both Edge Alignment and Conservativity must hold:

a. Edge Alignment: $a_1 \leq b_1$ and $a_m \leq b_n$.

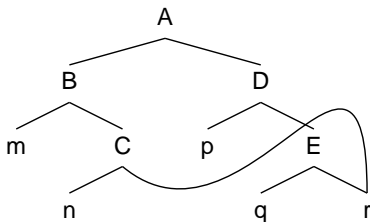
[in prose: the left and right edges of A must precede or be identical to the left and right edges of B , respectively]

b. Conservativity: $a_1 \leq a_2 \leq \dots \leq a_m$ and $b_1 \leq b_2 \leq \dots \leq b_n$

[in prose: preserve the relative internal order of both A and B]

[Bachrach and Katzir 2007. RNR and Delayed Spell Out]

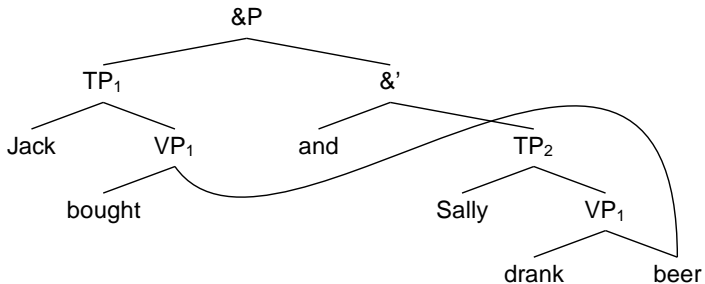
(13)



1. $B = \langle m, n, r \rangle$
2. $D = \langle p, q, r \rangle$
3. Edge Alignment: $m \leq p; r \leq r$
4. Conservativity: $m \leq n \leq r; p \leq q \leq r$.
5. D-list of A: $\{m, n, p, q, r\}$
6. Unique linearization that satisfies all conditions: $A = m \leq n \leq p \leq q \leq r$

(15) Jack bought [_{RNR}__] and Sally drank [_{RNR} beer].

(16)



With this analysis, we can understand why:

- ▶ RNR doesn't show movement effects.
- ▶ the Right Edge Restriction holds.
- ▶ Right Node Wrapping exists, with the properties it has.

But more importantly. . .

Important consequence #1: RNR is not restricted to coordinate structures.

- (21) a. Of the people questioned, [those who liked [_{RNR}__]] outnumbered by two to one [those who disliked [_{RNR} the way in which the devaluation of the pound had been handled]].
- b. I'd have said he was sitting [on the edge of [_{RNR}__]] rather than [in the middle of [_{RNR} the puddle]].
- c. The distance from [the top [_{RNR}__]] to [the bottom [_{RNR} of the precipice]] is about 500 feet.
- d. Stone suggests that Nixon [knew of [_{RNR}__]], although he didn't [attempt to participate in [_{RNR} US attempts to assassinate Fidel Castro]].

[Hudson 1976. Conjunction reduction, gapping, and RNR. *Language* 53]
[Postal 1994. Parasitic and pseudoparasitic gaps. *LJ* 45]
[Phillips 1996. Order and structure. PhD, MIT]

Important consequence #2: RNR-fed ATB extraction is island-insensitive.

- (25) * Who did [[a man who loves [_{ATB}__]] dance] and [[a woman who hates [_{ATB}__] go home]?

Important consequence #2: RNR-fed ATB extraction is island-insensitive.

- (25) * Who did [[a man who loves [_{ATB}__]] dance] and [[a woman who hates [_{ATB}__] go home]?
- (26) a. [Jack met [a man who wrote [_{RNR}__]]] and [Sally met [a woman who published [_{RNR} a recent book about bats]]].
- b. What kind of book did [Jack meet [a man who wrote [_{RNR}__]]] and [Sally meet [a woman who published [_{RNR} [_{ATB}__]]]]?
- c. Which animals did [Jack meet [a man who wrote [_{RNR}__]]] and [Sally meet [a woman who published [_{RNR} a book about [_{ATB}__]]]]?

[Bachrach and Katzir 2007. RNR and Delayed Spell Out]

Implication: ATB extraction fed by non-coordinate RNR is island-insensitive.

(32) This is [the book that [everybody who reads [___]]] raves about [___].

[Kathol 2001. Non-existence of parasitic gaps in German. *Parasitic gaps*, MIT Press]

Implication: ATB extraction fed by non-coordinate RNR is island-insensitive.

(32) This is [the book that [everybody who reads [___]]] raves about [___].

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(33) * This is a person that I hang out with [___] [because [friends of [___]] are famous]

[Kayne 1983. Connectedness. *LI* 14]

Implication: ATB extraction fed by non-coordinate RNR is island-insensitive.

(32) This is [the book that [everybody who reads [___]]] raves about [___].

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(33) * This is a person that I hang out with [___] [because [friends of [___]] are famous]

[Kayne 1983. Connectedness. *LI* 14]

(34) [Everybody who reads [_{RNR}___]] [raves about [_{RNR} Harper Lee's latest book]].

- (35) ?? I introduced [a man who buys [*RNR*__]] [to a woman who sells [*RNR* books about Teddy Roosevelt]].
- (36) a. ?* Which president did you introduce [a man who buys [*RNR*__]] [to a woman who sells [*RNR* books about [*ATB*__]]]?
b. ?* Teddy Roosevelt is the president that I introduced [a man who buys [*RNR*__]] [to a woman who sells [*RNR* books about [*ATB*__]]].

- ▶ Case #1: locality violations with “parasitic gaps”.
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- (37) Ik heb er [zonder [] over na te denken] [[] in] toegestemd.
I have there without about to think to agreed
“I have agreed to it without thinking about it”

[Huybregts and van Riemsdijk. 1985. Parasitic gaps and ATB. NELS 15]

- (38) Lisa hat Hans [anstatt [] zu küssen] [] gehohrfeigt.
Lisa has Hans instead to kiss slapped
“Lisa has slapped Hans instead of kissing him”

[Felix 1985. Parasitic gaps in German. *Erklärende Syntax des Deutschen*, Niemeyer]
[Kathol 2001. Non-existence of parasitic gaps in German. *Parasitic gaps*, MIT Press]

- (39) ✓ Hij heeft deze_i artikelen [zonder ze_i te lezen] [___] opgeborgen.
he has these articles without them to read filed
“He has filed these articles without reading them”

[Huybregts and van Riemsdijk. 1985. Parasitic gaps and ATB. NELS 15]

- (39) ✓ Hij heeft deze_i artikelen [zonder ze_i te lezen] [___] opgeborgen.
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- (40) ? Peter hat [die Gäste]_i [ohne [___] anzuschauen] einander_i [___]
Peter has the guests without to.look.at each.other
vorgestellt.
introduced
“Peter introduced the guests to each other without looking at them”

[Kathol 2001. Non-existence of parasitic gaps in German. *Parasitic gaps*, MIT Press]

- (42) a. ✓ Karl hat seiner Tochter [ohne [] Geld zu geben] []
 Karl has her.DAT daughter without money to give
 helfen können.
 help could
 “Karl was able to help her daughter without giving her money”
- b. * Karl hat { seine / seiner } Tochter [ohne [] Geld
 Karl has her.ACC her.DAT daughter without money
 zu geben] [] unterstützen können.
 to give support could
 “Karl was able to support her daughter without giving her
 money”

[Kathol 2001. Non-existence of parasitic gaps in German. *Parasitic gaps*, MIT Press]

- ▶ Case #1: locality violations with “parasitic gaps”.
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- (43) Which city did [Jack travel to [ATB__]] and [Sally decide to live in [ATB__]]?
[possible answer: “Jack travelled to Berlin and Sally decided to live in Leipzig”]
- (44) Which city did Jack travel to [LG__] [after Sally decided to live in [PG__]]?
[impossible answer: “Jack travelled to Berlin after Sally decided to live in Leipzig”]

Munn 1999. On the identity requirement of ATB extraction. *NaLS* 7

(45) Who did you send [pictures of [__]] [to [__]]?
[possible answer: "I sent pictures of Jack to Sally"]

[Munn 1992. An ATB analysis of parasitic gaps. *TLR* 9]

- (45) Who did you send [pictures of [__]] [to [__]]?
[possible answer: "I sent pictures of Jack to Sally"]

[Munn 1992. An ATB analysis of parasitic gaps. *TLR* 9]

(46)

A mechanical digger puts the finishing touches to the demolition of the disused Churchtown railway station. Building will shortly commence on the site, where the first of a number of new Health Centres is to be constructed. It will include provision for a doctors' group practice, midwifery and home nursing services, and the Corporation's welfare services.

Like Comment



Steven Brodie Was before my time I believe but would like to see pictures before it was taken down. Where did it run to, from?

November 14, 2014 at 9:34pm · Like

Take-home message: Non-coordinate ATB extraction exists, and it is distinguishable from superficially very similar parasitic gaps. This implies that:

- ▶ parasitic gaps and ATB extractions are separate constructions, neither one reducible to the other.

Postal 1993. Parasitic gaps and ATB extraction. *LI* 23.

Nissenbaum 2000. Investigations of covert phrase movement. PhD MIT.

- ▶ ATB extractions are best treated as a strategy to linearize a multidominant structure.

Citko 2005. On the nature of Merge. *LI* 36