ATB extraction without coordination

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1 Background and goals

There is a pervasive assumption in the literature to the effect that ATB extraction is limited to coordinate structures.

> "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:§4.2.4]

> "if a rule applies into a coordinate structure, then it must affect all conjuncts of that structure." [Williams 1977:419]

> "ATB is only possible if the conjunction is analyzed as a coordinating conjunction in the structure in question" [Huybregts and van Riemsdijk 1985:173]

> "ATB extractions are a special case of coordinate structures." [Postal 1993:735]

> "Informally, ATB extraction is the phenomenon where the same element is extracted from both conjuncts simultaneously." [de Vos 2005:21]

> "Across-the-board wh- movement [...] involves simultaneous movement of a single wh- phrase from two (or more) conjuncts." [Citko 2006:225]

> "Across-the-board constructions are coordinate constructions in which each conjunct contains a gap." [Zhang 2010:222]

> "Coordination is certainly an important factor." [de Vries to appear:1]

See also Schachter (1977), Postal (1993), Johannessen (1998), Citko (2003, 2005), Goodall (2009), Chaves (2007, 2012), Blümel (2014), etc.

Goal of this talk

To show that, contrary to standard wisdom, *non-coordinate ATB extraction* genuinely exists, and is distinguishable from superficially very similar parasitic gaps.

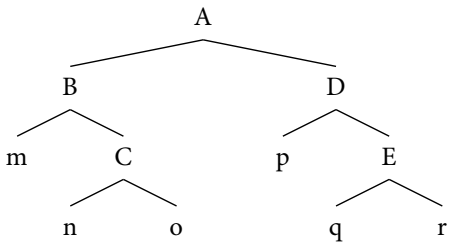
Disclaimer The goal of this talk, as stated above, entails that ATB extractions and parasitic gaps are independent constructions, neither one being reducible to the other, *contra* much literature that has attempted a unified analysis (Pesetsky 1982, Haïk 1985, Williams 1990, Nunes 2004, Fernández Salgueiro 2008, etc). Here I am going to follow Postal (1993), Nissenbaum (2000), and Niinuma (2010) in pointing out that there are numerous asymmetries between ATB extractions and parasitic gaps that make such a unification, if not impossible, at least very far from obvious.

	ATB extractions	parasitic gaps
licensed by A-movement	yes	no
licensed by covert movement	no	yes
symmetric reconstruction	yes	no
anti-pronominality effects	no	yes
anti-predicate-nominal effects	no	yes

2 ATB extraction as linearization-enabling movement

Standard linearization algorithms (Kayne 1994, Fox and Pesetsky 2005) require that the linear order of every terminal relative to every other terminal be uniquely determined. This is easy to ensure in non-multidominant trees.

(1)



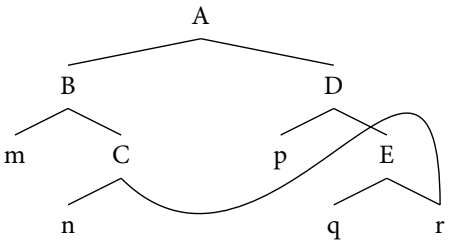
$$\left\{\begin{array}{lll} m \prec n & n \prec o & m \prec o \\ p \prec q & q \prec r & p \prec r \\ m \prec p & m \prec q & m \prec r \\ n \prec p & n \prec q & n \prec r \\ o \prec o & o \prec q & o \prec r \end{array}\right\}$$

$$\downarrow$$

$$m \prec n \prec o \prec p \prec q \prec r$$

Multidominated constituents break this system: because r is properly dominated by two nodes B and D, which themselves do not stand themselves in a dominance relation, we end up with a set of linearization statements where r both precedes and follows p and q (problematic statements are boxed). By assumption, an unlinearizable tree is an illicit tree.

(2)



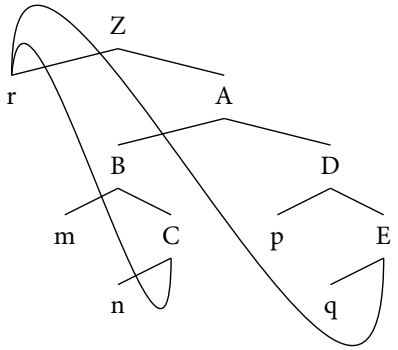
$$\left\{\begin{array}{lll} m \prec n & n \prec r & m \prec r \\ p \prec q & \boxed{q \prec r} & \boxed{p \prec r} \\ m \prec p & m \prec q & m \prec r \\ n \prec p & n \prec q & n \prec r \\ \boxed{r \prec p} & \boxed{r \prec q} & \end{array}\right\}$$

$$\downarrow$$

no unambiguous linearization

But multidomination doesn't necessarily doom trees! Citko (2003, 2005) argues (2) can be salvaged if the multidominated constituent moves to a high enough position (this presupposes the existence of a suitable movement trigger). Assuming that only the landing site of movement is relevant for linearization (i.e., "traces" are ignored), an unambiguous set of linearization statements results, as desired.

(3)



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

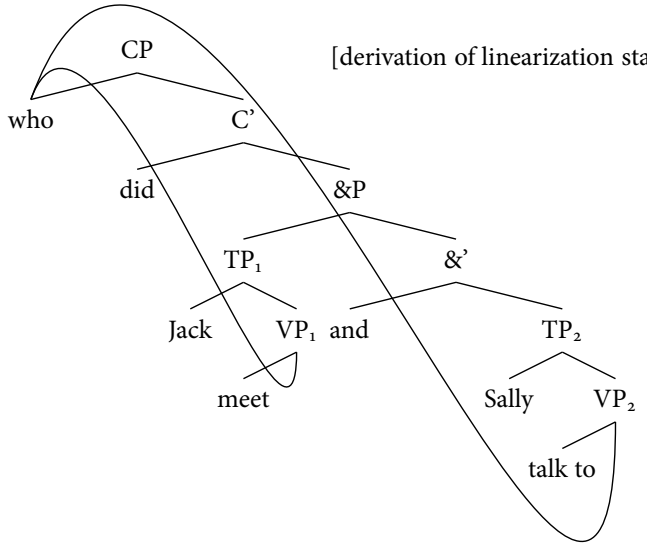
$$\downarrow$$

$$r \prec m \prec n \prec p \prec q$$

Citko then goes on to argue that the abstract configuration in (3) underlies standard ATB extraction —that is, ATB extraction is extraction of a multidominated constituent in order to salvage an otherwise unlinearizable structure.

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

(5)



[derivation of linearization statements left as exercise]

Why do we want to analyze ATB extraction like this?

- It is a good explanation of how a single filler can be associated to multiple gaps. [otherwise you have to postulate unusual operations, e.g., exceptional ellipsis of DPs and auxiliaries (Salzmann 2012)]

- It derives the non-existence of covert ATB extraction. Examples like (6) and (7) cannot have a multidominant syntax, lest they be unlinearizable; but without a multidominant syntax, ATB extraction (whether overt or covert) cannot happen.

(6) *English: no ATB QR (Bošković and Franks 2000, but see ex. (27) below)*

[[Every philosopher read some paper] and [every linguist reviewed some paper]]
[∗ *some paper* > *and*]

(7) *Japanese (Chinese, Korean…): no ATB covert wh- movement (Citko 2003, 2005)*

[[Tetsuo-ga dono hito-o aisitei] te [Kaneda-ga dono hito-o
Tetsuo-NOM which person-ACC love and Kaneda-NOM which person-ACC
nikundeiru]] no?
hate Q
[*only pair-list reading; single-pair reading requires movement to SpecCP*]

- It derives form identity effects (Huybregts and van Riemsdijk 1985, Kathol 2001, Fanselow 2002, Citko 2003, 2005), because one single constituent has to satisfy the morphological requirements imposed on both gaps.

(8) *Polish (Dyla 1984, Citko 2003, 2005, though see also Bondaruk 2003)*

a. ✓ Co [Jan lubi [$_{ATB}$__]] i [Maria uwielbia [$_{ATB}$__]]?
what.ACC Jan likes and Maria adores

b. ∗ Co [Jan lubi [$_{ATB}$__]] i [Maria nienawidzi [$_{ATB}$__]]?
what.ACC Jan likes and Maria hates

c. ∗ Czego [Jan lubi [$_{ATB}$__]] i [Maria nienawidzi [$_{ATB}$__]]?
what.GEN Jan likes and Maria hates

d. ✓ Kogo [Jan lubi [$_{ATB}$__]] i [Maria nienawidzi [$_{ATB}$__]]?
who.ACC/GEN Jan likes and Maria hates

Lubi and *uwielbia* assign accusative, *nienawidzi* assigns dative. Example (8a) is grammatical because *co* (accusative) is a valid filler for both accusative gaps; (8b) and (8c) are ungrammatical because neither *co* nor *czego* can fill an accusative and a genitive gap simultaneously; finally, (8d) is grammatical because *kogo* is accusative/genitive syncretic, so it is a valid filler for both gaps.

- It gives us a better understanding of ATB extraction *vis-à-vis* the CSC. Ross (1967) wants to treat the CSC as an island constraint, but this is weird in the sense that the CSC can't be derived from the same factors that derive other islands (e.g., Subjacency, phase theory…—see Sag 2000). Additionally, treating the CSC as an island forces us to treat ATB extraction as an island-voiding movement, which is weird in the sense that it fails to void any other islands. In contrast, if we treat ATB extraction as a linearization-enabling movement (which entails that coordinate structures are not islands), we can treat CSC effects as parallelism-breaking effects (Schachter 1977, Chaves 2007).

Important observation The templatic tree in (3), which Citko argues underlies ATB extraction, doesn't make any reference to coordination. Citko's analysis amounts to the claim that ATB extraction is a way of enabling the linearization of multidominated constituent, *whether they are embedded in a coordinate structure or not*. This predicts that non-coordinate ATB extraction should be possible, so long as we can build the requisite multidominant syntax.

Difficulty Unavoidably, non-coordinate ATB extractions are going to have a surface form very similar to that of parasitic gaps. The challenge, then, lies on showing that the relevant cases pattern together with regular (coordinate) ATB extractions, rather than parasitic gaps.

3 Case #1: locality violations with "parasitic gaps"

This is going to be a long argument because, before I actually make the argument, I need to establish a couple of points about Right Node Raising.

3.1 Right Node Raising and locality

3.1.1 Linearization of multidominant trees without movement

Bachrach and Katzir (2007) point out that part of the reason why (2) is unlinearizable is because standard algorithms assume *Strict Linearization* (Uriagereka 1999 calls this the "induction step of the LCA").

(9) *Strict Linearization (Bachrach and Katzir 2007:20)*
If A is linearized before B, then every subconstituent a of A is linearized before every subconstituent b of B.

Bachrach and Katzir then propose to replace Strict Linearization with the Linearization Well-Formedness Condition (LWFC) and the Linearization Mapping Condition (LMC), which allows interleaving of A and B if the multidominated node (or nodes) appear at the (right) edges of both A and B.

(10) *Linearization Well-Formedness Condition (Bachrach and Katzir 2007:22)*
Every terminal completely dominated by node A appears in the *D-list* of A exactly once.
[in prose: multidominated nodes are pronounced only once]

(11) *Complete Dominance*
A node A completely dominates a node B iff either (i) A is the unique mother of B; or (ii) A completely dominates every mother of B.

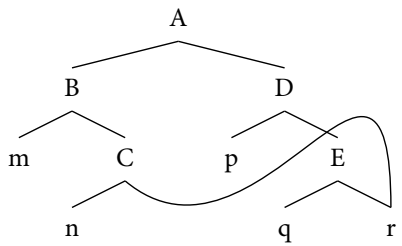
(12) *Linearization Mapping Condition (Bachrach and Katzir 2007:23)*
In ordering $A = \langle a_1, \ldots, a_m \rangle$ to the left of $B = \langle b_1, \ldots, b_n \rangle$, both Edge Alignment and Conservativity must hold:

a. Edge Alignment: $a_1 \preceq b_1$ and $a_m \preceq b_n$.
[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: $a_1 \preceq a_2 \preceq \ldots \preceq a_m$ and $b_1 \preceq b_2 \preceq \ldots \preceq b_n$
[in prose: preserve the relative internal order of both A and B]

Applying the LMC to (2), repeated as (13) yields an unambiguous linearization without having to extract r to a high position.

(13)



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

(14) *Failed linearizations*

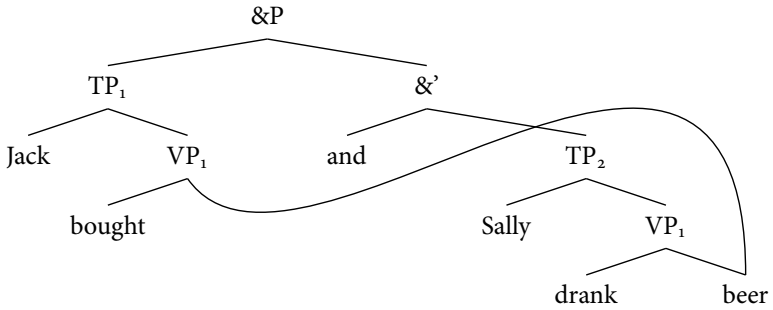
a. $A = m \preceq n \preceq r \preceq p \preceq q \preceq r$: violates LWFC because r is pronounced twice.

b. $A = m \preceq n \preceq r \preceq p \preceq q$: violates Conservativity of D because r precedes p and q.

Bachrach and Katzir propose that this is what underlies Right Node Raising (or at least a proper subset of RNR, see Barros and Vicente 2011).

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

(16)



a. TP_1 = ⟨ Jack, bought, beer ⟩

b. &' = ⟨ and, Sally, bought, beer ⟩

c. By Edge Alignment: Jack ≤ and; beer ≤ beer

d. By Conservativity: Jack ≤ bought ≤ beer; and ≤ Sally ≤ drank ≤ beer.

e. D-list of &P: {Jack, bought, and, Sally, drank, beer}

f. Unique linearization that satisfies all conditions:
&P = Jack ≤ bought ≤ and ≤ Sally ≤ drank ≤ beer

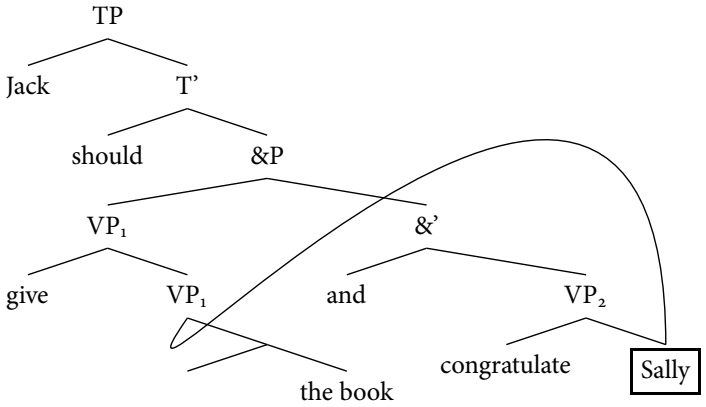
[explaining why other linearizations fail is left as an exercise]

Why do we want to analyze RNR like this?

- By no invoking movement, it trivially captures the fact that RNR is insensitive to constraints on movement.
- Conservativity captures the Right Edge Restriction (RER), which prevents RNR of non-right-peripheral terminals.

(17) * Jack should give [$_{RNR}$__] the book and congratulate [$_{RNR}$ Sally].

(18)

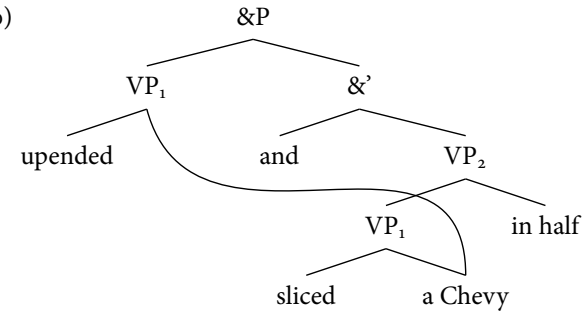


a. VP_1 = ⟨ give, Sally, book ⟩
b. &' = ⟨ and, congratulate, Sally ⟩
c. By Edge Alignment: give ≤ and; book ≤ Sally
d. By Conservativity: give ≤ Sally ≤ book; and ≤ congratulate ≤ Sally
e. D-list of &P: {give, book, and, congratulate, Sally}
f. Unique linearization that satisfies all conditions: none (all possible linearizations violate Conservativity).

- At the same time, LWFC-LMC is flexible enough to allow for the grammatical violations of the RER known as *Right Node Wrapping* (Whitman 2009, Kubota 2014).

(19) The blast upended [$_{RNW}$__] and nearly sliced [$_{RNW}$ an armored Chevrolet Suburban] in half.

(20)



a. VP_1 = ⟨ upended, Chevy ⟩
b. &' = ⟨ and, sliced, Chevy, in-half ⟩
c. By Edge Alignment: upended ≤ and; Chevy ≤ in-half
d. By Conservativity: upended ≤ Chevy; and ≤ sliced ≤ Chevy ≤ in-half.
e. D-list of &P: {upended, and, sliced, Chevy, in-half}
f. Unique linearization that satisfies all conditions:
&P = upended ≤ and ≤ sliced ≤ Chevy ≤ in-half

- But there are two consequences that are much more important for our purposes today…

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

The same observation that applies to Citko's analysis of ATB extraction to Bachrach and Katzir's analysis of RNR: we are talking about a way to enable linearization of a multidominated constituent, *whether it is embedded in a coordinate structure or not*. This implies that non-coordinate RNR should be possible. Fortunately for us, previous literature (Hudson 1976, Postal 1994, Phillips 1996) has already identified relevant cases.

(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]].

3.1.3 Important consequence #2: RNR can feed ATB extraction (and make it island-insensitive!)

Both Abels (2004) and Bachrach and Katzir (2007) note that, while this analysis derives RNR without movement, one can still use the output of RNR as the input for some movement —specifically, ATB extraction. We can show this with (22).

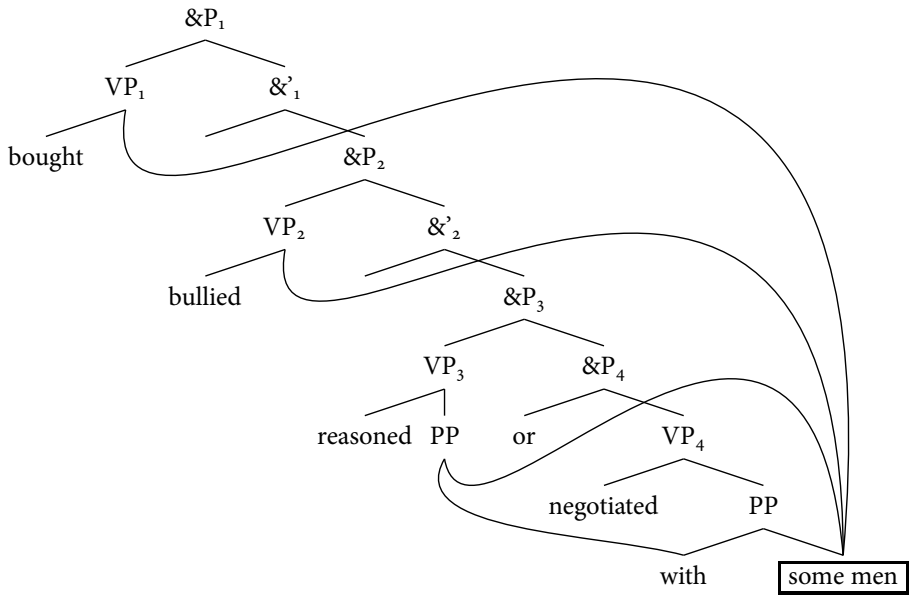
(22) Some men can't be bought [___], bullied [___], reasoned [___], or negotiated with [___].
[from *The Dark Knight*]

This is not just multiple ATB extraction (by passivization). *To reason* takes a PP complement, and the preposition heading this complement is necessarily preserved under passivization (23). So why is *reasoned* missing its preposition in (22)?

(23) Some men can't be reasoned ∗(with).

Suppose that ATB extraction is mediated by RNR. Tree (24) gives the syntax of the intermediate RNR step, with the the whole PP *with some men* being dominated by both *reasoned* and *negotiated*; subsequent ATB extraction of *some men* strands *with* in the RNR site, creating the illusion that *reasoned* is missing a preposition.

(24)



[this tree relies crucially on the notion of *non-bulk sharing*: see Gracanin-Yuksek 2007]

Of importance to us is that plain ATB extration (i.e., not mediated by RNR) is sensitive to islands contained in the coordinate structure.

(25) *Medial position of the extractee prevents RNR: ATB extraction is island-sensitive*

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

But Bachrach and Katzir (2007) point out that RNR-fed ATB extraction can escape these islands.

(26) *RNR-fed ATB extraction is islands-insensitive*

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 [$_{ATB}$__]]]]?

(27) *RNRed quantifiers can QR exceptionally far (Sabbagh 2007)*

a. Jack knows a man who speaks every Germanic language. [$*\forall > \exists$]

b. [Jack knows a man who speaks [$_{RNR}$__]] and [Sally knows a woman who wants to learn [$_{RNR}$ every Germanic language]]. [$\checkmark\forall > \exists$]

Bachrach and Katzir argue that multidominated constituents cannot be spelled out until they are completely dominated (cf. the definition of Complete Dominance in (12)). In the case of coordinate structures, this amounts to saying that Right Nodes constituents are not spelled out until after completion of the coordinate structure. As a consequence, movement targeting Right Nodes (i.e., ATB extraction) can escape Spell Out islands contained in the coordinate structure. Note that these movements are still sensitive to locality effects unrelated to Spell Out factors (e.g., Superiority effects), which Bachrach and Katzir take as an indication that the grammaticality of (26b) and (26c) needs to be treated as a Delayed Spell Out effect.

(28) a. ✓ I wonder [who cooked [$_{RNR}$__]] and [who ate [$_{RNR}$ the black beans]].

b. * I wonder what [who cooked [$_{ATB}$__]] and [who ate [$_{ATB}$__]].

3.2 Application to non-coordinate ATB extraction

We can summarize the previous discussion as follows.

(29) *Generalization 1:* non-coordinate RNR exists. [§3.1.2]

(30) *Generalization 2:* RNR-fed ATB extractions are island-insensitive. [§3.1.3]

If we put (29) and (30) together, we obtain the following prediction.

(31) *Prediction:* ATB extractions fed by non-coordinate RNR are island-insensitive.

We can test this prediction through Kathol's (2001)'s observation that English occasionally allows "parasitic gaps" embedded inside two relative clauses

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

The grammaticality of (32) is surprising, given that parasitic gaps are otherwise island-sensitive (Kayne 1983, Longobardi 1984). Island-internal parasitic gaps are possible only if licensed by a second, island-external parasitic gap.

(33) a. * A person who I hang out with [$_{LG}$__] [because [friends of [$_{PG}$__]] are famous].

b. ✓ A person who I hang out with [$_{LG}$__] [because [friends of [$_{PG_2}$__]] admire [$_{PG_1}$__]].

We can bring (32) into the fold by treating it instead as a non-coordinate ATB extraction fed by RNR.

(34) Judging by the reviews, [nobody who reads [$_{RNR}$__]] [becomes enthusiastic about [$_{RNR}$ Harper Lee's latest book]].

In contrast, configuration that don't license RNR don't license embedding of "parasitic gaps" inside islands.

(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 Rooseveld is the president that I introduced [a man who buys [$_{RNR}$__]] [to a woman who sells [$_{RNR}$ books about [$_{ATB}$__]]].

4 Case #2: "parasitic gaps" in West Germanic

Huybregts and van Riemsdijk (1985) discuss Dutch sentences like (37), as do Felix (1985), Kathol (2001), and others for German (38).

(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"

(38) Lisa hat Hans [anstatt [__] zu küssen] [__] geohrfeigt.
Lisa has Hans instead to kiss slapped
"Lisa has slapped Hans instead of kissing him"

Both Huybregts and van Riemsdijk and Kathol argue that such sentences fail to display some of the characteristic properties of parasitic gaps. To begin with, the movement of the "licensing gap" seems to be a case of A movement, given that it doesn't create WCO violations and feeds anaphoric binding.

(39) *No WCO violation (Huybregts and van Riemsdijk 1985:169)*

✓ 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"

(40) *Anaphoric binding from derived position (Kathol 2001:318, citing Webelhuth)*

? Peter hat [die Gäste]$_i$ [ohne [__] anzuschauen] einander$_i$ [__] vorgestellt.
Peter has the guests without to.look.at each.other introduced
"Peter introduced the guests to each other without looking at them"

Second, the gaps are subject to a strict form identity constraint reminiscent of that in (8). In Dutch, both gaps have to correspond uniformly to either an R-pronoun (which allows P-stranding) or a regular pronoun (41).

(41) *Form identity in Dutch (Huybregts and van Riemsdijk 1985:172)*

a. ✓ 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"

b. ✓ Ik heb het [zonder [__] te bestuderen] [__] geaccepteerd.
I have it without to study accepted.
"I have accepted it without studying it"

c. * Ik heb { het / er } [zonder [__] over na te denken] [__]
I have it there without about to think
geaccepteerd.
accepted
"I have accepted it without thinking about it"

d. * Ik heb { het / er } [zonder [___] te bestuderen] [[___] in] togesteemd.
I have it there without to study to agreed.
"I have agreed to it without studying it"

In German, morphological case parallelism obtains (42); here, *unterstützen* 'to support' assigns structural accusative, but *helfen* 'to help' assigns inherent dative.

(42) *Case identity in German (Kathol 2001:327–328)*

a. ✓ Karl hat seiner Tochter [ohne [___] Geld zu geben] [___] helfen
Karl has her.DAT daughter without money to give help
können.
could
"Karl was able to help her daughter without giving her money"

b. * Karl hat { seine / seiner } Tochter [ohne [___] Geld zu geben]
Karl has her.ACC her.DAT daughter without money to give
[___] unterstützen können.
support could
"Karl was able to support her daughter without giving her money"

On the basis of these data, both Huybregts and van Riemsdijk and Kathol conclude that neither Dutch nor German has genuine parasitic gaps. Rather, they argue that examples above instantiate what they call Left Node Raising (LNR), effectively the leftward counterpart of RNR. However, given that they assume that RNR itself is rightward ATB extraction, what they are effectively saying is that the examples above instantiate non-coordinate leftward ATB extraction.

5 Case #3: "parasitic gaps" with sloppy readings

Munn (1999) notes that ATB extractions allow each gap to map to a different individual (43). As far as I have been able to test, this isn't possible with parasitic gaps (44).

(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"*]

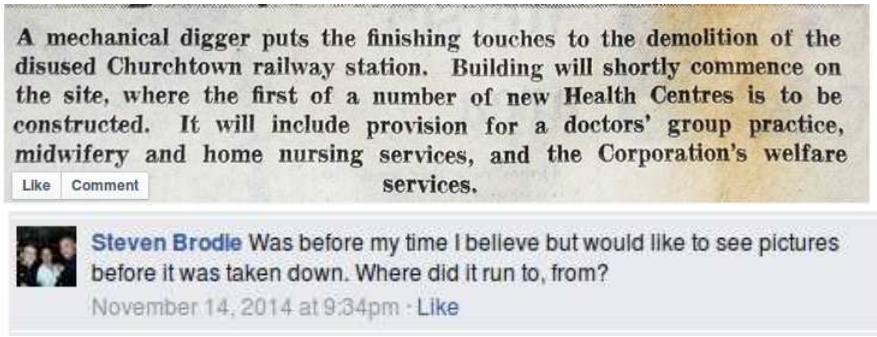
(44) Which city did Jack travel to [$_{LG}$___] [after Sally decided to live in [$_{PG}$___]]?
[*impossible answer: "Jack travelled to Berlin after Sally decided to live in Leipzig"*]

Munn proposes that wh- traces have a functional argument that can be bound by something other than the wh- phrase, so (43) is a case of sloppy identity; assuming that parasitic gaps are traces of null operator movement (cf. Nissenbaum 2000) and that null operators lack functional arguments, the conditions for sloppy identity are not satisfied in (44).

There exist non-coordinate extractions that have a sloppy reading, so they are better classified as ATB extractions rather than parasitic gaps.

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

(46)



6 Outlook

Take-home message Non-coordinate ATB extraction exists, and it is distinguishable from superficially very similar parasitic gaps. This much provides independent support for the following two hypotheses:

1. That parasitic gaps and ATB extractions are separate constructions, neither one reducible to the other (Postal 1993, Nissenbaum 2000, Niinuma 2010).
2. That ATB extractions should be treated as a strategy to linearize a multidominant structure (Citko 2003, 2005).

Known issue #1 We don't have yet a theory of the distribution of multidomination (although the problem has been attacked, cf. especially Gracanin-Yuksek 2007). Clearly, multidomination cannot be invoked anywhere, because otherwise we would expect examples like the following to be grammatical non-coordinate RNRs and ATB extractions.

(47) a. * What did you convince [a fan of [$_{ATB}$___]] [to name his son [$_{ATB}$___]]?
b. * I convinced [a fan of [$_{RNR}$___]] [to name his son [$_{RNR}$ Tango]].

c. ✓ What did you [convince Jack to name his son [$_{ATB}$ __]] and [forced Sally to name her daughter [$_{ATB}$ __]]?

d. ✓ I [convinced Jack to name his son [$_{RNR}$ __]] and [forced Sally to name her daughter [$_{RNR}$ Tango]].

(48) a. * Which body part did the doctor have to assure [an amputee of [$_{ATB}$ __]] [that he wasn't touching him on [$_{ATB}$ __]]?

b. * The doctor had to assure [an amputee of [$_{RNR}$ __]] [that he wasn't touching him on [$_{RNR}$ a finger]]?

c. ✓ Which body part did [Sally touch Jack on [$_{ATB}$ __]] and [Betty kiss Danny on [$_{ATB}$ __]]?

d. ✓ [Sally touched Jack on [$_{RNR}$ __]] and [Betty kissed Danny on [$_{RNR}$ a finger]].

Additionally, we can't issue blanket statements along the lines of "multidomination is licit under coordination and some other environments", given that some coordinate structures fail to license RNR or ATB extraction, even when other factors (e.g., case parallelism) are controlled for (cf. Hartmann et al. to appear and references).

Known issue #2 As an illustration of previous point, consider that the Dutch and German counterparts of (32) are ungrammatical; in principle, one might want to blame this on the fact that the gaps, being medial, bleed RNR as an intermediate step.

(49) a. * Dies ist [das Buch, welches [jeder, der [___] liest]] [___] bewundert.
this is the book which everyone who reads admires

b. * Dit is [het boek dat [iedereen die [___] leest]] [___] bewondert.
this is the book that everybody who reads admires

But this conclusion is either incorrect or incomplete. For one, extraction remains ungrammatical even with PP complements, which can extrapose to a right peripheral position (Riny Huybregts, p.c.). Note that coordinate ATB extraction of PPs remains grammatical (so long as no islands intervene), which might indicate that the problem lies with the intermediate RNR step.

(50) *Dutch (judgments from Riny Huybregts, Johan Rooryck, and Rint Sybesma)*

a. ✓ … omdat iedereen (op Jan) { rekent / vertraut } (op Jan).
because everybody on Jan counts relies on Jan

b. * Dit is iemand waarop [iedereen [die rekent [___]]] vertraut [___].
this is someone on.which everybody who counts relies

c. ✓ Die is iemand waarop [iedereen rekent [$_{ATB}$ __]] en [niemand vertraut [$_{ATB}$ __]].
this is someone on.which everybody counts and nobody relies

(51) *German (judgments from Martin Salzmann)*

a. ✓ … weil jeder (mit Hans) { rechnet / zufrieden ist } (mit Hans).
because everybody with Hans counts happy is with Hans

b. * Dies ist etwas, womit [jeder, [der rechnet [___]]] zufrieden ist [___].
this is something with.which everybody who counts happy is

c. ✓ Dies ist ewtas, womit [jeder rechnet [$_{ATB}$ __]] und [niemand zufrieden ist [$_{ATB}$ __]].
this is something with.which everybody counts and nobody happy is

Potential solution: Kathol (2001:330) reports that German allows prepositional Left Node Raising, providing (52a), with the indicated reading, as an illustration. Dennis Ott (p.c.) challenges this judgment, claiming that *reden* must be interpreted intransitively. Notably, Kathol himself points out (footnote 17) that similar examples containing a predicate that necessarily takes a PP complement are considerably more degraded. Dennis Ott (p.c.) agrees and judges (52b), on the indicated reading, as fully ungrammatical.

(52) a. Unsere Firma hat [mit dem Vertreter] [ohne lange [___] zu reden] [___] einen Vertrag abgeschlossen.
our company has with the representative without long to talk a contract closed
[= "Our company has signed a contract with the representative without talking for long"]
[≠ "Our company has signed a contract with the representative without talking to him for long]

b. * Hans hat an Gott [ohne [___] wirklich zu glauben] [___] einen Brief geschrieben.
Hans has to God without really to believe a letter written
"Hans has written a letter to God without really believing in him"

The same pattern holds for Dutch (Tanja Temmerman and Marc van Oostendorp, p.c.).

(53) a. Ons bedrijft heeft [met de vertegenwoordigers] [zonder [___] lang te praten] [___] een contract gesloten.
our company has with the representatives without long to talk a contract closed
[= "Our company has signed a contract with the representatives without talking for long"]
[≠ "Our company has signed a contract with the representatives without talking to them for long]

b. * Ons bedrijft heeft [met de concurrentie] [zonder zichzelf [___] te vergelijken] [___] een contract gesloten.
our company has with the competition without itself to compare a contract closed
"Our company has signed a contract with the competitors without comparing itself to them"

So maybe everything boils down to the fact that German and Dutch only allow multidominated PPs in coordinate structures.

Known issue #3 If we want to analyze movement as a special case of multidomination, Bachrach and Katzir's system predicts that *all* ATB extractions (not just those fed by RNR) should also be insensitive to Spell Out islands inside the coordinate structure. This is obviously not correct (cf. (25)). Bachrach and Katzir get around this problem by implicitly assuming that movement is not multidominance. If we want to treat movement as multidomination, we need to say that lack of complete dominance is a necessary but not sufficient condition for Delayed Spell Out. Here is a possible way of implementing this intuition.

(54) *Delayed Spell Out:*

a. Upon merging a x that triggers Spell Out, determine the set of linearization statements of its complement domain.

b. Spell Out of a subconstituent y in the complement domain of x can be delayed iff:

i. y is not completely dominated (*pace* Bachrach and Katzir 2007), and

ii. y is located at the linear edge of x.

Clause (54b-ii) follows the intuition that, once a constituent is Spelled Out, we can reorder it with respect to other constituents, but we cannot affect its internal ordering (Fox and Pesetsky 2005). Multidominated constituents at the edges of Spell Out domains can be subject to Delayed Spell Out because they will not affect the internal order of the Spelled Out material. On the other hand, multidominated constituents in a non-edge position can only escape Spell Out by moving to an edge first —either the right edge (extraposition/HNPS) or the left edge (successive cyclic movement through a phase edge, provided that a suitable movement trigger exists). If extraposition/HNPS is not possible, and the Spell Out domain in question doesn't offer a phase edge (i.e., it is an island), then ungrammaticality obtains.

An analysis along these lines, if it turns out to be correct, would be largely an extension of the ideas about locality in Ko (2014).

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