

Strict Linear and Hierarchical Adjacency: P + Det Combinations

Benjamin Bruening (University of Delaware)

LSA Annual Meeting, January 3, 2020

Table of Contents

- 1 P + Det Combinations
- 2 Proposal: Both Hierarchical and Linear Adjacency
- 3 Irish Case
- 4 Bracketing Paradoxes
- 5 Implications: Architecture of the Grammar
- 6 References

- (1)
- a. de la mère ‘of the mother’
 - b. à la mère ‘to the mother’
 - c. aux mères (*à les mères) ‘to the mothers’
 - d. du chat (*de le chat) ‘of the cat’
 - e. au chat (*à le chat ‘to the cat’
 - f. aux chats (*à les chats) ‘to the cats’

(2) P-D Affixation (Embick 2010: 88, (35b))

$P^+ \sim D[\text{def}]^+ \rightarrow [P^+[D^+]]$

where $^+$ is a diacritic for the particular terminals that are subject to this process

Local Dislocation is sensitive only to linear adjacency.

Adjacency: Adverb in German

Adverb *genau* must precede Det:

(3) (van Riemsdijk 1998: 662, (41–42))

- a. von genau dem Gegenteil
from exactly the.Dat opposite
- b. * von dem genau Gegenteil
- c. * vom genau Gegenteil
- d. ? genau von dem Gegenteil
- e. genau vom Gegenteil

- Could not be *lowering* in framework of Embick & Noyer 2001, that can skip over adverbs, e.g., affix hopping in English.
- Cannot be head movement of D to P, for same reason.

German *zu + der = zur*, *von + dem = vom*.

(4) (van Riemsdijk 1998: 658–659, (32b), (33b))

a. zur Prinzessin ihrem Palais
to-the.Dat princess her.Dat palace
'to the princess's palace'

b. vom Hans seiner Mutter ihrem Freund seinem
of-the.Dat Hans his.Dat mother her.Dat boyfriend his.Dat
Geld
money
'of Hans's mother's boyfriend's money'

(5) (van Riemsdijk 1998: 655, (23–24))

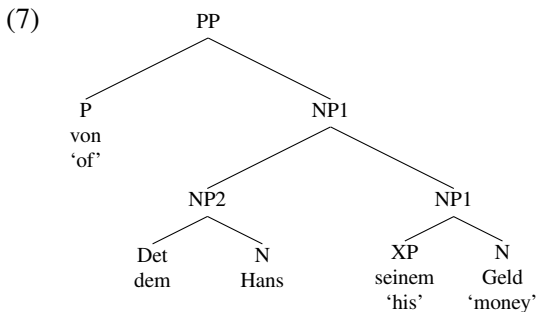
- a. von dem (*vom) König treu ergebenen Dienern
of the.Dat king faithfully devoted servants
'of servants faithfully devoted to the king'
- b. zu der (*zur) Direktion zur Verfügung zu
to the.Dat board to.the.Dat availability to
stellenden Zimmern
put rooms
'to rooms that are to be made available to the board'

Example from Martin Salzmann (p.c.).

- (6) a. ... dass ich gestern da-von dem Peter erzählte.
that I yesterday there-of the.Dat Peter told
'... that I told Peter about it yesterday.'
- b. ?? ... dass ich da gestern von dem Peter erzählte.
that I there yesterday of the.Dat Peter told
- c. * ... dass ich da gestern **vom** Peter erzählte.
that I there yesterday of-the.Dat Peter told

Insufficiency of Spans

- Williams (2003), Svenonius (2012), Merchant (2015): portmanteau morphemes realize hierarchically adjacent heads, *spans*.
- A span is a sequence of heads such that each head selects the maximal projection of the next.
- Correctly rules out German adjunct case;
- But fails to allow German possessor case:
- P does not select maximal projection of Det in embedded possessor.



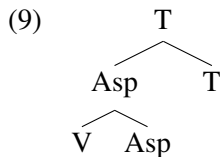
Insufficiency of “Stretching” (Ostrove 2018)

- A stretch is a sequence of linearly ordered terminal nodes (in the same extended projection).
- (Same notion as the “post-linearization contiguous morpheme insertion” of Haugen & Siddiqi 2016.)
- Either rules out both German possessor and adjunct case, because Det is not in same extended projection as P,
- Or allows them both, because they are both linearly adjacent.

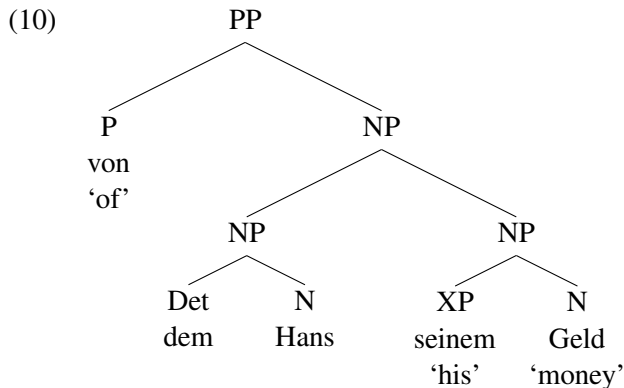
Table of Contents

- 1 P + Det Combinations
- 2 Proposal: Both Hierarchical and Linear Adjacency**
- 3 Irish Case
- 4 Bracketing Paradoxes
- 5 Implications: Architecture of the Grammar
- 6 References

- (8) Two heads X and Y can be realized as a single lexical item only if X and Y are adjacent, X c-commands Y, and there is no head Z such that Z asymmetrically c-commands Y but does not c-command X.
- No requirement that X and Y be dominated by the same complex head;
 - No reference to “extended projection”;
 - Y does not need to be the complement of X;
 - All that matters is that no head intervenes between X and Y, either linearly or hierarchically.



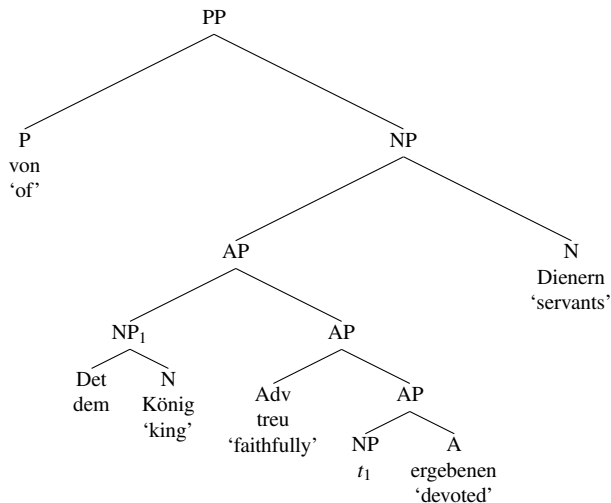
- Hypothetical: T and Asp can be realized by a single portmanteau morpheme because they are linearly adjacent,
- And no head asymmetrically c-commands one but not the other.



- P is linearly adjacent to the Det *dem*;
- No head asymmetrically c-commands Det but does not c-command P.

German Embedded Adjunct

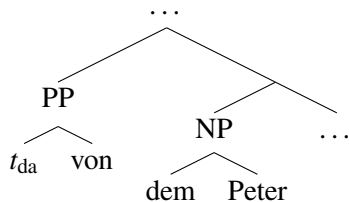
(11)



N c-commands Det but not P (so does A, for base position).

Von does not c-command *dem*:

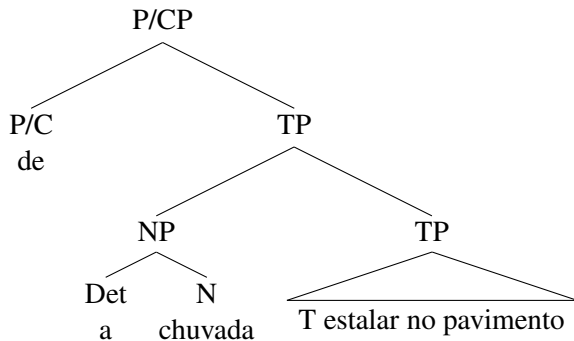
(12)



- (13) Antes da (*de a) chuvada estalar no pavimento,
before of.the downpour to-rattle in-the soil
entrou pela vila ... uma charrete.
three(sic)-entered in-the village a barrow
(van Riemsdijk 1998: 660, (34), cited from Carlos de Oliveira)

P Complementizer + Det of Subject in Portuguese

(14)



- P/C and Det are adjacent;
- No head asymmetrically c-commands Det but not P/C.

- (15) Er fängt an dem (*am) Hans einen Brief zu schreiben.
he begins PRT the.Dat Hans a.Acc letter to write.Inf
'He begins writing a letter to Hans.' (van Riemsdijk 1998: 655,
(22))

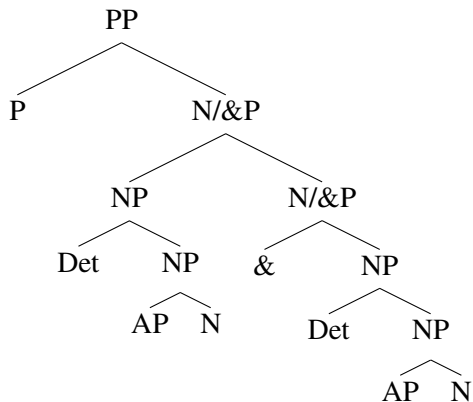
- Det is in embedded clause, (at least) embedded C intervenes;
- And PRT probably does not c-command Det.

In principle, P can combine with Det of first NP of coordinated NP:

- (16) Vom älteren Bruder und der jüngeren Schwester werde
by.the.Dat older brother and the.Dat younger sister am
ich nie angerufen.
I never called.up
'I am never called up by the older brother and younger sister.' (van
Riemsdijk 1998: 657, (28))

- Predicted by current account (and linear adjacency accounts),
- But not by any account that refers to extended projections, head taking next head as complement.
- (Note that languages differ regarding coordination, see van Riemsdijk 1998, Wescot 2007.)

(17)



Alternative: Linear Adjacency, Plus Phase Boundaries?

P and Det have to be linearly adjacent, but also in same phase.

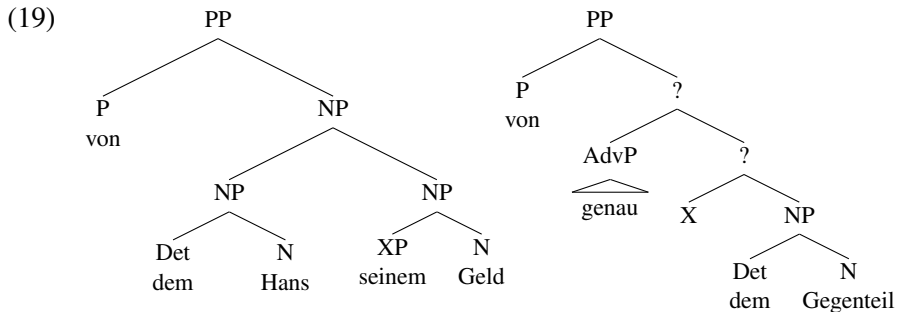
- Fails on embedded possessor:

(18) vom Hans seiner Mutter ihrem Freund seinem Geld
of-the.Dat Hans his.Dat mother her.Dat boyfriend his.Dat money
'of Hans's mother's boyfriend's money'

Purely Hierarchical Intervention?

Nothing can intervene hierarchically between P and Det.

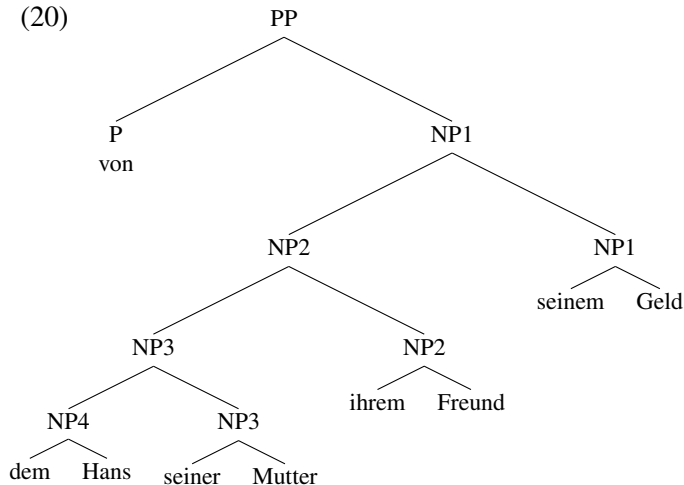
- State as: Nothing can asymmetrically c-command the mother of Det unless it also c-commands P.
- Intervening adverb must have additional projection:



Purely Hierarchical Intervention?

Fails on multiply-embedded possessor:

(20)



- (21) Two heads X and Y can be realized as a single lexical item only if X and Y are adjacent, X c-commands Y, and there is no head Z such that Z asymmetrically c-commands Y but does not c-command X.

Table of Contents

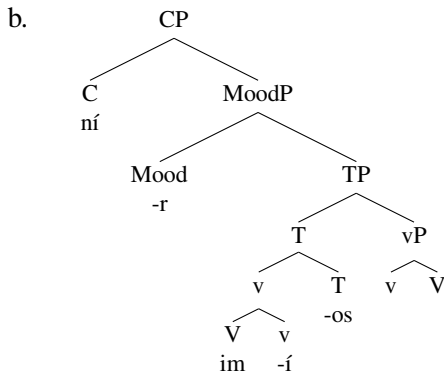
- 1 P + Det Combinations
- 2 Proposal: Both Hierarchical and Linear Adjacency
- 3 Irish Case**
- 4 Bracketing Paradoxes
- 5 Implications: Architecture of the Grammar
- 6 References

Ostrove (2018): Irish case that is problematic given his assumed structure.

Structure of Irish Verb

(22) (Ostrove 2018: 1265, (4–5))

- a. ní-r im-í-os
Neg-*r* leave-v-Past.1Sg
'I did not leave'



Portmanteaux: Mood + V + v, Excluding T

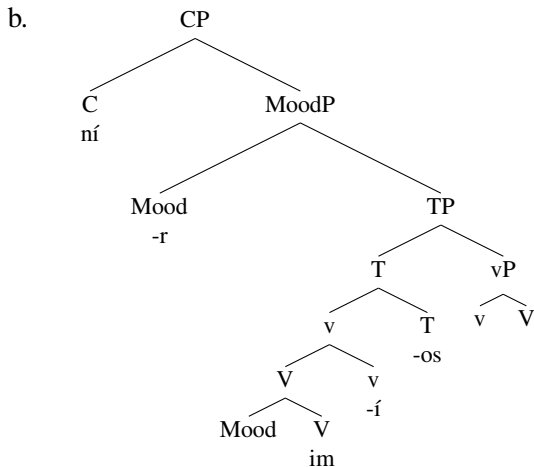
Ostrove: *bhfac* is portmanteau realizing Mood, V, v, but excluding T.

- (23) An^D bhfac-aís an cailín úd?
Q see.Past.Dep-Past.2Sg the girl yonder
‘Did you see the girl over yonder?’ (Ostrove 2018: 1265, (6b))

- Problem for current analysis if structure is correct:
- T asymmetrically c-commands v, V but not Mood.

Alternative: Mood is Merged to V, Copied High in Clause

- (24) a. ní-r im-í-os
Neg-*r* leave-*v*-Past.1Sg
'I did not leave'



Bruening (2019):

- Languages can merge functional heads in low position, creating complex head, then copy them in inflectional layer of clause.
- General case: Pronounce only one copy.
- Irish general case: Pronounce only higher copy of Mood.
- With certain set of verbs, in certain contexts, pronounce lower copy of Mood, as portmanteau with V and v.
- Mood, V, v are hierarchically and linearly adjacent.

Table of Contents

- 1 P + Det Combinations
- 2 Proposal: Both Hierarchical and Linear Adjacency
- 3 Irish Case
- 4 Bracketing Paradoxes**
- 5 Implications: Architecture of the Grammar
- 6 References

Bracketing Paradoxes

Haugen & Siddiqi (2016):

- Forms like *wrote* are portmanteaux (V-T);
- Productive formations like *rewrote* are then a bracketing paradox;
- Haugen & Siddiqi's purely linear insertion mechanism accounts for them.
- Proposal here does too, so long as *re-* and V c-command each other (so can't separate V into root and v):

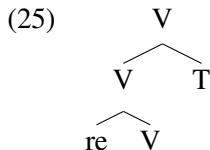


Table of Contents

- 1 P + Det Combinations
- 2 Proposal: Both Hierarchical and Linear Adjacency
- 3 Irish Case
- 4 Bracketing Paradoxes
- 5 Implications: Architecture of the Grammar**
- 6 References

Architecture of the Grammar

- Conditions on P+Det combinations require simultaneous reference to linear order and hierarchy.
- Many frameworks, like Distributed Morphology, separate hierarchy and linear order into distinct components of the grammar.
- These frameworks only permit a given operation to make reference to one.
- These frameworks could not be correct.
- P+Det combinations are yet another case where conditions make simultaneous reference to hierarchy and linear order; see Bruening (2014), Bruening & Khalaf (2019) for others.
- Need a framework where both hierarchy and linear order are specified from the beginning.
- (And then we can do away with a post-syntactic component with syntax-like operations.)

“Realized as a Single Lexical Item”

What exactly does this mean? Some possibilities:

- 1 A single lexical item simultaneously realizes multiple terminal nodes.
- 2 Some operation merges multiple terminal nodes into a single one (e.g., Marantz’s Morphological Merger).

Possible Extension: English *per*

Per is a P+Det combination (basically ‘for each’):

- (26) a. cost to treat per acre
b. one properly sized treat per day
- (27) *N after per can have complements, modifiers, but can't have Det:*
a. \$20,000 per member of parliament
b. a fee of \$35 per unaccompanied minor
c. * a fee of \$35 per the/those/each minor(s)
- (28) *N can't be plural or mass, just as with each:*
a. * cost to treat per acres (*each acres)
b. * cost to treat per rice (*each rice)
- (29) *N can't have number, except one of, just like each:*
a. * cost to treat per one/two acre(s) (*each one/two acre(s))
b. more than one volume lash per one of your natural lashes (each one of your natural lashes)

Table of Contents

- 1 P + Det Combinations
- 2 Proposal: Both Hierarchical and Linear Adjacency
- 3 Irish Case
- 4 Bracketing Paradoxes
- 5 Implications: Architecture of the Grammar
- 6 References**

References I

- Bruening, Benjamin. 2014. Precede-and-command revisited. *Language* 90. 342–388.
- Bruening, Benjamin. 2019. The algonquian prefix is an affix, not a clitic: Implications for morphosyntax. Ms., University of Delaware, available at <http://udel.edu/~bruening/Downloads/AlgonquianPrefix1.pdf>.
- Bruening, Benjamin & Eman Al Khalaf. 2019. Category mismatches in coordination revisited. *Linguistic Inquiry* to appear.
- Embick, David. 2003. Linearization and local dislocations, derivational mechanics and interactions. *Linguistic Analysis* 33. 303–336.
- Embick, David. 2010. *Localism versus globalism in morphology and phonology*. Cambridge, MA: MIT Press.
- Embick, David & Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32. 555–595.
- Haugen, Jason D. & Daniel Siddiqi. 2016. Towards a restricted realization theory: Multimorphemic monolistemicity, portmanteaux, and post-linearization spanning. In Daniel Siddiqi & Heidi Harley (eds.), *Morphological metatheory*, 343–385. Amsterdam/Philadelphia: John Benjamins.

- Merchant, Jason. 2015. How much context is enough? two cases of span-conditioned stem allomorphy. *Linguistic Inquiry* 46. 273–303.
- Ostrove, Jason. 2018. Stretching, spanning, and linear adjacency in vocabulary insertion. *Natural Language and Linguistic Theory* 36. 1263–1289.
doi:10.1007/s11049-018-9399-y.
- Svenonius, Peter. 2012. Spanning. Ms., CASTL, University of Tromsø. Available at <https://ling.auf.net/lingbuzz/001501>.
- van Riemsdijk, Henk. 1998. Head movement and adjacency. *Natural Language and Linguistic Theory* 16. 633–678.
- Wescoat, Michael T. 2007. Preposition-determiner contractions: An analysis in Optimality-Theoretic Lexical-Functional Grammar with lexical sharing. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of the LFG07 conference*, 439–459. Stanford, CA: CSLI Publications.
- Williams, Edwin. 2003. *Representation theory*. Cambridge, MA: MIT Press.

Department of Linguistics and Cognitive Science
University of Delaware
Newark, DE 19716
(302) 831-4096
bruening@udel.edu