

On the Head-Complement combination

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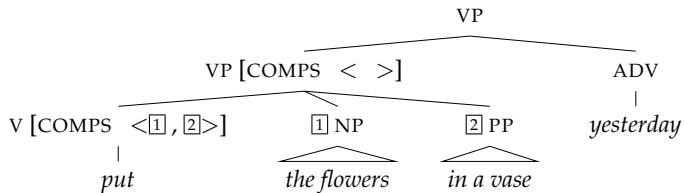
ENGLISH VPS

- (1)
- a. He [put the flowers in a vase]_{vp}
 - b. He [often_{adv} [put the flowers in a vase]_{vp}]_{vp}
 - c. He [[put the flowers in a vase]_{vp} yesterday_{adv}]_{vp}

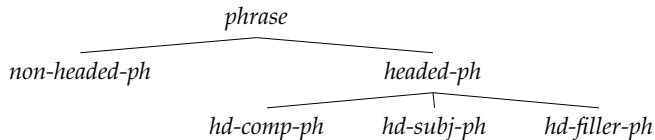
No interspersal of adjuncts and complements

- (2)
- a. * He put the flowers often in a vase
 - b. * He put the flowers yesterday in a vase

FLAT STRUCTURE



HIERARCHY OF PHRASE TYPES



Abeillé and Borsley (2021, 22)

HEAD-COMPLEMENT

$$(3) \quad hd-comp-ph \Rightarrow \left[\begin{array}{l} \text{HD-DTR} \quad \boxed{1} \left[\begin{array}{l} word \\ SS | LOC | CAT | COMPS \quad \langle \boxed{2}, \dots, \boxed{n} \rangle \end{array} \right] \\ \text{DTRS} \quad \langle \boxed{1}, [SS \quad \boxed{2}], \dots, [SS \quad \boxed{n}] \rangle \end{array} \right]$$

Abeillé and Borsley (2021, 22)

Empty COMPS Constraint:

$$(4) \quad phrase \Rightarrow \left[SS | LOC | CAT | COMPS \quad \langle \rangle \right]$$

Ginzburg and Sag (2000, 33)

“this flat structure appears well motivated for English, but our general theory would allow us to write a Head-Complement Rule for some other language that allows some of the complements to be introduced higher in the tree structure.”

Sag et al. (2003, 96)

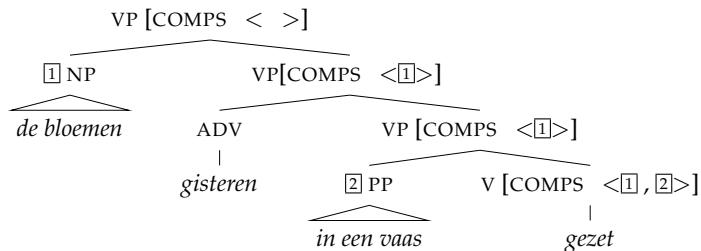
DUTCH VPs

- (5) Hij heeft [gisteren [de bloemen in een vaas gezet]_{vp}]_{vp}
he has yesterday the flowers in a vase put
'He put the flowers in a vase yesterday.'

Interspersal of adjuncts and complements is allowed.

- (6) Hij heeft [de bloemen gisteren in een vaas gezet]_{vp}
he has the flowers yesterday in a vase put
'He put the flowers in a vase yesterday.'

BINARY BRANCHING STRUCTURE



HEAD-COMPLEMENT

$$(7) \quad hd-comp-ph \Rightarrow \left[\begin{array}{l} SS \mid LOC \mid CAT \mid COMPS \quad \boxed{1} \oplus \boxed{2} \\ HEAD-DTR \left[SS \mid LOC \mid CAT \mid COMPS \quad \boxed{1} \oplus \langle \boxed{3} \rangle \oplus \boxed{2} \right] \\ NON-HEAD-DTRS \quad \langle [SS \quad \boxed{3}] \rangle \end{array} \right]$$

Müller (2021, 379)

Empty COMPS Constraint does not hold.

THE COMMONLY HELD VIEW

- ▶ The choice between both versions is an issue of parametric variation.
- ▶ Head-initial languages use the flat structure variant.
- ▶ Head-final languages use the binary branching variant.

MY CLAIM

- ▶ There are languages which use both variants.
- ▶ One of them is Dutch.
- ▶ This has implications for the hierarchy of phrase types.

DUTCH PPs

- (8) Hij heeft de bloemen [in een vaas]_{pp} gezet.
he has the flowers in a vase put
'He has put the flowers in a vase.'
- (9) Ze is aan hoge snelheid [die tunnel in]_{pp} gereden.
she is on high speed that tunnel in driven
'She drove at high speed into that tunnel.'

DUTCH PPs

(10) We hebben nog vaak [aan hem]_{pp} gedacht.
we have still often on him thought
'We still thought a lot about him.'

(11) We hebben nog vaak [daar aan]_{pp} gedacht.
we have still often that.R on thought
'We still thought a lot about that.'

er 'it.R', *hier* 'this.R', *daar* 'that.R', *waar* 'what.R', *ergens*
'something.R', *nergens* 'nothing.R', *overal* 'everything.R'

THREE TYPES OF DUTCH ADPOSITIONS

- ▶ Adpositions that occur in both positions: *in, aan, ...*
- ▶ Adpositions that invariably precede their complement: *te, als, per, sinds, tijdens, ...*
- ▶ Adpositions that invariably follow their complement: *af, heen, vandaan, ...*

Two minimal pairs: *met* vs. *mee* 'with', *tot* vs. *toe* 'to'.

INTERSPERSAL WITH PRE-HEAD ADJUNCTS

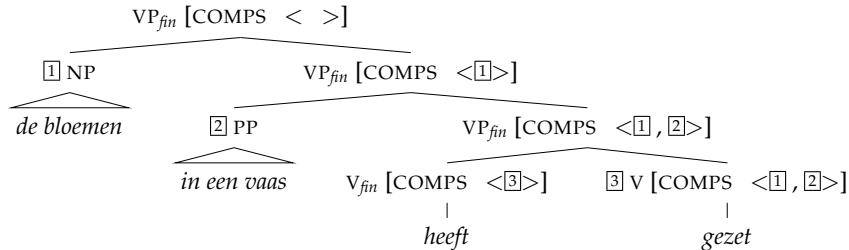
- (12) Ze wonen [vlak [naast de autostrade]]
they live right next.to the motorway
'They live right next to the motorway.'
- (13) Ze hebben [vlak [daar naast]] een bom gelegd.
they have right that.R next a bomb put
'They put a bomb right next to that.'
- (14) *Ze wonen [de autostrade [vlak [naast ...]]]
they live that motorway right next
- (15) Ze hebben [daar [vlak [... naast]]] een bom gelegd.
they have that.R right next a bomb put

COMPLEMENT RAISING

Realization of the complement of a word A in the phrasal projection of a word B that selects A as its complement.

- (16) ... dat hij de bloemen in een vaas heeft gezet.
... that he the flowers in a vase has put
'... that he put the flowers in a vase.'

COMPLEMENT RAISING OUT OF VP



$$(17) \quad \textit{headed-ph} \Rightarrow \left[\begin{array}{l} \text{SYNSEM} \mid \text{LOC} \mid \text{CAT} \mid \text{COMPS} \quad \boxed{A} \oplus \boxed{B} \\ \text{HD-DTR} \mid \text{SYNSEM} \mid \text{LOC} \mid \text{CAT} \mid \text{COMPS} \quad \boxed{B} \\ \text{NONHD-DTR} \mid \text{SYNSEM} \mid \text{LOC} \mid \text{CAT} \mid \text{COMPS} \quad \boxed{A} \end{array} \right]$$

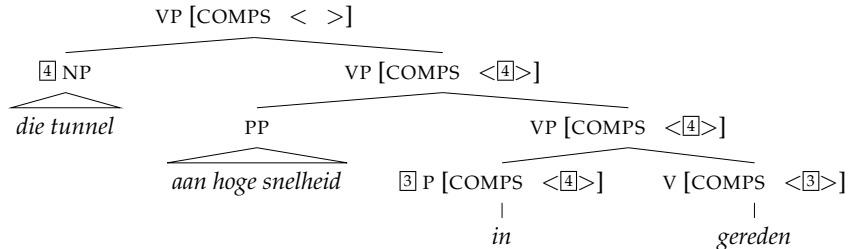
Van Eynde and Augustinus (2014, 160)

Van Eynde (2019, 1044)

COMPLEMENT RAISING OUT OF DUTCH PPs

- (18) Ze is [die tunnel] aan hoge snelheid [-- in] gereden.
she is that tunnel at high speed in driven
- (19) We hebben daar nog vaak [-- aan] gedacht.
we have that.R still often on thought
- (20) *Hij heeft [een vaas] de bloemen [in --] gezet.
he has a vase the flowers in put
- (21) *We hebben hem nog vaak [aan --] gedacht.
we have him still often on thought

COMPLEMENT RAISING OUT OF PP



ADPOSITIONS WITH A PP COMPLEMENT

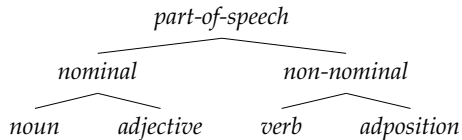
- (22) Die huizen zijn nog [van [voor de oorlog]]
those houses are still of before the war
'Those house are from before the war.'
- (23) Ze zijn toen [[van dat dak] af] gesprongen
they are then from that roof off jumped
'They have jumped from the roof then.'
- (24) *Die huizen zijn [voor de oorlog] nog [van ...]
those houses are before the war still from
- (25) Ze zijn [van dat dak] toen [... af] gesprongen
they are from that roof then off jumped

- (26) Ze zijn daar toen [[__ van] af] gesprongen
they are that.R then from off jumped
'They have jumped from that then.'
- (27) * Die huizen zijn daar nog [van [__ voor]]
those houses are that.R still from before

INTERSPERSAL WITH PP ADJUNCTS

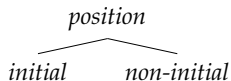
- (28) Die huizen zijn [van vlak [daar voor]]
those houses are from right that.R before
- (29) Die huizen zijn [van [daar [vlak __ voor]]]
those houses are from that.R right before
- (30) * Die huizen zijn [daar [van [vlak __ voor]]]
those houses are that.R from right before

THE POSITION FEATURE

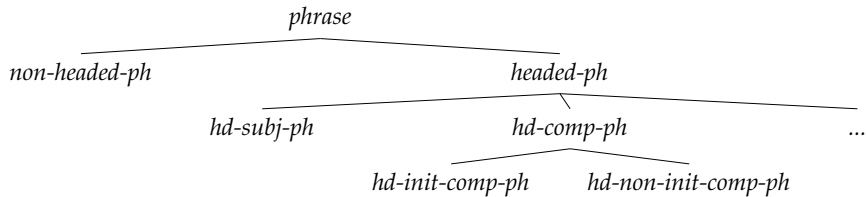


Van Eynde (2019, 1056)

non-nominal : [POSITION *position*]



HIERARCHY OF PHRASE TYPES



(31) *head-init-comp-ph* \Rightarrow

$$\left[\begin{array}{l} \text{SS} \mid \text{LOC} \mid \text{CAT} \left[\begin{array}{l} \text{HEAD} \mid \text{POSITION} \text{ } \textit{initial} \\ \text{COMPS} \langle \rangle \end{array} \right] \\ \text{HEAD-DTR} \text{ } \boxed{1} \left[\begin{array}{l} \textit{word} \\ \text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{COMPS} \langle \boxed{2}, \dots, \boxed{n} \rangle \end{array} \right] \\ \text{DAUGHTERS} \langle \boxed{1}, [\text{SS} \text{ } \boxed{2}], \dots, [\text{SS} \text{ } \boxed{n}] \rangle \end{array} \right]$$

(32) *head-non-init-comp-ph* \Rightarrow

$$\left[\begin{array}{l} \text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{COMPS} \quad \boxed{A} \\ \text{HEAD-DTR} \quad \boxed{1} \left[\text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{COMPS} \quad \boxed{A} \oplus \langle \boxed{2} \rangle \right] \\ \text{DAUGHTERS} \quad \langle [\text{SS} \quad \boxed{2}], \boxed{1} \rangle \end{array} \right]$$

$$(33) \quad \textit{head-comp-ph} \Rightarrow \left[\begin{array}{l} \text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{SUBJ} \quad \boxed{A} \\ \text{HEAD-DTR} \mid \text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{SUBJ} \quad \boxed{A} \end{array} \right]$$

HEAD-INITIAL VPS

Imperatives

(34) Maak die tas eens open!
make that bag once open
'Open that bag'

(35) * Die tas maak -- eens open
that bag make once open

No complement raising

NON-INVERTED FINITE VERBS IN V2 POSITION

- (36) Je leest zulke boeken beter niet.
you read such books better not
'you'd better not read such books.'
- (37) *Zulke boeken je leest __ beter niet
such books you read better not
- (38) Zulke boeken, je leest ze beter niet.
such books you read them better not
'Such books, you'd better not read them.'

Dislocation + resumptive pronoun is allowed, complement raising is not.

INVERTED FINITE VERBS

- (39) Lees jij zulke boeken?
read you such books
'Do you read such books?'
- (40) Zulke boeken lees ik -- liever niet.
such books read I rather not
'Such books I'd rather not read.'

Topicalization is allowed, but complement raising is not.

CONCLUSION

- ▶ Current HPSG models the Head-Complement combination in two different ways: flat structure vs. binary branching structure.
- ▶ The difference is commonly treated as an instance of parametric variation.
- ▶ There are languages which employ both variants. One of them is Dutch.

CONCLUSION

- ▶ Interspersion with pre-head adjuncts and complement raising is possible for head-final Dutch PPs, but not for head-initial Dutch PPs.
- ▶ To model this we use the flat structure version for head-initial PPs and the binary branching version for head-final PPs.
- ▶ The distinction is also relevant for Dutch VPs.

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