

Why Germanic VP-topicalization does not induce verb doubling*

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Claim: I argue that the absence of verb doubling with verb phrase topicalization in Germanic languages despite them having V-to-T(-to-C) movement is a consequence of the language-specific ordering of the two operations copy deletion (CD, Nunes, 2004; Trinh, 2011) and head movement (HM, Chomsky, 1995; Platzack, 2013) both of which take place post-syntactically. While verb doubling languages like Hebrew, Spanish, or Polish order head movement before copy deletion which allows the verb to escape the lower VP copy, CD applies before HM in Germanic languages deleting the lower VP copy thereby bleeding verb movement.

1 Introduction

- In a number of languages it is possible to displace the verb phrase into the left periphery of the clause. Usually, this displacement is associated with a topic or focus interpretation and some kind of contrast. Examples from Polish (1-a), Hebrew (1-b), German (1-c), and Norwegian (1-d) are given below.

- (1) a. [VP wypić herbatę] (to) Marek chce, ale nie chce jej robić
drink.INF tea TO Marek wants but not wants it make
'As for drinking tea, Marek wants to drink it, but he doesn't want to make it.'
(*Polish*, Joanna Zaleska p.c.)
- b. [VP liknot et ha-sefer] Dan kiva
buy.INF ACC DEF-book Dan hoped
'As for buying the book, Dan hoped to do it.'
(*Hebrew*, Trinh, 2011: 32)
- c. [VP lange Dissertationen lesen] will doch heute niemand mehr
long dissertations read.INF wants PRT today no.one more
'As for reading long dissertations, no-one wants to do it anymore.'
(*German*)
- d. [VP (å) lese bok-en] vil hun i dag
to read.INF book-DEF wants she in day
'As for reading the book, she wants to do it today.'
(*Norwegian*, Siri M. Gjersøe p.c.)

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- In the absence of an inflectable verb inside the clause one often finds that a copy of the displaced verb appears. This is the case in Polish (2-a) and Hebrew (2-b), as well as in a vast amount of other languages including Brazilian Portuguese (Bastos-Gee, 2009), Buli (Hiraiwa, 2005), Dagaare (Hiraiwa and Bodomo, 2008), Krachi (Kandybowicz and Torrence, 2016), Mani (Childs, 2011), Russian (Abels, 2001; Aboh and Dyakonova, 2009), Spanish (Vicente, 2007, 2009), Vietnamese (Tran, 2011; Trinh, 2011), Yiddish (Cable, 2004), Yoruba (Manfredi, 1993).

- (2) a. [VP **wypić** herbatę] (to) Marek **wypije**, ale nie wypije kawy.
 drink.INF tea TO Marek will-drink but not will-drink coffee
 ‘As for drinking tea, Marek will drink it, but he will not drink coffee.’
 (Bondaruk, 2012: 55)
- b. [VP **liknot** et ha-praxim], hi **kanta**.
 buy.INF ACC the-flowers she bought
 ‘As for buying the flowers, she bought (them).’ (Hebrew, Landau, 2006: 37)

- Germanic languages, however, do not follow this pattern. Instead of a verb copy there is a dummy verb usually comparable to *do* in English occupying the canonical verb position. This is shown for German, Dutch, Norwegian, Danish, and Swedish in (3).

- (3) a. [VP lange Dissertationen **lesen**] **tut** doch heute niemand mehr
 long dissertations read.INF does PRT today no.one more
 ‘As for reading long dissertations, no-one wants to do it anymore.’ (German)
- b. [VP haar **verraden**] **doet** hij niet
 her betray does he not
 ‘He doesn’t betray her.’ (Dutch, Broekhuis and Corver, 2015: 1043)
- c. [VP (å) **lese** bok-en] **gjør** hun i dag
 to read.INF book-DEF does she in day
 ‘As for reading the book, she does it today.’ (Norwegian, Siri M. Gjersøe p.c.)
- d. ...og [VP **kørde/køre** bilen] **gjorde** han
 and drove/drive car.DEF did he
 ‘...and drive the car, he did.’ (Danish, Platzack, 2008: 280)
- e. [VP **läser** boken] **gör** han nu
 reads book.DEF does he now
 ‘Reading the book he is now.’ (Swedish, Källgren and Prince, 1989: 47)

- Only few other languages show a similar pattern, namely Hausa, Skou, Wolof, and possibly Welsh, Basque and Breton.

Roadmap

1. Introduction
2. Background on the analysis of verb doubling in (2)
3. The Germanic Puzzle
4. (Im)possible solutions

5. An ordering solution

6. Fin

2 Background on verb doubling

- Since Koopman's (1984) widely received seminal work on verb doubling verb fronting in Vata there have been a large number of different analyses of the phenomenon.
- The most recent ones are all couched in the Copy Theory of Movement and treat the clause internal verb as an exceptionally pronounced copy of an \bar{A} -movement chain as in (4) (Abels, 2001; Nunes, 2004; Landau, 2006; Aboh and Dyakonova, 2009; Trinh, 2011; LaCara, 2016).

$$(4) \quad [_{CP} [_{VP} V DP] [_{C'} C [_{TP} \dots [_{VP} V DP]]]]$$

\bar{A} -chain

- The exceptional spell-out of the lower verb copy is in most approaches caused by its undergoing some movement and thereby evading the copy deletion mechanism.
- **Nunes (2004):** The verb copy morphologically reanalyzes (Fusion, Lowering?) with the head it has moved to. Chain reduction does not apply word-internally and the copy therefore survives.

$$(5) \quad [_{CP} [_{VP} V DP] [_{C'} C [_{TP} DP [_{T'} [_{T} V T] \{_{VP} V DP\}]]]]$$

\bar{A} -mvmt Lowering

- **Landau (2006):** The low verb copy moves to a position that is specified with some phonological requirement (e.g. T which has the requirement to provide a lexical host for inflectional affixes) and then – by a principle of *P(honological)-Recoverability* – cannot be deleted anymore.

$$(6) \quad [_{CP} [_{VP} V DP] [_{C'} C [_{TP} DP [_{T'} [_{T} V T] \{_{VP} V DP\}]]]]$$

\bar{A} -mvmt P-requirement

- **Aboh and Dyakonova (2009):** There is parallel movement of VP to SpecCP and of V to T such that two parallel chains are created. As the heads of two separate movement chains, the VP copy in SpecCP and the V copy in T both do not undergo deletion.

$$(7) \quad [_{CP} [_{VP} V DP] [_{C'} C [_{TP} DP [_{T'} [_{T} V T] \{_{VP} V DP\}]]]]$$

\bar{A} -mvmt head-mvmt

- **Trinh (2011):** Lower copies can only be deleted if they end an XP. This account only explains verb doubling when a single verb is fronted. In case of VP fronting, the lower copy always ends an XP (namely ν P or TP) and should therefore always be deletable without any problems, contrary to fact (see e.g. Polish and Hebrew above).

$$(8) \quad [_{CP} [_{VP} V DP] [_{C'} C [_{TP} DP [_{T'} T \{_{VP} V DP \}]]]]$$

- **LaCara (2016):** Head movement is conflation. Relevant features F of lower heads are passed on to higher heads. After deletion of the lower V copy its features are still present on T (in a V-to-T language) and may be spelled out there.

$$(9) \quad [_{CP} [_{VP} V_{[F_V]} DP] [_{C'} C_{[F_C]} [_{TP} DP [_{T'} T_{[F_T, F_V]} \{_{VP} V_{[F_V]} DP \}]]]]$$

- All the accounts that are applicable to verb doubling under VP-fronting treat it as a consequence of V-to-T movement in one or the other way.

3 The puzzle

- The crucial ingredients in order for verb doubling to arise in VP-fronting constructions are then a (\bar{A} -)movement dependency between the fronted VP and the low verb copy (in order to generate the low copy in the first place) and V-to-higher-functional-head movement (in order to save the low V copy from undergoing regular low copy deletion).
- Both properties are supposedly given in the abovelisted Germanic languages. All things being equal one would therefore expect them to display verb doubling just like non-Germanic languages do.
- As this is obviously not the fact, we arrive at the central question of this talk:

Question: Why does VP-topicalization in Germanic languages not induce verb doubling (in those cases where an auxiliary or modal verb is absent from the sentence)?

4 Impossible solutions

- In this part, I will present four conceivable answers to this question and show that they cannot be correct.

4.1 VP-fronting is not \bar{A} -movement

- First, one could claim that VP-topicalization in Germanic is not a construction brought about by syntactic movement of the VP but rather by base-generation of the VP in its surface position. In the absence of movement there would be no additional V copies that could be exceptionally pronounced and hence an anaphoric verb like *göra*, *gjøre*, *doen* or *tun* 'do' is generated inside the clause.
- Islands as movement diagnostics fail here because almost all of them test for extraction from a finite clause where the VP could nonetheless have been generated in the left periphery of this embedded clause. Reliable are reconstruction effects and extractions from coordinate structures.
- With the former, we find that at least German (10) and Norwegian (11) show weak and strong cross-over effects (a. and b. examples) and reconstruct for Principle A and C (c. and d. examples).

- (10) a. ?[*den Jungen_i verabscheuen*] tut *seine_i Schwester* eigentlich nicht
 the boy loathe.INF does his sister actually not
 ‘Loathe the boy, his sister actually doesn’t.’
 b. * [*den Jungen_i verabscheuen*] tut *er_i* eigentlich nicht
 the boy loathe.INF does he actually not
 ‘Loathe the boy, he actually doesn’t.’
 c. [*sich selbst_i loben*] tut *Anja_i* normalerweise nicht
 REFL self praise does Anja normally not
 ‘Praise herself, Anja usually doesn’t.’
 d. * [*Fotos von Anja_i mögen*] tut *sie_i* oft nicht
 photos of Anja like does she often not
 ‘Like photos of Anja, she often doesn’t.’ (German)

- (11) a. ??[(å) hate *gutten_i*] gjør *hans_i søster* egentlig ikke.
 to hate.INF boy.DEF does his sister actually not
 ‘Hate the boy, his sister actually doesn’t.’
 b. * [(å) hate *gutten_i*] gjør *han_i* egentlig ikke.
 to hate.INF boy.DEF does he actually not
 ‘Hate the boy, he actually doesn’t.’
 c. [(å) skade *seg selv_i*] gjør *Ragnhild_i* så vidt jeg vet veldig sjelden.
 to injure.INF REFL self does Ragnhild so far I know really seldom
 ‘Hurt herself, Ragnhild only rarely does as far as I know.’
 d. * [(å) beundre bilder av *Nils_i*] gjør *han_i* egentlig aldri.
 to admire pictures of Nils does he actually never
 ‘Admire pictures of Nils, he actually never does.’ (Norwegian, Siri M. Gjersøe p.c.)

- Although I do not (yet) have respective data for Swedish, Danish, and Dutch, I take it to be safe to assume that they behave alike.
- With regard to the former diagnostics, namely coordinate structures, we find that extraction of VP is impossible in both Norwegian (12) and German (13).

- (12) * [(å) **vaske** bil-en] [**gjør** han og rydder opp hus-et] i dag
 to wash.INF car-DEF does he and tidies up house-DEF in day
 ‘Wash the car he does and tidy up the house today.’ (Norwegian, Siri M. Gjersøe p.c.)

- (13) * [Rindfleisch **essen**] [_{C'} trinkt Linda gern Sekt] und [_{C'} **tut** Michael am
 beef eat.INF drinks Linda gladly champagne and does Michael at.the
 liebsten Rindfleisch]¹
 dearest
 ‘As for eating beef, Linda likes to drink champagne and Michael preferably does it.’ (German)

¹Note that in contrast to the Norwegian examples the subject in the second conjunct must be overtly distinct from the one in the first conjunct. Otherwise, the sentence could receive a structural analysis as an SLF construction (*Subjectlücke in finiten Sätzen*, Höhle, 1983, 1990, 1991). This construction has, together with a few others from various languages, been subsumed under the term *asymmetric coordination* because superficially they all look like proper coordination but crucially do not show the same syntactic

Provided that other Germanic languages behave alike, we can conclude that VP-topicalization in Germanic is \bar{A} -movement of the VP from its base position into the left periphery, i.e. SpecCP.

4.2 There is no V-out-of-VP movement

- Second, one could claim that Germanic does in fact not show V-to-T or V-to-C movement, i.e. the verb does not leave the deletion site. Therefore, when deletion applies, the verb is deleted with the low VP copy and no verb doubling is observed.
- Clearly, this solution cannot be correct. As is well established, the five Germanic languages show some kind of VP-evacuating verbal head movement, be that V-to-T or V-to-C movement.
- As the examples in (14) show, in matrix clauses the verb obligatorily appears to the left of negation and VP adverbs while it appears to their right in embedded clauses (15).

- (14) a. Peter **drikker** *ofte* kaffe om morgenen
Peter drinks often coffee in morning.DEF
'Peter often drinks coffee in the morning.' (Danish, Vikner, 1995: 47)
- b. Hanne **liker** *ikke* kaffe
Hanne likes not coffee
'Hanne doesn't like coffee.' (Norwegian, Siri M. Gejrsøe p.c.)
- c. Jag **kysste** henne *inte*
I kissed her not
'I didn't kiss her.' (Swedish, Holmberg, 1999: 1)
- d. Sie **mag** diesen Kuchen *nicht*
she likes this cake not
'She doesn't like this cake.' (German)
- (15) a. Vi ved [at Peter *ofte* **drikker** kaffe om morgenen]
we know that Peter often drinks coffee in morning
'We know that Peter often drinks coffee in the morning.' (Danish, Vikner, 1995: 47)
- b. Jeg tror [at Hanne *ikke* **liker** kaffe]
I believe that Hanne not likes coffee
'I believe that Hanne doesn't like coffee.' (Norwegian, Siri M. Gjersøe p.c.)
- c. ...[att jeg *inte* **kysste** henne]
that I not kissed her
'...that I didn't kiss her.' (Swedish, Holmberg, 1999: 1)

behaviour. Most importantly, they seem to be able to violate the Coordinate Structure Constraint. This also holds for the SLF construction, where for instance an NP can be topicalized from one of the two conjuncts without rendering the sentence ungrammatical (i-a). Equally, verbal fronting out of one conjunct in such an SLF construction results in a grammatical sentence (i-b, c).

- (i) [Sekt **trinken**] **tut** Linda gern und isst dazu am liebsten Rindfleisch
champagne drink.INF does Linda gladly and eats there.to at.the dearest beef
'Drinking champagne Linda likes to do and preferably eats beef with it.'

Asymmetric coordinations have been analyzed as underlying subordinations that become superficial coordinations in the course of the derivation (see Weisser, 2015). For an analysis of SLF constructions along these lines see Barnickel (2017).

d. Ich glaube, [dass sie diesen Kuchen *nicht mag*]

I believe that she this cake not likes

'I believe that she doesn't like this cake.'

(German)

- The standard analysis of these word order variations between matrix and embedded clauses (see Vikner, 1995) is that while the latter show the verb in its base position, the former involve head movement of the verb to T and/or C.
- Although there is a debate about whether the verb moves as high as C in Scandinavian matrix clauses or not (see e.g. Mikkelsen, 2010), whether V-to-T movement in Scandinavian is dependent on V2 or not (see e.g. Wiklund et al., 2007), and whether T exists at all in German (see e.g. Haider, 2010), it is clear that the verb in some way or another leaves its base position in matrix clauses.

In matrix clauses V head-moves out of VP in all five Germanic languages. The lack of verb doubling in VP-topicalization can therefore not be attributed to a lack of VP-evacuating verb movement.

4.3 The dummy verb is independently present

- A third explanation for the lack of verb doubling in VP-topicalization despite it being \bar{A} -movement and despite the presence of V head-movement is that it is derived from an independent construction that contains the dummy verb in an auxiliary position. Thus, when the VP undergoes topicalization the dummy verb is stranded like any other tense auxiliary or modal verb and no need for verb doubling arises.
- Indeed, such an independent construction, the *tun*-periphrase, is attested in German (and apparently also in Dutch, for which I was unable to obtain the relevant data). In colloquial German, it is possible to have the main lexical verb stay in situ while the dummy verb *tun* acts as the finite verb (16).

(16) a. Ich glaube, dass der Klaus gerade den Müll hinunter **tragen tut**
 I believe that the Klaus now the garbage down carry does
 'I believe that Klaus is right now carrying down the garbage.'

b. Der Klaus **tut** gerade den Müll hinunter **tragen**
 the Klaus does now the garbage down carry
 'Klaus is right now carrying down the garbage.'

(German, Bayer, 2008: 4)

- One could easily imagine a derivation that \bar{A} -moves the VP *den Müll hinunter tragen* into SpecCP (instead of the subject *Klaus*) and thus results in the VP-topicalization surface structure in (17).

(17) [den Müll hinunter **tragen**] **tut** Klaus gerade
 the garbage down carry does Klaus now
 'As for carrying down the garbage, Klaus is doing it right now.'

- However, there are two problems with this approach. First, not all Germanic languages comprise of such a *tun*-periphrase. In Norwegian, for example, a sentence corresponding to (16-b) is ungrammatical (18).

- (18) *Jeg **gjør** aldri **spille** golf
 I do never play golf
 Intended: ‘I never play golf.’ (Norwegian, Lødrup, 1990: 9)

- Second, the *tun*-periphrase in German is restricted to stage-level predicates. Individual-level predicates like *besitzen* ‘own’ or *ähneln* ‘resemble’ are exempt from occurring in the complement of *tun* (19).

- (19) a. *Der Klaus **tut** einen guten Charakter **besitzen**
 the Klaus does a good character own
 ‘Klaus has good character.’
 b. *Der Klaus **tut** seinem Vater **ähneln**
 the Klaus does his father resemble
 ‘Klaus resembles his father.’ (German, Bayer, 2008: 4)

Nevertheless, when individual-level predicates undergo VP-topicalization a form of *tun* occurs clause-internally and the sentence is grammatical (20).

- (20) a. [einen guten Charakter **besitzen**] **tut** Klaus nicht erst seit er im
 a good character own does Klaus not first since he in.the
 Internat war
 boarding.school was
 ‘As for having good character, Klaus does not only have it since he went to boarding school.’
 b. [seinem Vater **ähneln**] **tut** Klaus aber wirklich kein bisschen
 his father resemble does Klaus but really not.a little
 ‘As for resembling his father, Klaus does not even resemble him the tiniest bit.’

An independent construction containing the dummy verb is either not attested or – if it is – it is not productive enough to serve as a derivational basis for VP-topicalization. The lack of verb doubling is thus not due to there being a stranded dummy verb in VP-topicalizations.

4.4 The dummy verb is a proform in a left-dislocation structure

- A last solution to the question why Germanic does not show verb doubling in VP-topicalization might be that the topicalization is actually a left dislocation structure with the dummy verb being a verbal anaphoric or resumptive element.
- This approach fails for two reasons. First, as the five discussed Germanic languages are V2 languages, the position before the verb in a matrix clause has to be occupied by exactly one constituent. If the topicalized VP is actually left-dislocated, it should not be part of the following sentence (Zaenen, 1997; Ott, 2014) and thus not serve as the single preverbal constituent. In turn, VP-fronting constructions as (21-a) and (22-a) should be ungrammatical just like any other declarative matrix clause without a preverbal constituent (21-b) and (22-b), contrary to fact.

- (21) a. [(å) lese boken] [CP gjør han i dag]
to read.INF book.DEF does he in day
'As for reading the book, he does it today.'
- b. *leser han boken i dag
reads he book.DEF in day
Intended: 'He reads the book today.' (Norwegian, Siri M. Gjersøe p.c.)
- (22) a. [das Auto waschen] [CP tut er nur samstags]
the car wash.INF does he only on.saturday
'As for washing the car, he only does it on Saturdays.'
- b. *wäscht er das Auto nur samstags
washes he the car only on.saturday
Intended: 'He only washes the car on Saturdays.' (German)

Equally, one would assume that it would be possible to have some constituent occupy the position between the left-dislocated VP and the finite verb, contrary to fact (23).

- (23) a. *[(å) lese boken] [CP i dag gjør han]
to read.INF book.DEF in day does he
(Norwegian, Siri M. Gjersøe p.c.)
- b. *[das Auto waschen] [CP samstags tut er]
the car wash.INF on.saturday does he
(German)

- Second, the VP-proform in Germanic languages is usually not just the verb *göra*, *gjøre*, *tun*, or *doen*, but a combination of this verb with a neuter singular pronoun *det* or *das* (24) (see Bentzen et al., 2013, and references therein).

- (24) a. Liker du jordbær? Ja, jeg gjør det
likes you strawberries yes I do it
'Do you like strawberries? Yes, I do.' (Norwegian Lødrup, 1990: 4)
- b. Alle halten sich an den Putzplan, nur Hans tut es nicht
all hold themselves at the cleaning.plan only Hans does it not
'Everybody sticks to the cleaning schedule, only Hans doesn't do so.' (German)

In fact, in a proper VP left-dislocation structure, the pronoun shows up in between the dislocated VP and the dummy verb (25).

- (25) a. [läser boken], det gör han
reads book.DEF it does he
'Read the book, that he does.' (Swedish, Källgren and Prince, 1989: 48)
- b. [sein Auto waschen], das tut er nur samstags
his car wash.INF that does he only on.saturday
'Wash his car, that he only does on Saturdays.' (German)

VP-topicalization is not left-dislocation plus a verbal anaphor that takes the form of the dummy verb. The dummy verb in VP-topicalization is a proper repair.

5 An ordering analysis

- The occurrence of the dummy verb in VP-topicalization seems to parallel the occurrence of a verb copy in languages like Hebrew, Spanish, or Polish. Both are repairs to avoid a gap in a finite clause that is created by the displacement of the lexical verb.
- Here, I want to suggest that Germanic languages do not show verb doubling despite having V-to-T or V-to-C movement because this movement applies too late, namely at a point in the derivation where the low VP copy containing the V has already been deleted (a similar proposal is hinted at in Houser et al., 2006).
- In languages that exhibit verb doubling, in contrast, the verbal head-movement applies before copy deletion takes place.

Preliminaries

- I assume the Copy Theory of movement (Chomsky, 1993, 1995) under which verb doubling can be easily accounted for as being a consequence of spell-out of two copies of the verb (Abels, 2001; Nunes, 2004).
- Usually, only one link/copy in a movement chain is pronounced, namely the head of that chain, while the others are left unpronounced (Brody, 1995; Bobaljik, 1995; Groat and O’Neill, 1996; Pesetsky, 1997, 1998; Nunes, 2004). I thus assume an operation copy deletion (CD) that deletes superfluous copies post-syntactically. However, this operation is not triggered by a linearization conflict, but rather applies generally, identifying copies of an element and deleting them according to the definition in (26). For concreteness, I will postulate that copying of an element entails coindexing of the two resulting elements in order to mark them as copies of each other (these indices will be symbolized by superscripted lowercase letters).

(26) Copy Deletion (CD)

In a structure that contains multiple copies $X_1^i, X_2^i, \dots, X_n^i$ of a constituent X (i.e. several elements $1-n$ that share the same movement-assigned index i) delete every X_n^i that is c-commanded by some other X_m^i .

- Head movement (HM) is a post-syntactic operation (see e.g. Boeckx and Stjepanović, 2001; Hale and Keyser, 2002; Merchant, 2002; Schoorlemmer and Temmerman, 2012; Platzack, 2013; Zwart, 2016). I further assume that post-syntactic movement does not leave any copies (or traces) (Boeckx and Stjepanović, 2001; Sauerland and Elbourne, 2002).

Order in the post-syntax

- Following a recent line of research on the order of application of operations in both syntax and post-syntax (Müller, 2009; Arregi and Nevins, 2012; Schoorlemmer, 2012; Georgi, 2014; Murphy

and Puškar, 2015; Puškar, 2015; Assmann et al., 2015), I propose that there is a strict language-specific order of operations between copy deletion and head movement in the post-syntax.

- When HM applies before CD, V can head-move out of the low VP copy to T/C and evade deletion giving rise to verb doubling (counter-bleeding).
- When CD applies before HM, V is deleted as part of the low VP copy and subsequent head movement applies vacuously (bleeding). In order to express finiteness of the clause, a dummy verb is inserted into T/C to host inflectinoal affixes.

(27) *PF operations applying to a VP fronting structure in different orders*

- a. HM > CD: $[\text{CP} [\text{VP} \text{V DP}]] [\text{C}' \text{C} \dots \text{V} + \nu + \text{T} \dots \overbrace{\text{V} + \text{v}}^{\text{CD}} \dots \overbrace{[\text{VP} \text{V DP}]}^{\text{CD}}]] \Rightarrow \text{verb copy}$
- $\begin{array}{c} \text{HM} \qquad \qquad \qquad \text{HM} \\ \uparrow \qquad \qquad \qquad \uparrow \end{array}$
- b. CD > HM: $[\text{CP} [\text{VP} \text{V DP}]] [\text{C}' \text{C} \dots \text{T} \dots \nu \dots \overbrace{[\text{VP} \text{V DP}]}^{\text{CD}}]] \Rightarrow \text{dummy verb}$
- $\begin{array}{c} \text{HM} \qquad \qquad \qquad \text{HM} \\ \times \qquad \qquad \qquad \times \end{array}$

Sample derivations

Verb doubling in Polish VP-topicalization

- (28) [**wypić** herbatę] (to) Marek **wypije**, ale nie wypije kawy
 drink.INF tea TO Marek will-drink but not will-drink coffee
 ‘As for drinking tea, Marek will drink it, but he will not drink coffee.’

(*Polish*, Bondaruk, 2012: 55)

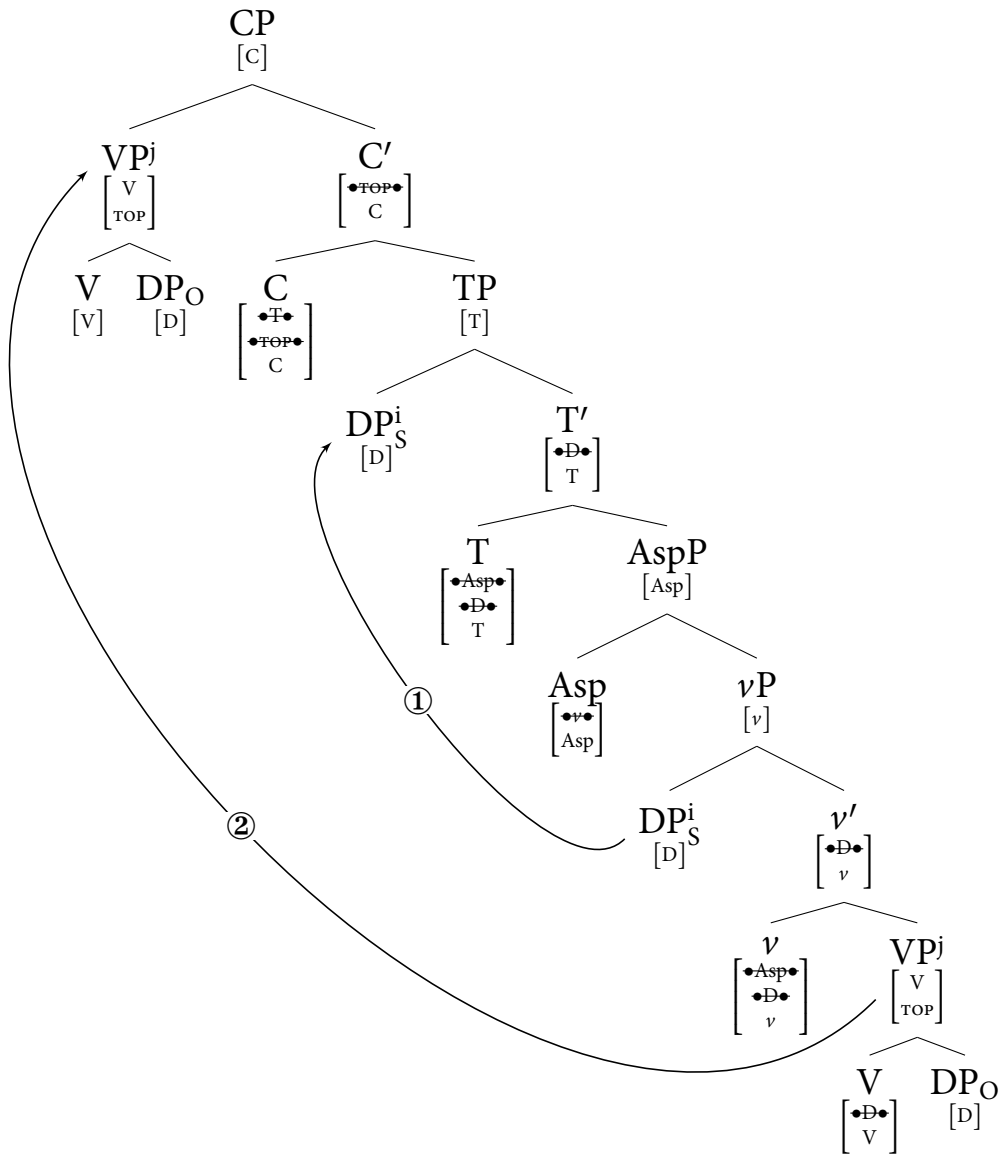
- First, the VP is built, which is selected by ν , which then introduces the subject DP. According to Witkoś (1998), the ν P is then merged with an Asp head. Upon merger of the T head with AspP, the subject moves to SpecTP. When C enters the derivation, it attracts the TOPIC-marked VP into its specifier, resulting in a structure like (29).²

²Like in Hebrew, the fronted constituent in verb phrase fronting is actually ν P rather than VP (see Bondaruk, 2009: 69, for arguments in favour of this). A more proper structure of verb phrase fronting would therefore be (i).

(i) $[\text{CP} [\text{VP} \text{DP}_S^i [\nu' \nu [\text{VP} \text{V DP}_O]]]] [\text{C}' \text{C} [\text{TP} \text{DP}_S^i [\text{T}' \text{T} [\text{AspP} \text{Asp} [\text{VP} \text{DP}_S^i [\nu' \nu [\text{VP} \text{V DP}_O]]]]]]]]$

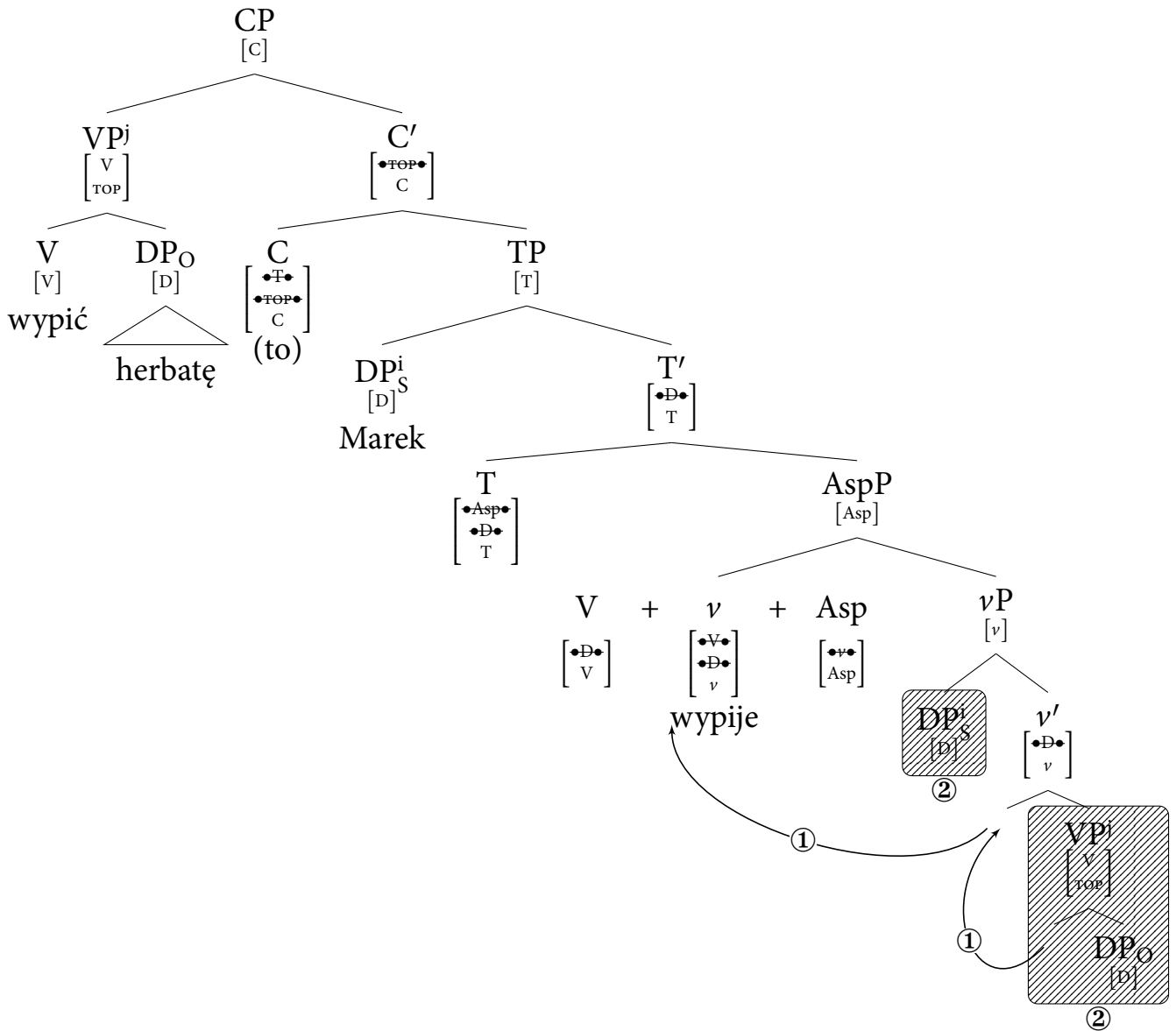
This does not affect the argumentation here, because crucially, the verb head moves as high as Asp in the post-syntax. Since Asp is located higher than both VP and ν P the verb leaves the lower copy of the fronted constituent before it is deleted independent of whether it is VP or ν P. The additional copy of the subject inside the fronted ν P will undergo deletion in the same way that the object copy does in a remnant VP movement structure. For reasons of consistency and ease of exposition, I simplify Polish verb phrase fronting to be movement of VP rather than ν P.

(29) Polish VP-topicalization: Syntax



- When this structure is delivered to the post-syntactic component, first, head movement applies (step ①). As Witkoś (1998) argues, the verb in Polish standardly raises up to Asp but not to T. Thus, the resulting V+v+Asp complex resides in Asp. Subsequent copy deletion (step ②) then erases the lower subject copy and the lower VP copy as usual (indicated by shading). The main verb, thus, evades deletion by virtue of having moved to outside of the lower VP copy giving rise to verb doubling on the surface (30).

(30) Polish VP-topicalization: Post-syntax (HM > CD)



Dummy verb insertion in German VP-topicalization

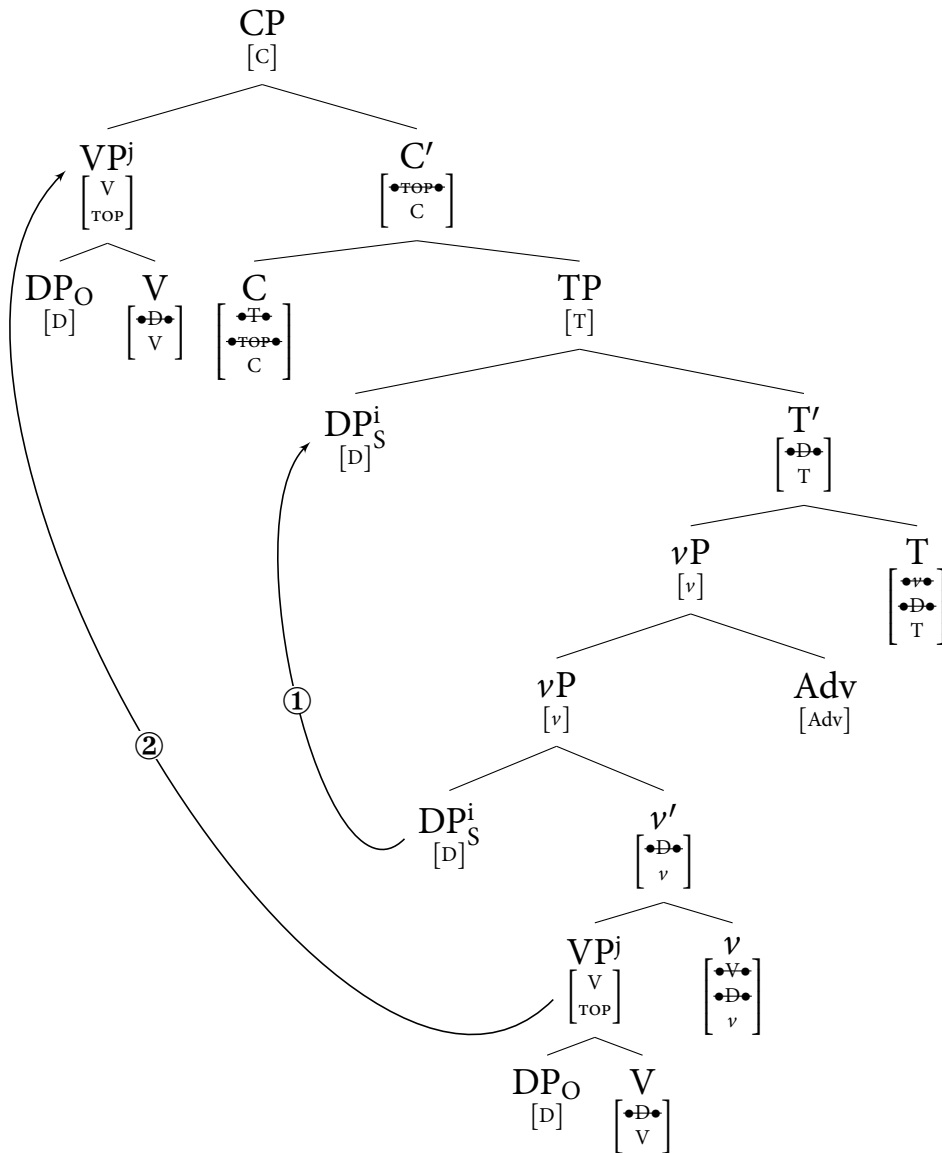
- (31) [das Auto **waschen**] **tut** er nie
 the car wash.INF does he never
 ‘Something that he never does is wash the car.’

(German, Diedrichsen, 2008: 221)

- First, the TP is generated as usual with the subject moving to SpecTP.³ Upon merge of C, the TOPIC-marked verb phrase is copied and merged in SpecCP (32).

³I explicitly make no claim about the highly controversial issue of subject movement or the existence of T in German here (for discussion see e.g. Haider, 2010). Subject movement is included in the derivation solely for comparability with the Polish derivation above.

(32) German VP-topicalization: Syntax



- This structure is shipped to the post-syntactic component where copy deletion and head movement apply in this order (33).⁴ Even though there is no direct empirical evidence for V-to-T movement in German (or, in fact, for the existence of T at all, see Haider, 2010), the status of V-to-C movement

⁴A potential problem for this claim is so-called multiple fronting in German (i) (from Bildhauer and Cook, 2010) where two DPs appear in the prefield (i.e. before the verb in a V2 sentence) that can usually only contain one constituent.

- (i) [DP Dem Saft] [DP eine kräftigere Farbe] geben Blutorangen.
 DEF.M.SG.DAT juice INDEF.F.SG.ACC strong.COMP.F.SG.ACC colour give.3PL.PRES blood.orange.PL
 ‘Blood oranges give the juice a stronger colour.’

One possible analysis of data like these is that a VP containing the trace of the verbal head has been moved to SpecCP (Müller, 1998). Under the present assumptions, however, such headless VP fronting is underivable because post-syntactic head movement comes too late to create a headless VP that could be fronted in syntax. Instead, one would expect full VP fronting and dummy verb insertion as in (31), which is also a possible option (ii).

- (ii) [VP Dem Saft eine kräftigere Farbe geben] tun Blutorangen.
 DEF.M.SG.DAT juice INDEF.F.SG.ACC strong.COMP.F.SG.ACC colour give.INF do.3PL.PRES blood.orange.PL
 ‘Blood oranges give the juice a stronger colour.’

However, recent accounts of multiple fronting treat it either as involving movement of more than one constituent into SpecCP (Lötscher, 1985; Speyer, 2008) or as fronting of a VP that contains a silent verbal head rather than an actual trace of the overt verb (Fanselow, 1993, St. Müller, 2005, 2015). Both of these analyses are compatible with the assumptions in this thesis and under both

In contrast to most non-Germanic languages, Germanic languages do not exhibit verb doubling in VP-topicalizations despite showing VP-evacuating head-movement of V in other contexts because this head movement is bled by copy deletion, both operations applying in the post-syntactic component.

Further issues

- Interestingly, in contrast to German and Dutch, the Scandinavian languages Danish, Norwegian, and Swedish also allow for the fronted verb to have a finite form (34). In fact, this seems to be the preferred option in Swedish (Lødrup, 1990; Teleman et al., 1999) if not the only grammatical one (Platzack, 2012).

- (34) a. ...og [**køre/kørde** bilen] **gjorde** han
 and drive.INF/drive.PST car.DEF did he
 ‘...and drive the car, he did.’ (Danish, Platzack, 2008: 280)
- b. [**spille/spiller** golf] **gjør** jeg aldri
 play.INF/play.PRS golf do.PRS I never
 ‘Play golf, I never do.’ (Norwegian, Lødrup, 1990: 3)
- c. ...och [**körde/*köra** bilen] **gjorde** han
 and drive.PST/drive.INF car.DEF did he
 ‘...and drive the car, he did.’ (Swedish, Platzack, 2008: 281)

- This indicates that the topicalized constituent contains a T head. However, if V-to-T movement only takes place post-syntactically, i.e. after the VP has been moved to SpecCP, how does T end up in the fronted VP?
- As we have seen above, verbs do not move to T in embedded sentences in Scandinavian. Nonetheless they exhibit tense inflection (35).

- (35) Jeg tror [at Hanne ikke **liker** kaffe]
 I believe that Hanne not likes coffee
 ‘I believe that Hanne doesn’t like coffee.’ (Norwegian, Siri M. Gjersøe p.c.)

These languages must comprise of some other mechanism to join the verb with its tense inflectional morphology.

- As LaCara (2016) notes, there are three ways to achieve this:
 1. Affix hopping (Chomsky, 1957)
 2. Post-syntactic lowering (Embick and Noyer, 2001)
 3. Feature-valuation by Agree (Adger, 2003)
- The second option, being post-syntactic like head movement, doesn’t work in the present proposal. Options 1 and 3, however, should work just fine. In particular, option 3 seems a good candidate, as Agree occurs upon merger of T which happens before movement of VP to SpecCP.

Predictions

- One prediction that the current system makes is that languages without VP-evacuating head movement of V should exhibit dummy verb insertion rather than verb doubling. This is because under both orders V will be deleted as part of the lower VP copy.
- In fact, there seems to be a language that shows no indication of V-movement, i.e. no word order alternations or inflectional affixations, and consequently shows dummy verb insertion in VP-fronting. Consider the following data from Limbum (Grassfields Bantu, Cameroon).

(36) á r-[yū msāŋ] (cí) njínwè fō bí *yū/gī
 FOC 5-buy rice (COMP) woman DET FUT1 buy/do
 ‘The woman will BUY RICE.’ (Limbum)

- Its basic word order is SVO in both matrix and embedded sentences and all aspectual and tense inflection is hosted in a separate auxiliary.

(37) a. ŋwè fō àm tí ŋgū
 man DET PST3 cut wood
 ‘The man cut the wood.’ (Limbum, Becker and Nformi, 2016: 58)

b. mè kwàshī mè-nε Nfor bí bō ndāp
 1SG think 1SG-COMP Nfor FUT1 build house
 ‘I think that Nfor will build a house.’

- VP-fronting in Limbum seems to be \bar{A} -movement as it is unbounded (38-a) and impossible from a coordinate structure (38-b).

(38) a. á r-[bò ndāp] (cí) mè kwàshī [mè-nε Nfor bí gī]
 FOC 5-build house COMP 1SG think 1SG-COMP Nfor FUT1 do
 ‘I think that Nfor will BUILD A HOUSE.’

b. *á r-[yū ntùmntùm] (cí) Nfor bí [bō ndāp kír gī]
 FOC 5-buy motorbike COMP Nfor FUT1 build house and do
 ‘Nfor will build a house and BUY A MOTORBIKE.’

- It can also not be derived from an independent dummy verb construction (39).

(39) a. *njínwè fō bí gī (r-)yū msāŋ
 woman DET FUT1 do (5-)buy rice
 ‘The woman will buy rice.’

b. *Nfor à mū gī (r-)bò ndāp
 Nfor 3SG PST2 do (5-)build house
 ‘Nfor built/did build a house.’

- Further investigation of Limbum is needed to clarify the issue whether it has V-to-higher-head-movement or not.

6 Fin

- Germanic languages behave differently from many non-Germanic languages with respect to VP-fronting. While non-Germanic languages usually show verb doubling (in the absence of an auxiliary or modal), Germanic languages exhibit dummy verb insertion.
- In the Copy Theory of Movement, verb doubling is commonly analyzed as the consequence of V-to-Asp/T/C movement which exempts it from whichever deletion mechanism is responsible for erasing superfluous copies.
- The Germanic behaviour is surprising given the fact that Germanic languages usually have V-to-T/C movement and should therefore also show verb doubling.
- I have suggested that the Germanic V-to-T/C movement applies too late in the derivation. Applying in the post-syntactic component, head movement is ordered after copy deletion in Germanic languages and therefore V is deleted as part of the low VP copy before it can move out of VP. In order to express finiteness or to fulfill the V₂-requirement, a dummy verb is inserted into T/C as a Last Resort.
- Non-Germanic languages commonly have the reverse order, namely HM > CD, and therefore exhibit verb doubling if they comprise of some VP-evacuating V movement.

References

- Abels, Klaus. 2001. The predicate cleft construction in Russian. In *Annual Workshop on Formal Approaches to Slavic Linguistics: The Bloomington Meeting*, eds. S. Frank, T. Holloway King, and M. Yadroff, 1–18. Michigan: Michigan Slavic Publications.
- Aboh, Enoch Oladé, and Marina Dyakonova. 2009. Predicate doubling and parallel chains. *Lingua* 119: 1035–1065.
- Adger, David. 2003. *Core syntax: A minimalist approach*. New York: Oxford University Press.
- Arregi, Karlos, and Andrew Nevins. 2012. *Morphotactics: Basque Auxiliaries and the Structure of Spellout*. Dordrecht: Springer.
- Assmann, Anke, Doreen Georgi, Fabian Heck, Gereon Müller, and Philipp Weisser. 2015. Ergatives Move Too Early: An Instance of Opacity in Syntax. *Syntax* 18 (4): 343–387.
- Barnickel, Katja. 2017. Something self coordination. PhD diss, Universität Leipzig.
- Bastos-Gee, Ana Claudia. 2009. Topicalization of verbal projections in Brazilian Portuguese. In *Minimalist Essays on Brazilian Portuguese Syntax*, ed. Jairo Nunes, 161–189. Amsterdam: John Benjamins.
- Bayer, Josef. 2008. What is verb second? Ms., Universität Konstanz.
- Becker, Laura, and Jude Nformi. 2016. Focus and verb doubling in Limbum. In *Replicative Processes in Grammar*, eds. Katja Barnickel, Matías Guzmán Naranjo, Johannes Hein, Sampson Korsah, Andrew Murphy, Ludger Paschen, Zorica Puškar, and Joanna Zaleska. Vol. 93 of *Linguistische Arbeits Berichte (LAB)*, 57–84. Leipzig: Universität Leipzig.
- Bentzen, Kristine, Jason Merchant, and Peter Svenonius. 2013. Deep properties of surface pronouns: Pronominal predicate anaphors in Norwegian and German. *Journal of Comparative Germanic Linguistics* 16: 97–125.
- Bildhauer, Felix, and Philippa Cook. 2010. German multiple fronting and expected topic-hood. In *Proceedings of the 17th International Conference on Head-Driven Phrase Structure Grammar, Université Paris Diderot*, ed. Stefan Müller, 68–79. Stanford, CA: CSLI Publications.
- Bobaljik, Jonathan. 1995. Morphosyntax: The syntax of verbal inflection. PhD diss, MIT, Cambridge, Mass..
- Boeckx, Cedric, and Sandra Stjepanović. 2001. Head-ing toward PF. *Linguistic Inquiry* 32 (2): 345–355.
- Bondaruk, Anna. 2009. Constraints on predicate clefting in Polish. In *Studies in Formal Slavic Phonology, Morphology, Syntax, Semantics, and Information Structure*, eds. G. Zybatoŵ, U. Junghanns, D. Lenertová, and P. Biskup. *Proceedings of FDSL 7, Leipzig 2007*, 65–79. Frankfurt am Main: Peter Lang.
- Bondaruk, Anna. 2012. Copy deletion in Polish predicate clefting. In *Sound, structure and sense. Studies in memory of Edmund Gussmann*, eds. E. Cyran, H. Kardela, and B. Szymanek, 55–70. Lublin: Katolicki Uniwersytet Lubelski.
- Brody, Michael. 1995. *Lexico-Logical Form: A radically minimalist theory*. Cambridge, Mass.: MIT Press.
- Broekhuis, Hans, and Norbert Corver. 2015. *Syntax of Dutch: Verbs and verb phrases (volume 2)*. Amsterdam: Amsterdam University Press.

- Cable, Seth. 2004. Predicate clefts and base-generation: Evidence from Yiddish and Brazilian Portuguese. Ms., MIT, Cambridge, MA.
- Childs, George Tucker. 2011. *A Grammar of Mani*. Vol. 54 of *Mouton grammar library*. Berlin/Boston: De Gruyter Mouton.
- Chomsky, Noam. 1957. *Syntactic structures*. The Hague: Mouton.
- Chomsky, Noam. 1993. A Minimalist Program for Linguistic Theory. In *The View from Building 20: Essays in Linguistics in Honour of Sylvain Bromberger*, eds. K. Hale and S. J. Keyser, 1–52. Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Diedrichsen, Elke. 2008. Where is the precore slot? Mapping the layered structure of the clause and German sentence topology. In *Investigations of the Syntax-Semantics-Pragmatics Interface*, ed. Robert D. Van Valin, Jr. . Vol. 105 of *Studies in Language Companion Series*. Amsterdam/Philadelphia: John Benjamins.
- Embick, David, and Rolf Noyer. 2001. Movement Operations after Syntax. *Linguistic Inquiry* 32 (4): 555–595.
- Fanselow, Gisbert. 1993. Die Rückkehr der Basisgenerierer. *Groninger Arbeiten zur Germanistischen Linguistik* 36: 1–74.
- Georgi, Doreen. 2014. Opaque Interaction of Merge and Agree: On the Nature and Order of Elementary Operations. PhD diss, Universität Leipzig.
- Groat, Erich, and John O’Neill. 1996. Spell-Out at the interface: Achieving a unified syntactic computational system in the minimalist framework. In *Minimal ideas: Syntactic studies in the minimalist framework*, eds. W. Abraham, S. D. Epstein, H. Thráinsson, and J. W. Zwart, 113–139. Amsterdam: John Benjamins.
- Haider, Hubert. 2010. *The Syntax of German*. Cambridge: Cambridge University Press.
- Hale, Ken, and Samuel J. Keyser. 2002. *Prolegomenon to a Theory of Argument Structure*. Cambridge, Mass.: MIT Press.
- Hiraiwa, Ken. 2005. Predicate clefts in Bùli: Categories and Phases. *Linguistic Analysis* 32: 544–583.
- Hiraiwa, Ken, and Adams Bodomo. 2008. Object-sharing as Symmetric Sharing: Predicate clefting and serial verbs in Dàgáárè. *Natural Language and Linguistic Theory* 26: 795–832.
- Höhle, Tilman. 1983. Subjektlücken in Koordinationen. Ms., Universität Köln.
- Höhle, Tilman. 1990. Assumptions about Asymmetric Coordination. In *Grammar in Progress. Glow Essays for Henk van Riemsdijk*, eds. J. Mascaro and M. Nespore, 221–235. Dordrecht: Foris.
- Höhle, Tilman. 1991. On Reconstruction and Coordination. In *Representation and Derivation in the Theory of Grammar (SNLLT 22)*, eds. H. Haider and K. Netter, 139–197. Dordrecht: Kluwer.
- Holmberg, Anders. 1999. Remarks on Holmberg’s Generalization. *Studia Linguistica* 53: 1–39.
- Houser, Michael J., Line Mikkelsen, Ange Strom-Weber, and Maziar Toosarvandani. 2006. Gøre-support in danish. Ms., UC Berkeley.
- Källgren, Gunnel, and Ellen F. Prince. 1989. Swedish VP-Topicalization and Yiddish Verb-Topicalization. *Nordic Journal of Linguistics* 12: 47–58.
- Kandybowicz, Jason, and Harold Torrence. 2016. Predicate Focus in Krachi: 2 Probes, 1 Goal, 3 PFs. In *Proceedings of the 33rd West Coast Conference on Formal Linguistics*, eds. K. Kim, P. Umbal, T. Block, Q. Chan, T. Cheng, K. Finney, M. Katz, S. Nickel-Thompson, and L. Shorten, 227–236. Somerville, MA: Cascadilla Proceedings Project.
- Koopman, Hilda. 1984. *The syntax of verbs: From verb movement rules in the Kru languages to Universal Grammar*. Dordrecht: Foris.
- LaCara, Nicholas. 2016. Verb Phrase Movement as a Window Into Head Movement. *Proceedings of the Linguistics Society of America* 1 (17): 1–14.
- Landau, Idan. 2006. Chain Resolution in Hebrew V(P)-fronting. *Syntax* 9 (1): 32–66.
- Lødrup, Helge. 1990. VP-Topicalization and the verb *gjøre* in Norwegian. *Working Papers in Scandinavian Syntax* 45: 3–12.
- Lötscher, Andreas. 1985. Syntaktische Bedingungen der Topikalisierung. *Deutsche Sprache* 13: 207–229.
- Manfredi, Victor. 1993. Verb focus in the typology of Kwa/Kru and Haitian. In *Focus and grammatical relations in Creole languages*, eds. F. Byrne and D. Winford, 3–51. Amsterdam: Benjamins.
- Merchant, Jason. 2002. Swiping in Germanic. In *Studies in Comparative Germanic Syntax. proceedings from the 15th Workshop on Comparative Germanic Syntax*, eds. Jan-Wouter Zwart and Werner Abraham, 289–316. Amsterdam/Philadelphia: John Benjamins.
- Mikkelsen, Line. 2010. On what comes first in a verb-second language. Ms., University of California Berkeley.
- Müller, Gereon. 1998. *Incomplete category fronting: A derivational approach to remnant movement in German*. Dordrecht: Kluwer.
- Müller, Gereon. 2009. Ergativity, Accusativity, and the Order of Merge and Agree. In *Explorations of Phase Theory. Features and Arguments*, ed. Kleanthes K. Grohmann, 269–308. Berlin: Mouton de Gruyter.
- Müller, Stefan. 2005. Zur Analyse der scheinbar mehrfachen Vorfeldbesetzung. *Linguistische Berichte* 203: 297–330.
- Müller, Stefan. 2015. *German Clause Structure: An Analysis with Special Consideration of So-Called Multiple Frontings*. Vol. 2 of *Empirically Oriented Morphology and Syntax*. Berlin: Language Science Press. with contributions by Felix Bildhauer and Philippa Cook.
- Murphy, Andrew, and Zorica Puškar. 2015. Closest conjunct agreement in Serbo-Croatian: A rule-ordering account. In *Topics at InFL*, eds. Anke Assmann, Sebastian Bank, Doreen Georgi, Timo Klein, Philipp Weisser, and Eva Zimmermann. Vol. 92 of *Linguistische Arbeits Berichte (LAB)*, 441–482. Universität Leipzig.
- Nunes, Jairo. 2004. *Linearization of chains and sideward movement*. Vol. 43 of *LI Monographs*. Cambridge, Mass.: MIT Press.

- Ott, Dennis. 2014. An ellipsis approach to contrastive left-dislocation. *Linguistic Inquiry* 45 (2): 269–303.
- Pesetsky, David. 1997. Optimality Theory and syntax: Movement and pronunciation. In *Optimality Theory: An overview*, eds. D. Archangeli and D. Terrence Langendoen, 134–170. Malden, Mass.: Blackwell.
- Pesetsky, David. 1998. Some optimality principles of sentence pronunciation. In *Is the best good enough?*, eds. P. Barbosa, D. Fox, P. Hagstrom, M. McGinnis, and D. Pesetsky, 337–383. Cambridge, Mass.: MIT Press.
- Platzack, Christer. 2008. Cross Linguistic Variation in the Realm of Support Verbs. Ms., Lund University; LingBuzz/000766.
- Platzack, Christer. 2012. Cross Germanic variation in the realm of support verbs. In *Comparative Germanic Syntax: The state of the art*, eds. Peter Ackema, Rhona Alcorn, Caroline Heycock, Dany Jaspers, Jeroen van Craenenbroek, and Guido Vanden Wyngaerd. Vol. 191 of *Linguistik Aktuell/Linguistics Today*, 279–310. Amsterdam/Philadelphia: John Benjamins.
- Platzack, Christer. 2013. Head movement as a phonological operation. In *Diagnosing Syntax*, eds. L. Cheng and N. Corver. Vol. 46 of *Oxford Studies in Theoretical Linguistics*, 21–43. Oxford: Oxford University Press.
- Puškar, Zorica. 2015. Interaction of gender, number and class features: Evidence from Bosnian/Croatian/Serbian. Talk given at: ‘Gender, class and determination conference’, University of Ottawa, September 2015.
- Sauerland, Uli, and Paul Elbourne. 2002. Total reconstruction, PF movement, and derivational order. *Linguistic Inquiry* 33 (2): 283–319.
- Schoorlemmer, Erik. 2012. Definiteness marking in German: Morphological variations on the same syntactic theme. *Journal of Comparative Germanic Linguistics* 15: 107–156.
- Schoorlemmer, Erik, and Tanja Temmerman. 2012. Head Movement as a PF-Phenomenon: Evidence from Identity under Ellipsis. In *Proceedings of the 29th West Coast Conference on Formal Linguistics*, eds. J. Choi, E. A. Hogue, J. Punske, D. Tat, J. Schertz, and A. Trueman, 232–240. Somerville, MA: Cascadilla Proceedings Project.
- Speyer, Augustin. 2008. Doppelte Vorfeldbesetzung im heutigen Deutsch und im Frühneuhochdeutschen. *Linguistische Berichte* 216: 455–485.
- Teleman, Ulf, Staffan Hellberg, and Erik Andersson. 1999. *Svenska Akademiens grammatik*. Stockholm: Norstedts Ordbok.
- Tran, Thi Giang. 2011. The Contrastive Predicate Construction in Vietnamese. Master’s thesis, National Sun Yat-Sen University, Guangdong, China.
- Trinh, Tue. 2011. Edges and Linearization. PhD diss, MIT, Cambridge, Mass..
- Vicente, Luis. 2007. The syntax of heads and phrases: A study of verb (phrase) fronting. PhD diss, University of Leiden, The Netherlands.
- Vicente, Luis. 2009. An alternative to remnant movement for partial predicate fronting. *Syntax* 12 (2): 158–191.
- Vikner, Sten. 1995. *Verb Movement and Expletive Subjects in the Germanic Languages*. Oxford: Oxford University Press.
- Weisser, Philipp. 2015. *Derived Coordination: A minimalist perspective on clause chains, converbs and asymmetric coordination*. Vol. 561 of *Linguistische Arbeiten*. Berlin: de Gruyter.
- Wiklund, Anna-Lena, Gunnar Hrafn Hrafnbjargarson, Kristine Bentzen, and Þorbjörg Hróarsdóttir. 2007. Rethinking Scandinavian verb movement. *Journal of Comparative Germanic Linguistics* 10 (3): 203–233.
- Witkoś, Jacek. 1998. *The syntax of clitics. Steps towards a minimalist account*. Poznań: Motivex.
- Zaenen, Annie. 1997. Contrastive dislocation in Dutch and Icelandic. In *Materials on left dislocation*, eds. Elena Anagnostopoulou, Henk van Riemsdijk, and Frans Zwarts, 119–148. Amsterdam: John Benjamins.
- Zwart, Jan-Wouter. 2016. An argument against the syntactic nature of verb movement. lingbuzz/002950. Ms..