Comparative perspectives on extraction from embedded verb-second clauses

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Main question

Extraction from embedded verb-second clauses:

- Some verb second (V2) languages (but not all) allow for embedded clauses to be V2 (EV2).
- There is variation among those languages allowing for EV2 as to whether they allow for Ā-movement out of EV2, and under which conditions they do.
- The main question to be addressed in this talk: What could a comprehensive theory of extraction from EV2 look like?
- Languages to be addressed: German, Scandinavian (Icelandic, Faroese, Danish, Swedish, Norwegian), Yiddish (all Germanic), and Dinka (Western Nilotic).

The structure of embedded verb second clauses

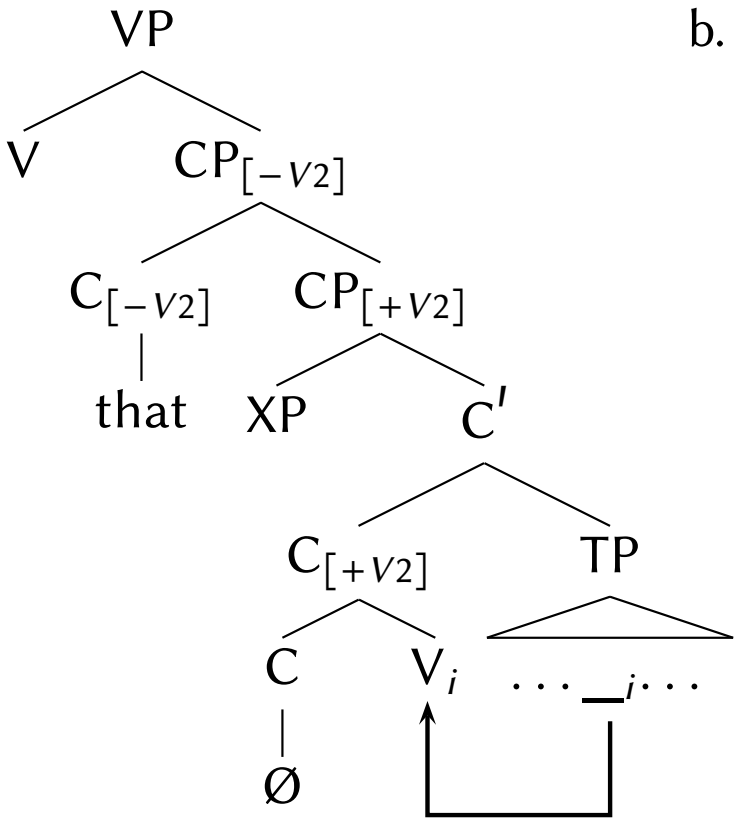
Structure of EV2:

- EV2s clauses come in two varieties. Those that are embedded by an overt lexical C-head (1-a) (CP-recursion, Vikner 1995), and those that are directly embedded by the matrix verb (1-b).
- In both cases, verb second proper is analyzed here (following work by Bierwisch 1965, den Besten 1977, Thiersch 1978) by movement of the finite verb adjoining to an phonetically empty C-head.

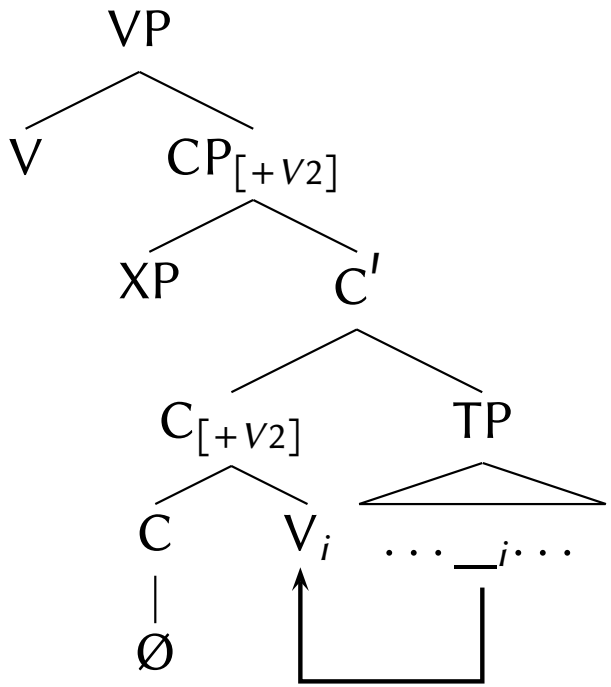
The structure of embedded verb second clauses

(1)

a.



b.



Roadmap

Roadmap of the talk:

- Basic facts on extraction from EV2: Germanic and Dinka
- Two gaps in the operator island theory: Selective opacity and the empty escape hatch paradox.
- Keine (2020): Why it accounts for selective opacity and the empty escape hatch paradox in Scandinavian, but, crucially, not in Yiddish.
- The proposal: operator freezing, ϕ-probes in Dinka, and integrated parentheticals (in German).

Scandinavian

Extraction from non-subject initial EV2 in Scandinavian:

- In Scandinavian, non-subject initial EV2s are opaque for extraction (Holmberg 1986, Fanselow 1991, Kroch and Iatridou 1992, Vikner 1995, Hrafnbjargarson et al. 2010).
- (For subject-initial EV2s in Scandinavian, see appendix II.)
- (2-a,b) illustrate for Danish (from Hrafnbjargarson et al. 2010), but the same holds for Norwegian, Swedish, Faroese, and Icelandic (Vikner 1995, Hrafnbjargarson et al. 2010).

(2) a. *Hvem$_i$ sagde han [$_{CP}$ at [$_{V2}$ disse bøger havde __$_i$ ikke givet
who said he that these books had not given
Trine]]?
Trine
'Who did he say that had not given these books to Trine?'

b. *Hvem$_i$ sagde han [$_{CP}$ at [$_{V2}$ disse bøger havde han ikke givet
who said he that these books had he not given
__$_i$]]?
'Who did he say that he had not given these books to?'

Yiddish

Extraction from EV2 in Yiddish:

- In Yiddish, extraction from EV2 is generally possible, (3-a,b) (Santorini 1989, Diesing 1990, Vikner 1995).
- In both Scandinavian and Yiddish, EV2 clauses are typically accompanied by a complementizer (obligatorily in Scandinavian, optionally in Yiddish).

(3) a. Vos$_i$ hot er nit gevolt [$_{\text{CP}}$ az [$_{\text{V2}}$ mir zoln leyenen __$_i$]]?
what has he not wanted that we should read
'What did he not want us to read?'

b. Vos$_i$ hot er nit gevolt [$_{\text{CP}}$ az [$_{\text{V2}}$ in shul zoln di kinder leyenen __$_i$]]?
what has he not wanted that in school should the children read
'What did he not want that the children should read in school?'

German

Extraction from EV2 in German:

- Extraction from EV2 in German (Thiersch 1978, Haider 1993) is possible only if Spec$C_{[+V2]}$ of EV2 is not overtly filled (4-a,b). This contrasts with Yiddish (3-a,b).
- EV2 in German is selectively opaque: Extraction is only possible if the (next) target is Spec$C_{[+V2]}$, but it is blocked if it is Spec$C_{[-V2]}$ (Tappe 1981, Haider 1984, Grewendorf 1988, Sternefeld 1989, Staudacher 1990, Müller 2003, 2010), see (4-a,c).

(4)
a. Wer$_i$ glaubst du (*dass) [$_{V2}$ — hat __$_i$ recht]?
who think you that has right
'Who do you think is right?'

b. *Wer$_i$ glaubst du [$_{V2}$ recht hat __$_i$]?
who think you right has
'Who do you think is right?'

c. *Ich weiß nicht [$_{CP}$ wer$_i$ du glaubst [$_{V2}$ — hat __$_i$ recht].
I know not who you think has right
'I don't know who you think is right.'

Dinka

Extraction from EV2 in Dinka:

- Dinka (van Urk 2015) is like German (and unlike Scandinavian and Yiddish) in that extraction from EV2 is only possible if Spec$C_{[+V2]}$ of EV2 is not overtly filled, see (5-a,b).
- Dinka is unlike German (and like Scandinavian and Yiddish) in that EV2 is accompanied by a complementizer, see *ë* in (5-a,b) (cf. (4-a) versus (2) and (3)).

(5) a. Yè ŋǫ́ [$_{CP}$ Op$_i$ yùṵṵkù luêeel [$_{CP}$ ë [$_{V2}$ — cíi Bôl __$_i$
be what HAB.1PL say.NF C PRF.OV Bol.GEN
câam]]]?
eat.NF
'What do we say Bol has eaten?'

b. *Yè ŋǫ́ [$_{CP}$ Op$_i$ yùṵṵkù luêeel [$_{CP}$ ë [$_{V2}$ Bôl cé __$_i$
be what HAB.1PL say.NF C Bol.GEN PRF.SV
câam]]]?
eat.NF
'What do we say Bol has eaten?'

EV2s as operator islands

EV2s as operator islands:

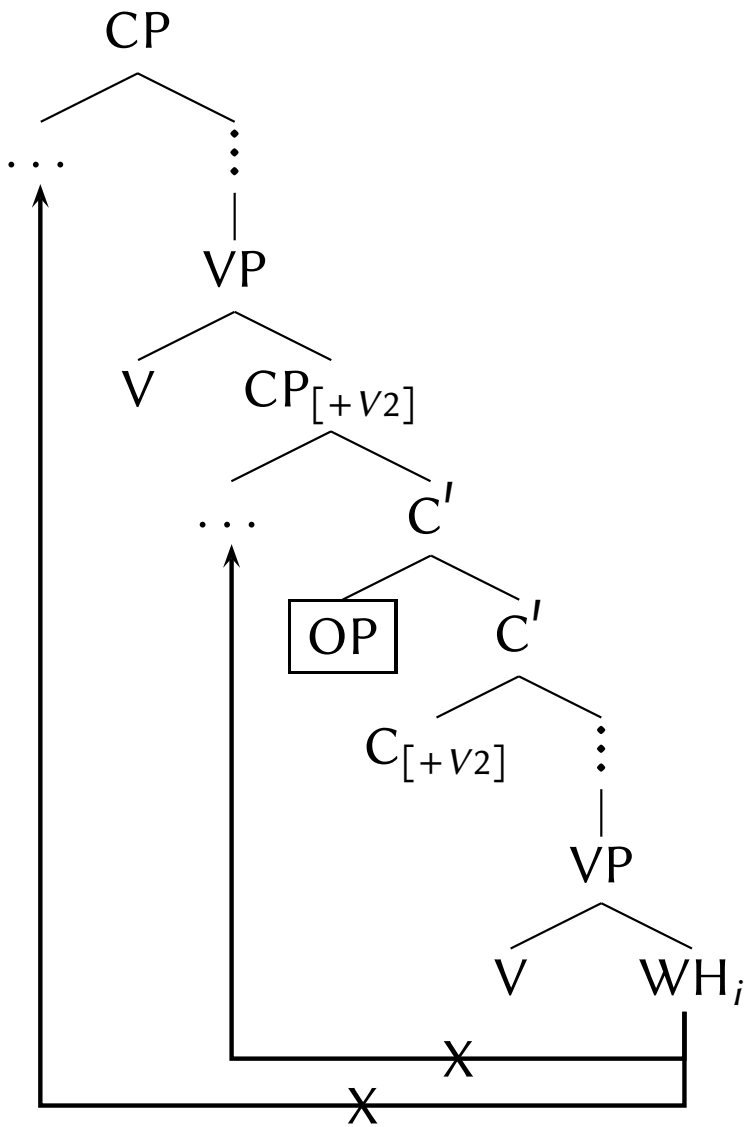
- The pattern from German and Dinka (no extraction from EV2 unless Spec$C_{[+V2]}$ is empty) and from Scandinavian (no extraction from non-subject initial EV2s) is reminiscent of the *wh*-island effect (6).
- *Wh*-islands are usually accounted for by assuming that extraction from CP must pass via SpecC (Chomsky 1977, Reinhart 1981, Rizzi 1982, Comorovski 1986, Rudin 1988), today often analyzed in terms of the PIC (assuming that CP is a phase), see (7).
- Such extraction is impossible if the only SpecC-position available is already filled. A common idea is that this holds for Spec$C_{[-V2]}$ and Spec$C_{[+V2]}$ alike (e.g., Fanselow 1991, Haider 1993, Thiersch et al. 2010).

(6) *What$_i$ do you wonder [$_{CP}$ who bought $\_\__i$]?

(7) *Phase Impenetrability Condition (PIC; Chomsky 2000):*
If Ψ is a phase with head H, then the complement of H is not accessible from outside Ψ; only SpecH (and H) is.

EV2s as operator islands

(8)



Operator islands: The case of Yiddish

Extraction from EV2 in Yiddish:

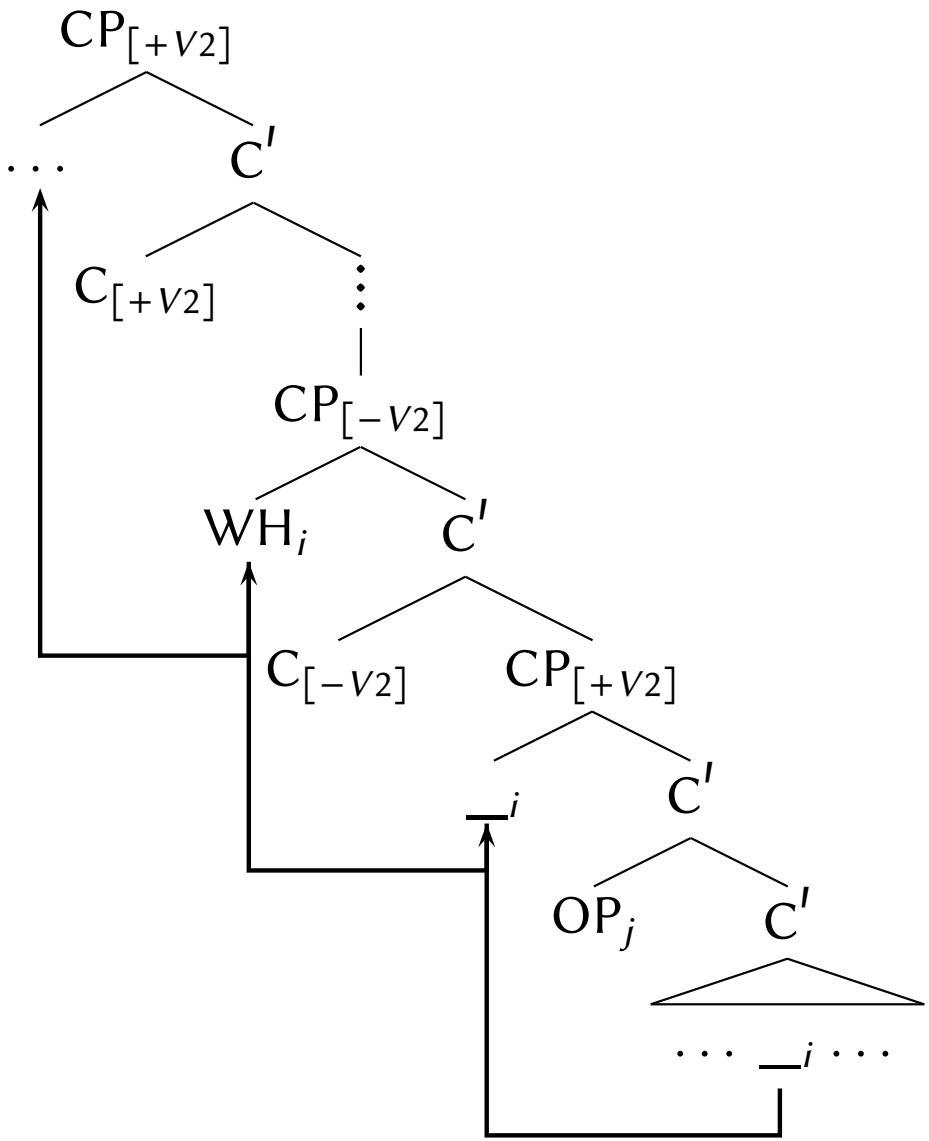
- For Yiddish, one would typically assume that multiple SpecC$_{[+V2]}$-positions are available (cf. Reinhart 1981 on Hebrew).
- Fanselow (2004) cites Hoge (2000) for the claim that Yiddish exhibits multiple *wh*-fronting (10), pointing to it allowing for multiple SpecC-positions.
- Extraction then passes via SpecC$_{[+V2]}$ and SpecC$_{[-V2]}$ (10).

(9) Vos$_i$ hot er nit gevolt [$_{CP}$ __$_i$ az [$_{V2}$ __$_i$ in shul zoln di
what has he not wanted that in school should the
kinder leyenen __$_i$]]?
children read
'What did he not want that the children should read in school?'

(10) Ver vemen hat kritikirt?
who whom has criticized
'Who criticized whom?'

Operator islands: The case of Yiddish

(11)



EV2s as operator islands: Achievements

Achievements:
The PIC-analysis, plus some additional assumptions about the (un)availability of a second SpecC, is able to account for

- the empty escape hatch condition in German, Scandinavian, and Dinka,
- the general transparency of EV2s with filled escape hatch in Yiddish.

EV2s as operator islands: Two gaps

Two gaps in the PIC-account:

- Selective opacity in German does not follow from the PIC.
- The PIC-analysis does not explain the "empty escape hatch paradox": the fact that extraction from EV2 in Scandinavian and Yiddish is ungrammatical if Spec$C_{[+V2]}$ of the EV2 is *not* filled.
- (12) illustrates for Danish, (13) for Yiddish.

(12) *Hvem$_i$ sagde han [$_{CP}$ __$_i$ at [$_{V2}$ __$_i$ kunne __$_i$ ikke synge denne
who said he that could not sing this
sang]]?
song
'Who did he say could not sing this song?'

(13) *Vos$_i$ hot er nit gevolt [$_{CP}$ __$_i$ az [$_{V2}$ __$_i$ zoln di kinder
what has he not wanted that should the children
leyenen __$_i$]]?
read
'What did he not want that the children should read?'

Keine (2020)

Keine's (2020) analysis of German:
Keine (2020) analyzes the selective opacity showing up with extraction from EV2 in German in terms of his theory of horizons in combination with the PIC (see appendix III for necessity of the PIC).

Assumptions:

- Syntactic operations are triggered by morpho-syntactic features ("probes", Chomsky 2000, 2001). A probe is written as [∗F∗].
- A probe [∗F∗] scans its c-command domain in search of a matching feature [F] in order to enter into an Agree-relation with [F].
- The domain accessible to [∗F∗] is limited by an inherent property: the "horizon" of [∗F∗].

(14) *Horizon*:
If a probe [∗F∗] has category feature K as its horizon ([∗F∗] ⊣| K), then [∗F∗]-initiated search terminates at the first K-bearing node.

Selective opacity: Horizons in German

Analysis (modified version of Keine 2020):

- Due to (15-a), long Ā-movement out of a EV2 into Spec$C_{[-V2]}$ is impossible (16-a): The [∗wh∗]-probe on $C_{[-V2]}$ is not able to penetrate the EV2 due to its horizon setting (17).
- In contrast, a [∗wh∗]-probe on $C_{[+V2]}$ is able to penetrate an EV2 (it does not have any horizon (15-b)), thus allowing for long Ā-movement (16-b), (18).

(15) *Horizon setting for German*:

a. $[*\text{wh}*]_{C_{[-V2]}} \dashv\Vdash C_{[+V2]}$

b. $[*\text{wh}*]_{C_{[+V2]}} \dashv\Vdash \varnothing$

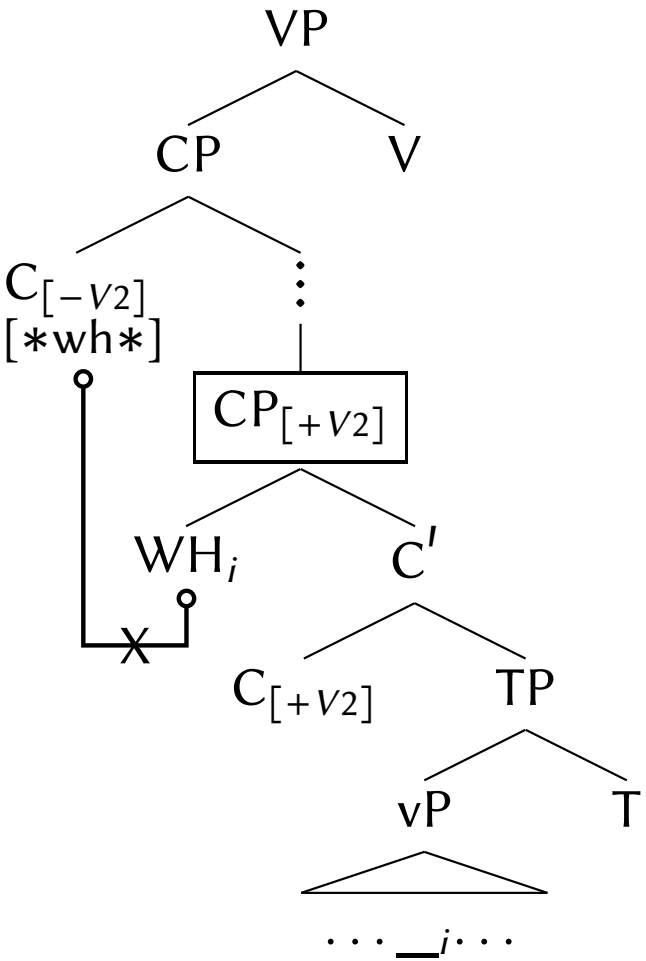
(16) a. *Ich weiß [$_{\text{CP}}$ wen$_i$ sie gesagt hat [$_{\text{V2}}$ __$_i$ hat sie __$_i$ getroffen]].
I know who she said has has she met
'I know who she said that she met.'

b. Wen$_i$ hat sie gesagt [$_{\text{V2}}$ __$_i$ hat sie __$_i$ getroffen]]?
who has she said has she met
'Who did she say that she met?'

Selective opacity: Horizons in German

Analysis of (16-a):
Wh-movement out of an EV2 into an (embedded) V-final clause is blocked due to $[*\text{wh}*]_{C_{[-V2]}} \dashv\!\vdash C_{[+V2]}$.

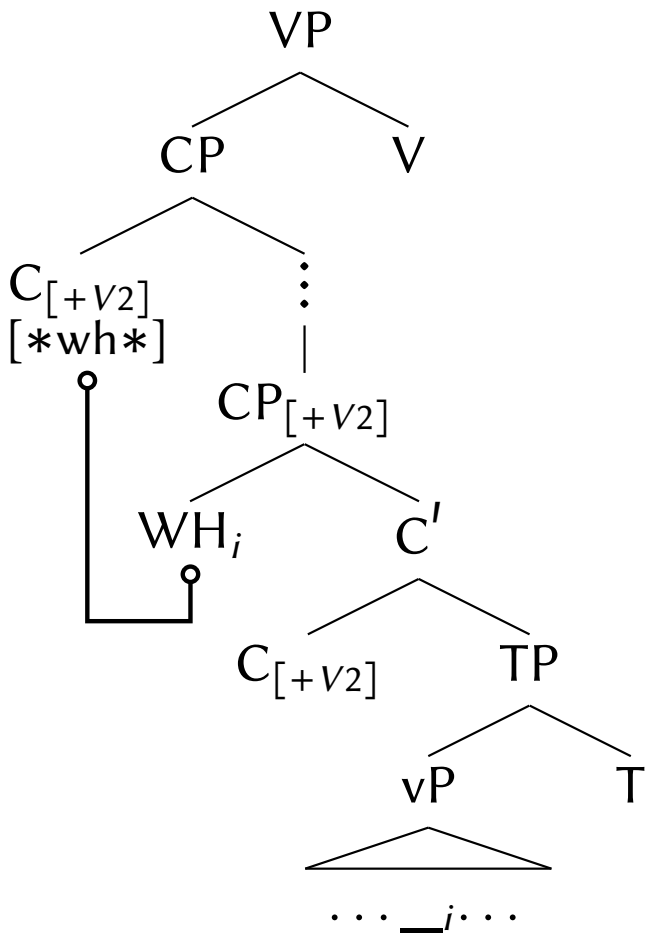
(17)



Selective opacity: Horizons in German

Analysis of (16-b):
Wh-movement out of an EV2 into a V2 clause is allowed due to $[*\text{wh}*]_{C_{[+V2]}} \dashv\Vdash \varnothing$.

(18)



Empty escape hatch paradox: Horizons in Scandinavian

Observation:
Keine's (2020) theory also permits to account for the empty escape hatch paradox in Scandinavian.

Extraction from EV2 in Scandinavian, one operator:

- (19) is blocked if one assumes that the German horizon setting (15) also holds for Scandinavian (20).
- Reason: In Scandinavian, EV2 comes with a recursive $CP_{[-V2]}$-layer. As this CP is a phase, a category K that is supposed to leave the embedded clause must move to $Spec C_{[-V2]}$ first (due to the PIC). But this is impossible if $[*wh*]_{C[-V2]} \dashv\Vdash C_{[+V2]}$, see (21).

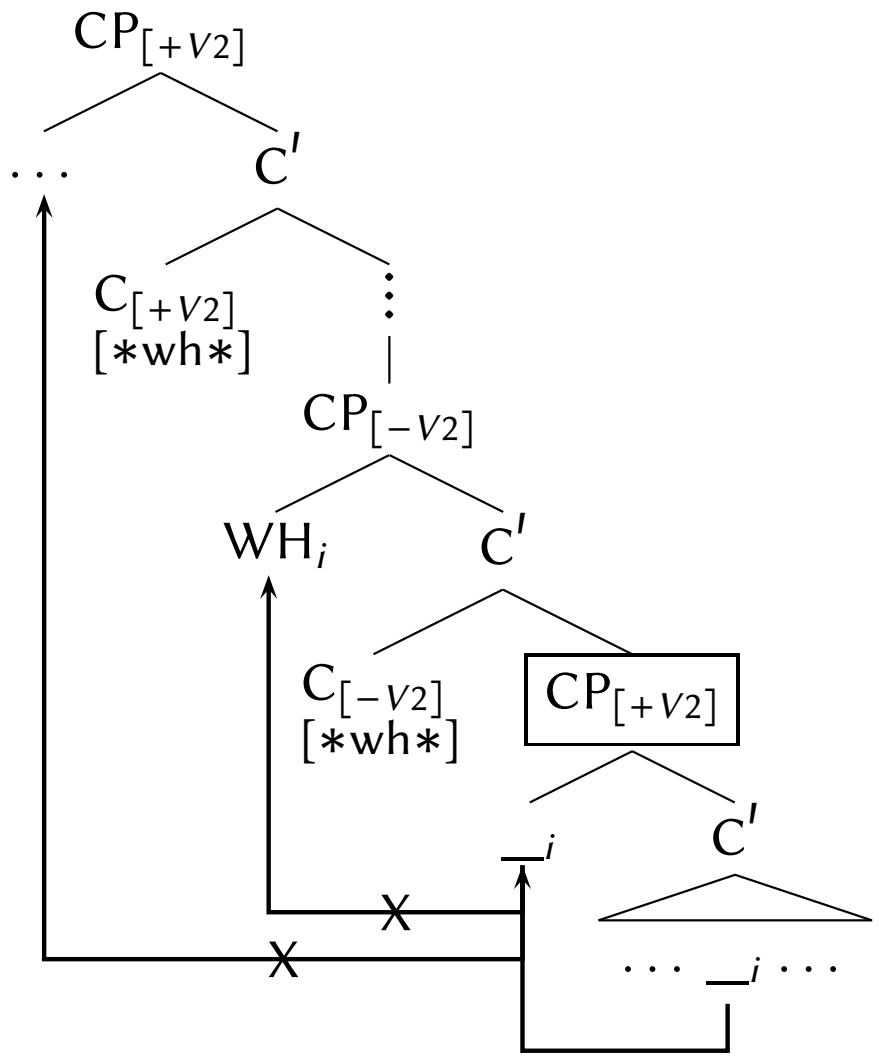
(19) *Hvem$_i$ sagde han [$_{CP}$ at [$_{V2}$ __$_i$ kunne __$_i$ ikke synge denne sang]]?
who said he that could not sing this song
'Who did he say could not sing this song?'

(20) *Horizon setting for Scandinavian*:

a. $[*wh*]_{C_{[-V2]}} \dashv\Vdash C_{[+V2]}$
b. $[*wh*]_{C_{[+V2]}} \dashv\Vdash \varnothing$

Empty escape hatch paradox: Horizons in Scandinavian

(21)



Applying horizons to Scandinavian

Non-subject initial EV2s:

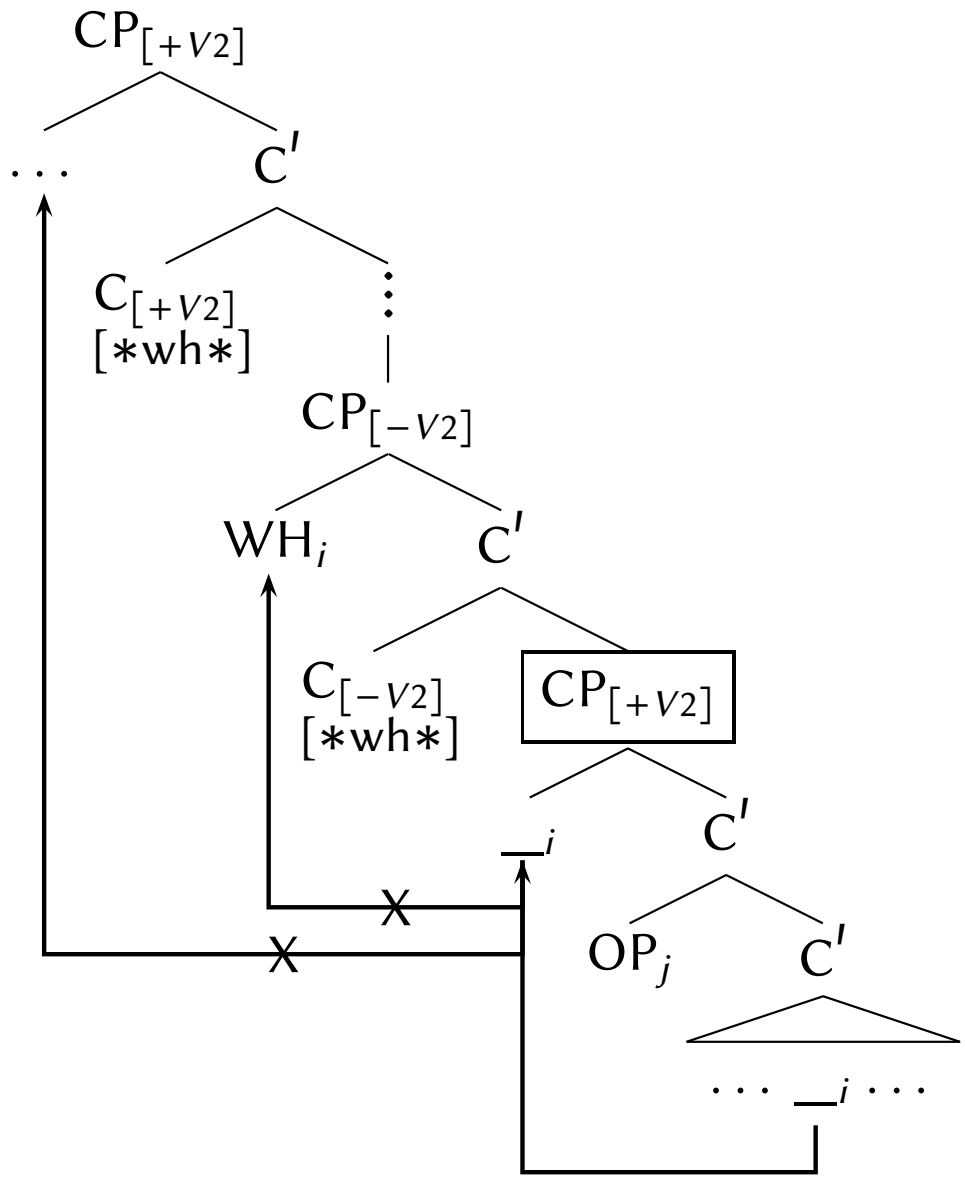
- The same reasoning applies when it comes to extraction from non-subject initial EV2s ((22) for Danish).
- Even if one allows for multiple Spec$C_{[+V2]}$s in Scandinavian, movement from Spec$C_{[+V2]}$ to Spec$C_{[-V2]}$ is impossible because of $[*\text{wh}*]_{C_{[-V2]}} \dashv\Vdash C_{[+V2]}$, see (23).

(22) *Hvem$_i$ sagde han [$_{\text{CP}}$ at [$_{\text{V2}}$ disse bøger havde han ikke givet
who said he that these books had he not given
__$_i$]]?

'Who did he say that he had not given these books to?'

Applying horizons to Scandinavian

(23)



Applying horizons to Yiddish

Extraction from EV2 in Yiddish:

- For Yiddish, one simply assumes (on top of the PIC-analysis) that $C_{[+V2]}$ is not a horizon for $[*\text{wh}*]_{C_{[-V2]}}$, see (25).
- Extraction then freely passes via $\text{Spec}C_{[+V2]}$ and $\text{Spec}C_{[-V2]}$ (26).

(24) Vos$_i$ hot er nit gevolt [$_{\text{CP}}$ az [$_{\text{V2}}$ in shul zoln di kinder leyenen $\_\_{}_i$]]?
what has he not wanted that in school should the children read
'What did he not want that the children should read in school?'

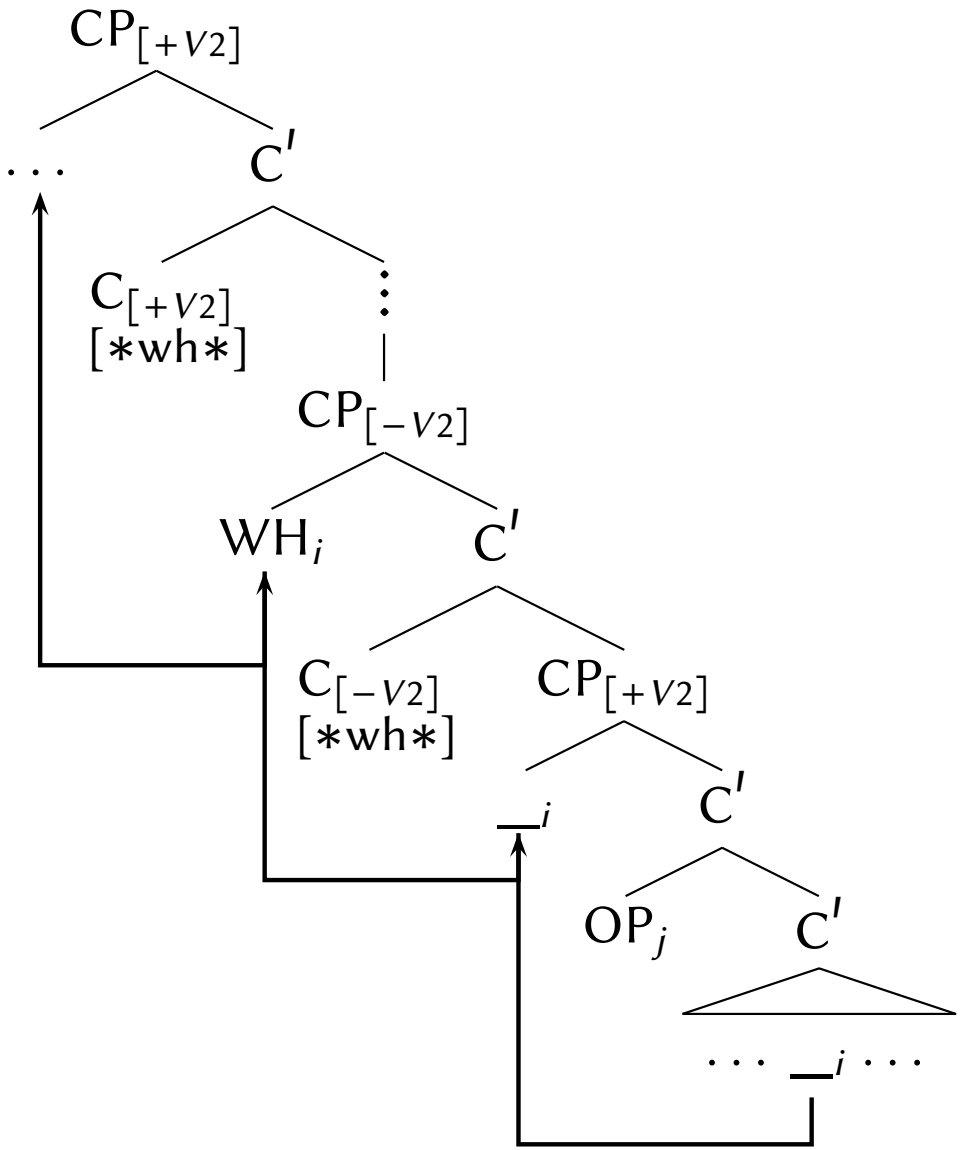
(25) *Horizon setting for Yiddish*:

a. $[*\text{wh}*]_{C_{[-V2]}} \dashv\!\shortmid \varnothing$

b. $[*\text{wh}*]_{C_{[+V2]}} \dashv\!\shortmid \varnothing$

Applying horizons to Yiddish

(26)



Applying horizons to Dinka

Extraction from EV2 in Dinka:

- Dinka has the same horizon setting as Yiddish (28), however, unlike Yiddish and like German, it does not allow for multiple Spec$C_{[+V2]}$-positions.
- Thus, extraction from EV2 passes via Spec$C_{[+V2]}$ and Spec$C_{[-V2]}$ only provided that these positions are not already filled (29).

(27) Yè ŋó̤ [$_{CP}$ Op$_i$ yṳ̀ṳkṳ̀ luêeel [$_{CP}$ è̤ [$_{V2}$ — cíi̤ Bôl __$_i$
be what HAB.1PL say.NF C PRF.OV Bol.GEN
câam]]]?
eat.NF
'What do we say Bol has eaten?'

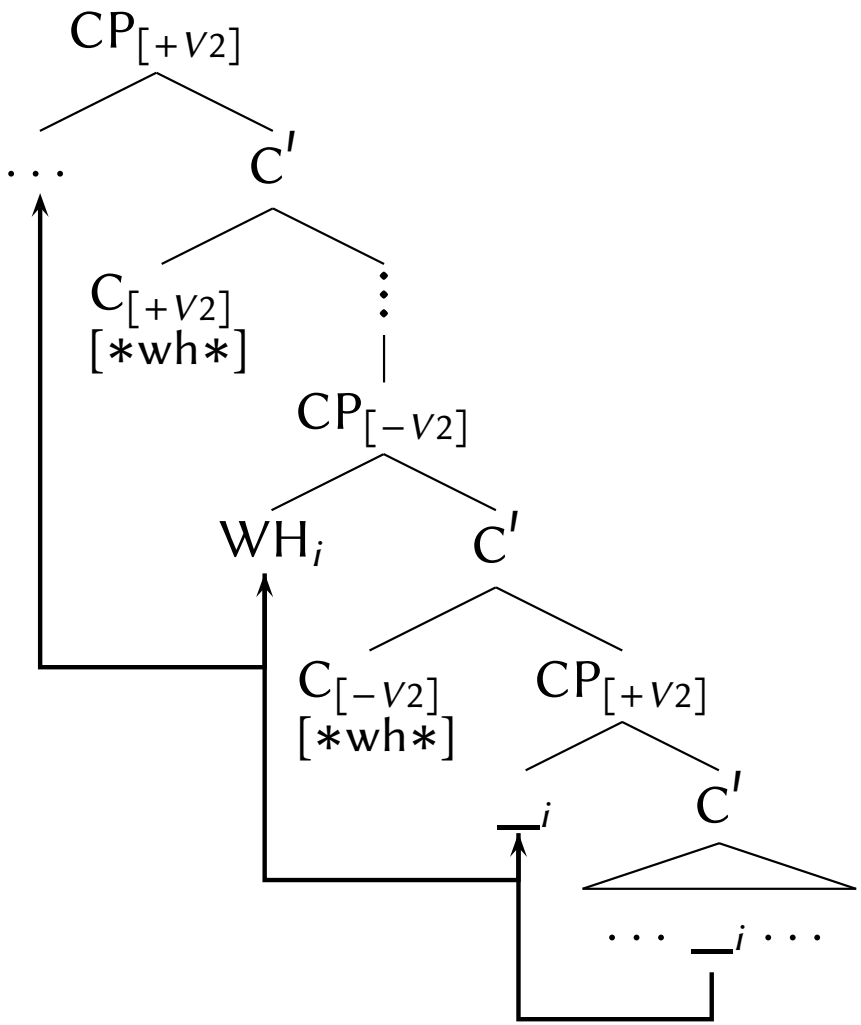
(28) *Horizon setting for Dinka*:

a. $[*\text{wh}*]_{C_{[-V2]}} \dashv\Vdash \varnothing$

b. $[*\text{wh}*]_{C_{[+V2]}} \dashv\Vdash \varnothing$

Applying horizons to Dinka

(29)



Interim summary

Interim summary:

- Selective opacity in German EV2 derives from the horizon setting for $[*\text{wh}*]_{C_{[+V]}}$ and $[*\text{wh}*]_{C_{[-V]}}$. The empty escape hatch condition is due to a ban against multiple $\text{SpecC}_{[+V2]}$-positions (and the PIC).
- Scandinavian has the same horizon setting as German. Thus, extraction from EV2 is generally banned due to the fact that every EV2 is accompanied by a $\text{CP}_{[-V2]}$-layer (not present in German).
- Yiddish exhibits no horizons for $[*\text{wh}*]_{C_{[+V]}}$ and $[*\text{wh}*]_{C_{[-V]}}$, and allows for multiple $\text{SpecC}_{[+V2]}$-position. Consequence: free extraction from EV2.
- Dinka does not have horizons for $[*\text{wh}*]_{C_{[+V]}}$ and $[*\text{wh}*]_{C_{[-V]}}$ (as Yiddish), but it shows the same ban against multiple $\text{SpecC}_{[+V2]}$-positions as German. Thus, extraction from EV2 across a complementizer is possible, but only if $\text{SpecC}_{[+V2]}$ is empty.

The empty escape hatch paradox in Yiddish

Problem:

- As noted in (13) (repeated in (30)), Yiddish shows the empty escape hatch paradox, as Scandinavian does, (Vikner 1995, Diesing 1990, Diesing and Santorini 2022).
- Since extraction from EV2 out of structures with an additional $CP_{[-V2]}$-layer is possible in Yiddish in other contexts (see (26)), (30) cannot be due to the horizon setting in (31) (active in German and Scandinavian).

(30) *Vos$_i$ hot er nit gevolt [$_{CP}$ __$_i$ az [$_{V2}$ __$_i$ zoln di kinder leyenen __$_i$]]?
what has he not wanted that should the children read
'What did he not want that the children should read?'

(31) $[*wh*]_{C_{[-V2]}} \dashv\Vdash C_{[+V2]}$

Interim conclusion

Interim conclusion:
The theory of horizons (Keine 2020, combined with the PIC) is not able to account for the empty escape hatch paradox by just assuming a particular horizon setting.

Second part of talk:
In what follows, I propose a theory without horizons that explains the empty escape hatch paradox in Scandinavian and Yiddish (and also accounts for selective opacity in German).

A proposal

Assumptions:

- The generalization (32) holds (Rizzi 2006, Bošković 2008).
- CP is a phase, the PIC holds (Chomsky 2000, 2001).
- Successive-cyclic movement is triggered by edge features (EFs). Insertion of an EF on a phase head H is only possible once H has saturated all its probes (Chomsky 2008).

(32) *Operator freezing generalization (OFG)*
An operator in a criterial Ā-position cannot undergo further Ā-movement.

Analysis: One operator, Yiddish/Scandinavian

Extraction from EV2, one operator:

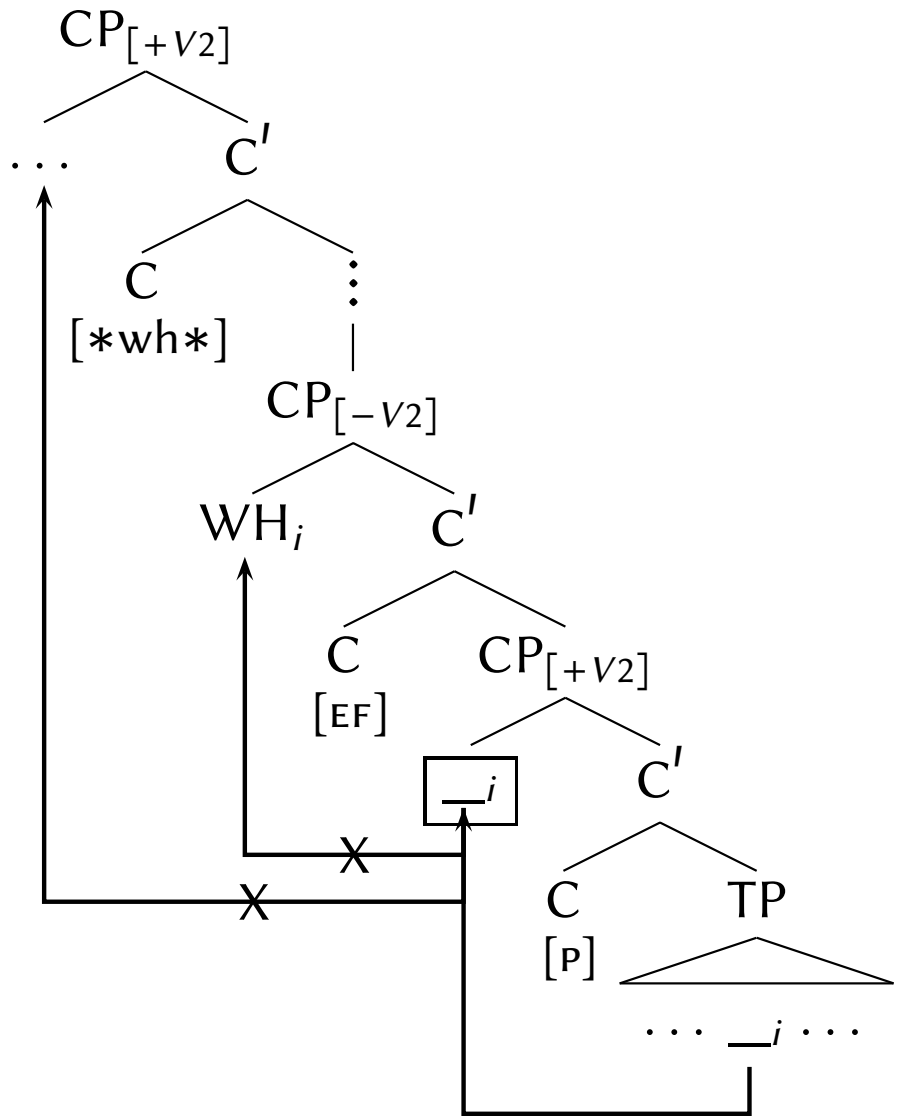
- EV2 in Yiddish (33-a) requires its specifier to be filled (the V2-effect). Accordingly, its $C_{[+V2]}$ bears a criterial probe P.
- EF-insertion is only possible after P has been saturated. Thus, *vos* 'what' in (33-a) must be attracted by P to the embedded $SpecC_{[+V2]}$.
- In $SpecC_{[+V2]}$, *vos* is frozen in place due to the OFG and cannot undergo further movement. Extraction of *vos* from the EV2 in one fell swoop (or to $SpecC_{[-V2]}$) is blocked by the PIC.
- The same reasoning applies to Scandinavian (see Danish (33-b)).

(33) a. *Vos$_i$ hot er nit gevolt [$_{CP}$ az [$_{V2}$ __$_i$ zoln di kinder leyenen __$_i$]]?
what has he not wanted that should the children read
'What did he not want that the children should read?'

b. *Hvem$_i$ sagde han [$_{CP}$ at [$_{V2}$ __$_i$ kunne __$_i$ ikke synge denne sang]]?
who said he that could not sing this song
'Who did he say could not sing this song?'

Analysis: One operator, Yiddish/Scandinavian

(34)



Analysis: Multiple operators, Yiddish

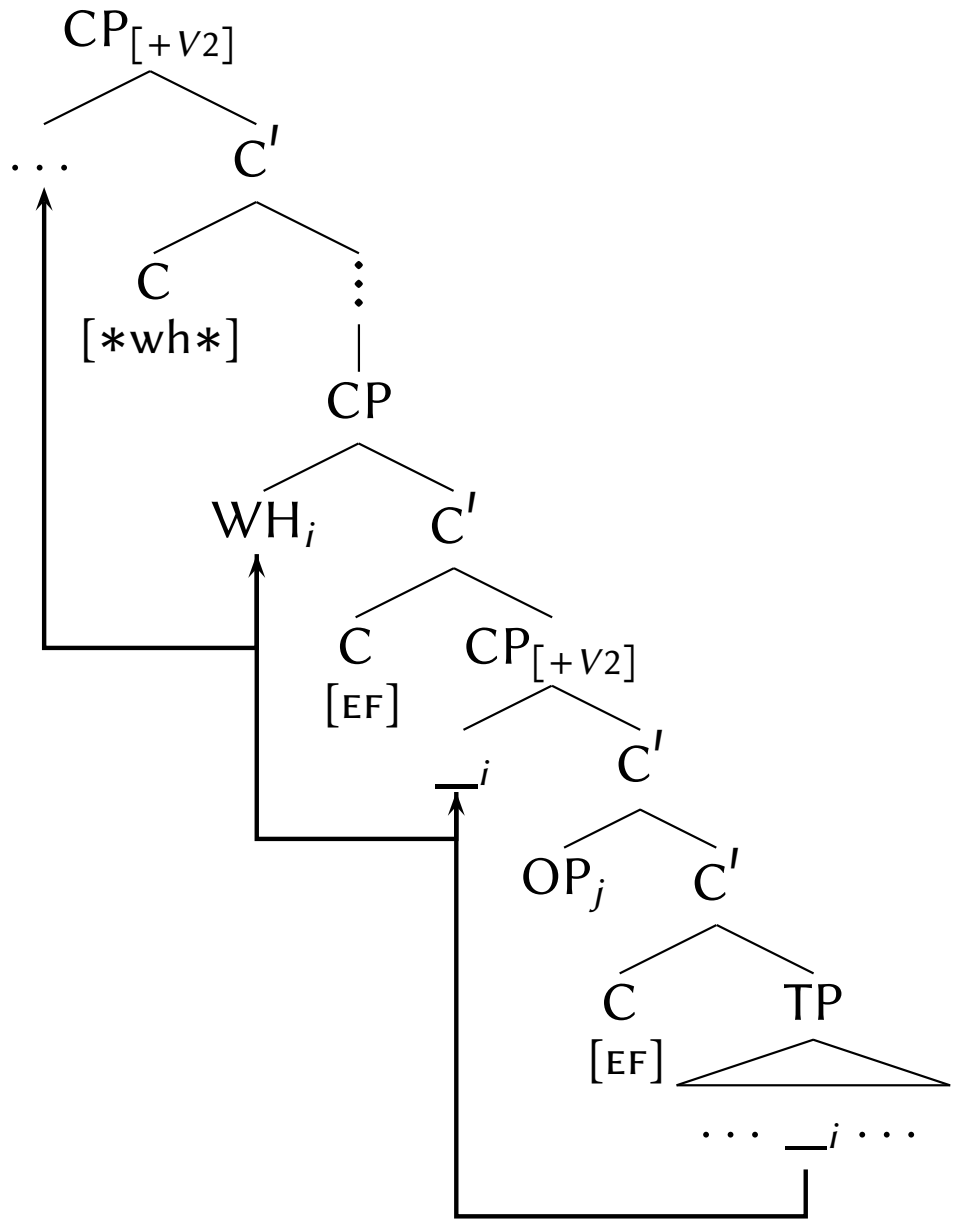
Extraction from EV2, Yiddish, multiple operators:

- The criterial probe P in (35) is already satisfied by the category *in shul* 'in school', overtly filling Spec$C_{[+V2]}$.
- If Yiddish allows for a second Spec$C_{[+V2]}$ via EF-insertion, then *vos* can extract via Spec$C_{[+V2]}$ and Spec$C_{[-V2]}$.

(35) Vos$_i$ hot er nit gevolt [$_{CP}$ az [$_{V2}$ in shul zoln di kinder
what has he not wanted that in school should the children
leyenen __$_i$]]?
read
'What did he not want that the children should read in school?'

Analysis: Multiple operators, Yiddish

(36)



Analysis: Multiple operators, German

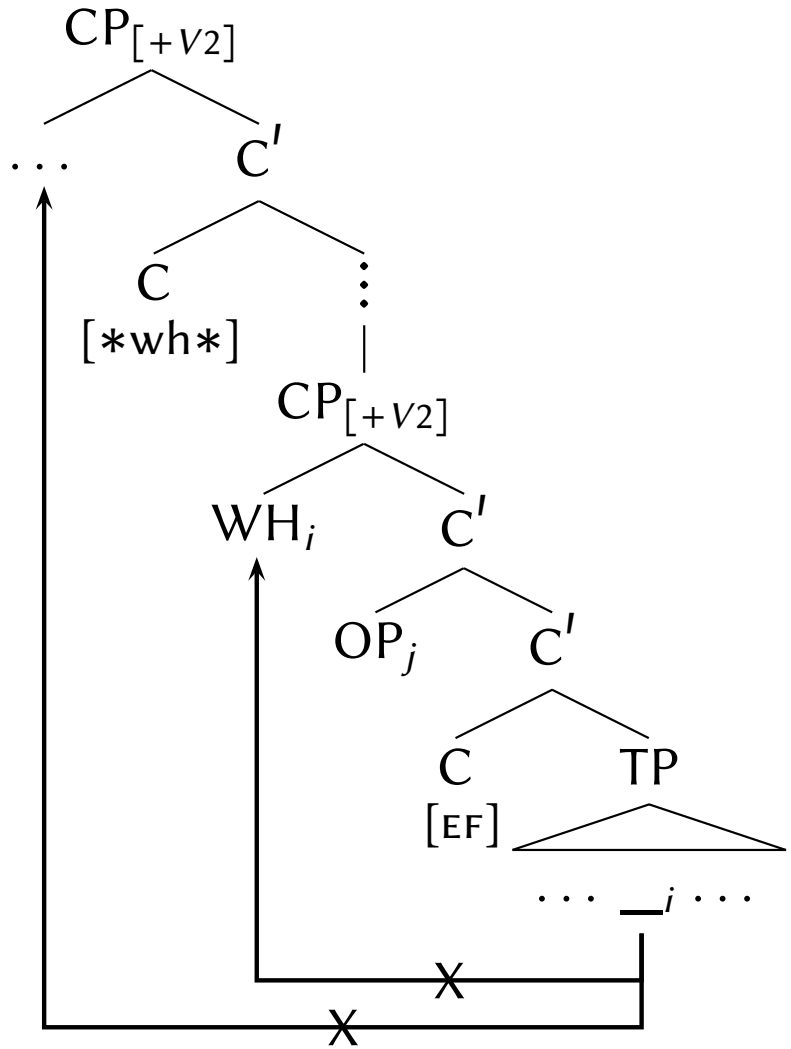
Extraction from EV2, German, multiple operators:

- German does not allow for multiple Spec$C_{[+V2]}$. Therefore, a second escape hatch cannot be created after the first operator has satisfied the criterial V2-probe P.
- Movement in one fell swoop is blocked by the PIC.

(37) *Wer$_i$ glaubst du [$_{V2}$ recht hat __$_i$]?
who think you right has
'Who do you think is right?'

Analysis: Multiple operators, German

(38)



Analysis: V1-Parentheticals in German

V1-Parentheticals in German:

- In German (39-a), movement of *wer* 'who' in (4-a) via $\text{SpecC}_{[+V2]}$ would violate the OFG, movement in one fell swoop the PIC.
- (39-a) must be analyzed as a V2-root clause with a parenthetical V1-fragment (*glaubst du* 'think you'), as proposed by Reis (1995a, 1995b, 1997), see (40) (parenthetical analysis à la McCawley 1982).
- (39-b) and (39-c) follow immediately (as noted by Reis): In (39-c) the parenthetical is not of the right form (V2 instead of V1); in (39-b), the root clause is not V2 (but V-final).

(39)

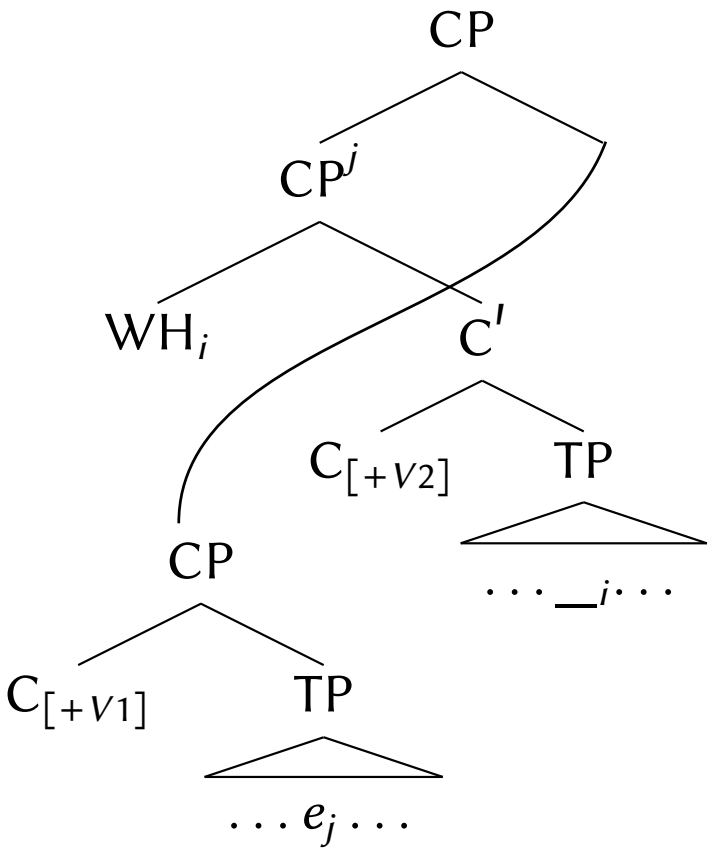
a. Wer$_i$ glaubst du [$_{\text{V2}}$ __$_i$ hat __$_i$ recht]?
who think you has right
'Who do you think is right?'

b. *Wer$_i$ glaubst du [$_{\text{V2}}$ recht hat __$_i$]?
who think you right has
'Who do you think is right?'

c. *Ich weiß nicht [$_{\text{CP}}$ wer$_i$ du glaubst [$_{\text{V2}}$ — hat __$_i$ recht].
I know not who you think has right
'I don't know who you think is right.'

Analysis: V1-Parentheticals in German

(40)



Analysis: One operator, Dinka

Complication:

- Dinka allows for extraction from V2 only if there is one operator (temporarily) filling Spec$C_{[+V2]}$, see (41).
- Since EV2 in Dinka is embedded under a $CP_{[-V2]}$-layer (41), a parenthetical reanalysis of apparent extraction from EV2 in (41) is impossible.

(41) Yè ŋ̈ó̤ [$_{CP}$ Op$_i$ yṳ̀ṳkṳ̀ luêeel [$_{CP}$ __$_i$ è̤ [$_{V2}$ __$_i$ cíi̤ Bôl __$_i$
be what HAB.1PL say.NF C PRF.OV Bol.GEN
câam]]]?
eat.NF
'What do we say Bol has eaten?'

Analysis: One operator, Dinka

van Urk (2015):

- In Dinka, $C_{[+V2]}$ also carries ϕ-features (42).
- This also holds for a $C_{[+V2]}$ that hosts successive-cyclic movement, see (43).

(42) *Interrogative prefixes on $C_{[+V2]}$*

PRES	SG	PL	PAST	SG	PL
1st/2nd	Ø-	Ø-	1st/2nd	ë-	ë-kè
3rd	Ø-	Ø-	3rd	ë-	ë-kè

(43) Ye kɔ̂ɔc-kó [$_{V2}$ OP$_i$ **ë-kè**-yá ké táak [$_{CP}$ __$_i$
be people.CS-which.PL PST-3P-HAB.2SG 3PL think.NF
è [$_{V2}$ __$_i$ **ë-kè**-cíi Áyèn ké gáam __$_i$ gálám]]]?
C PST-3P-PRF.OV Ayen.GEN 3PL give.NF pen
'Which people did (s)he think that Ayen had given a pen to?'

Analysis: One operator, Dinka

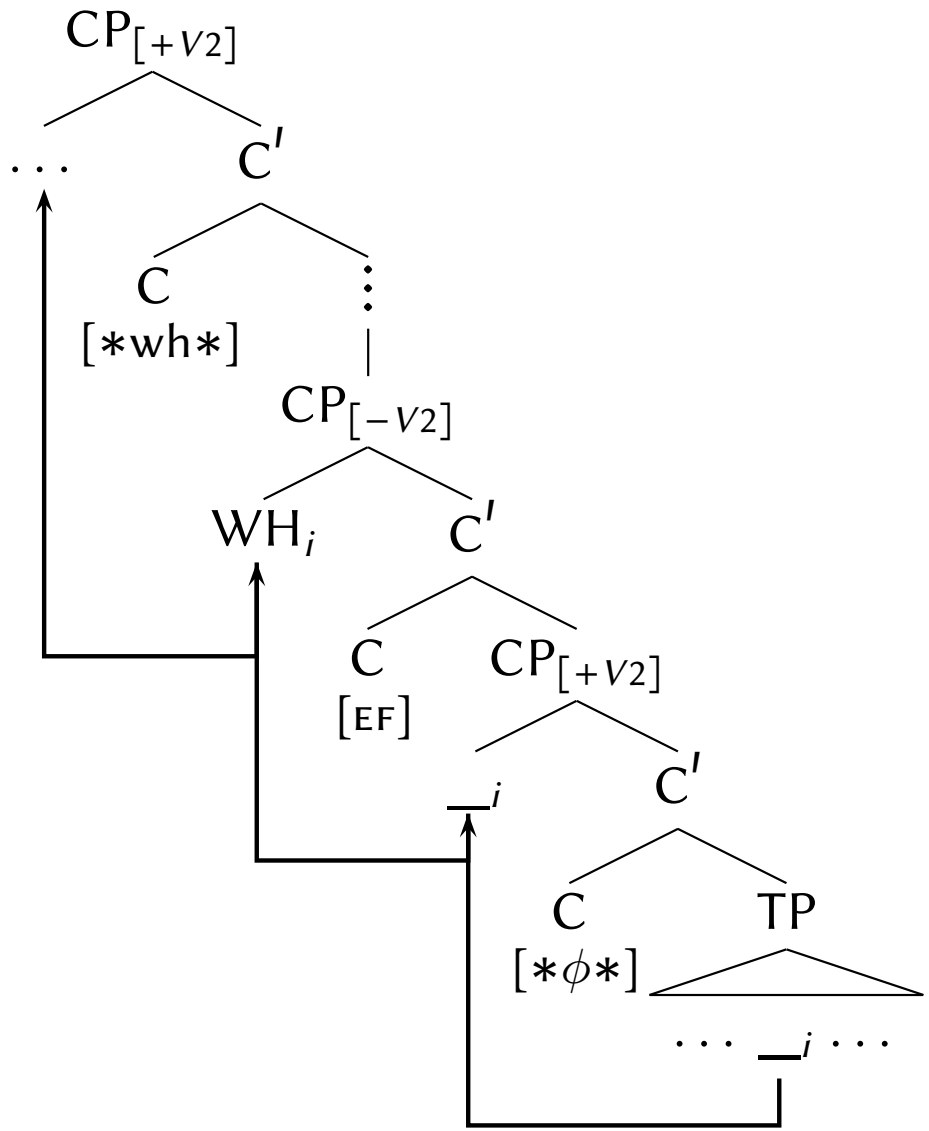
van Urk (2015, 106):
"I propose that C in Dinka carries both a ϕ-probe and a catch-all $\bar{\text{A}}$-probe [. . .]"

Idea of analysis:

- It is precisely this ϕ-probe on $\text{SpecC}_{[+\text{V2}]}$ that allows Dinka to eschew a OFG-violation in the case of extraction from EV2.
- Namely, if ϕ attracts an operator to $\text{SpecC}_{[+\text{V2}]}$, then it is not in a criterial $\bar{\text{A}}$-position (in the sense of (32)), and the operator may therefore undergo further $\bar{\text{A}}$-movement.

Analysis: One operator, Dinka

(44)



Results

Results:

- The empty escape hatch paradox arising in a PIC-analysis of extraction from EV2 cannot be directly filled by the horizon theory because of the comparative evidence from Yiddish.
- Operator freezing combined with the PIC allows to derive all the facts discussed.
- German does not allow for extraction from EV2 (and can therefore not serve as an argument for horizons). Within Germanic, only Yiddish does (due to the possibility of a second Spec$C_{[+V2]}$).
- Dinka also shows genuine extraction from EV2 because of the presence of an ϕ-probe on C, not present in Germanic.

Appendix I: An anti-locality approach

An anti-locality approach:

- It is often assumed that the ungrammaticality of (45-a,b) is kind of a *that*-trace effect (Lohndal 2009, Hrafnbjargarson et al. 2010; cf. als Diesing 1990, Diesing and Santorini 2022 on Yiddish).
- The *that*-trace effect (and other subject-related effects) has been analyzed recently in terms of anti-locality (Brillman and Hirsch 2016, Erlewine 2016, 2020).

(45) a. *Vos$_i$ hot er nit gevolt [$_{CP}$ az [$_{V2}$ __$_i$ zoln di kinder leyenen __$_i$]]?
what has he not wanted that should the children read
'What did he not want that the children should read?'

b. *Hvem$_i$ sagde han [$_{CP}$ at [$_{V2}$ __$_i$ kunne __$_i$ ikke synge denne sang]]?
who said he that could not sing this song

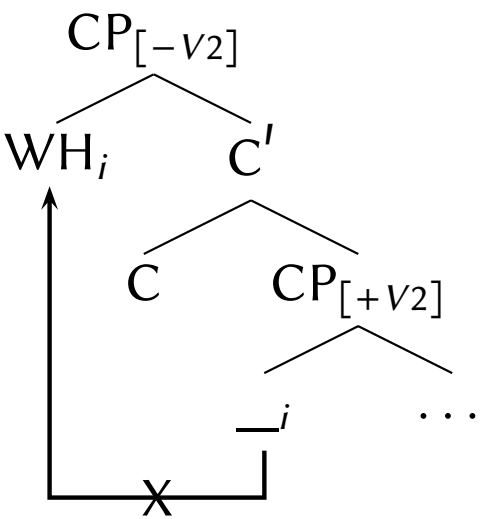
'Who did he say could not sing this song?'

Appendix I: An anti-locality approach

(46) *Spec-to-Spec Anti-Locality (Erlewine 2020)*:
Movement of a phrase from the Specifier of XP must cross a maximal projection other than XP.

(47) *Crossing movement*:
Movement from position α to β crosses γ if and only if γ dominates α but does not dominate β.

(48)



Appendix I: An anti-locality approach

Relevance here:

- The approach is particularly relevant as it has the potential to account for the empty escape hatch paradox in a way that allows to maintain Keine's (2020) horizon theory of extraction from EV2 in German.
- Namely, German would not be affected by anti-locality (while Scandinavian and Yiddish are) because in German EV2 is not accompanied by an additional $CP_{[-V2]}$-layer.

Appendix I: An anti-locality approach

But:

- Even within a language, there may be cases where anti-locality is respected in one configuration and violated in another (e.g., (49-a,b)).
- Presumably, one has to assume various empty heads (not motivated otherwise) to accont for grammatical cases where anti-locality is violated.

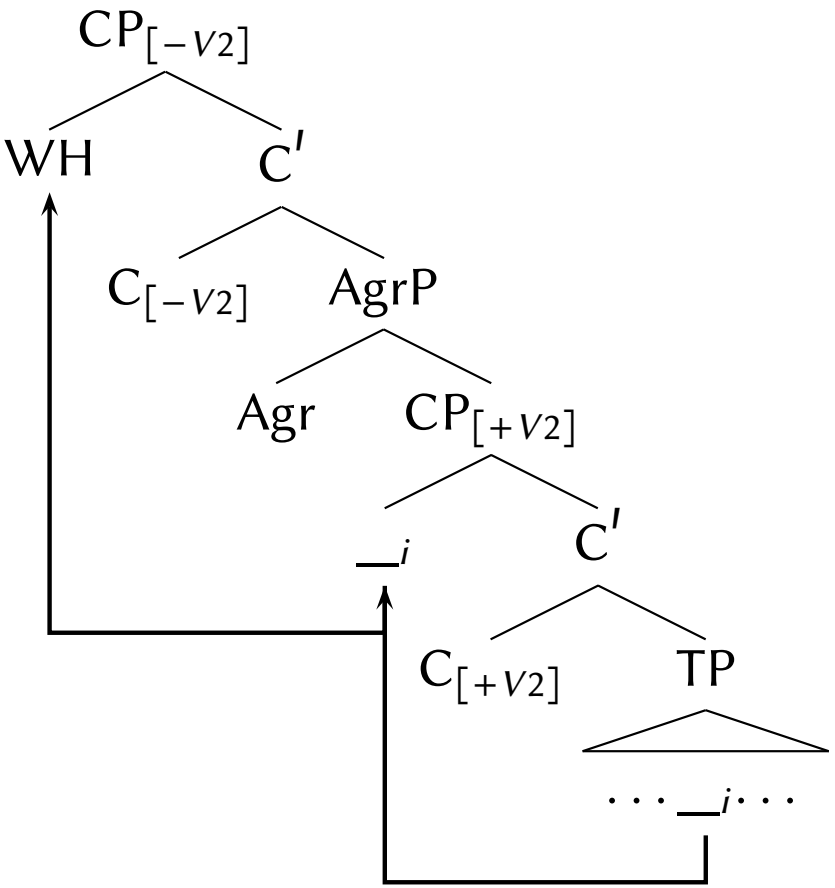
(49) a. *Who$_i$ do you think [$_{CP}$ __$_i$ that [$_{TP}$ __$_i$ [$_{vP}$ __$_i$ left]]]?
b. Who$_i$ do you think [$_{TP}$ __$_i$ [$_{vP}$ __$_i$ left]]?

Appendix I: An anti-locality approach

Dinka:

- For Dinka, one might argue that ϕ on C is actually situated on an agreement-head in between the higher and the lower CP-shell.
- This would then allow to move from Spec$C_{[+V2]}$ to Spec$C_{[-V2]}$ without violating antilocality.

(50)



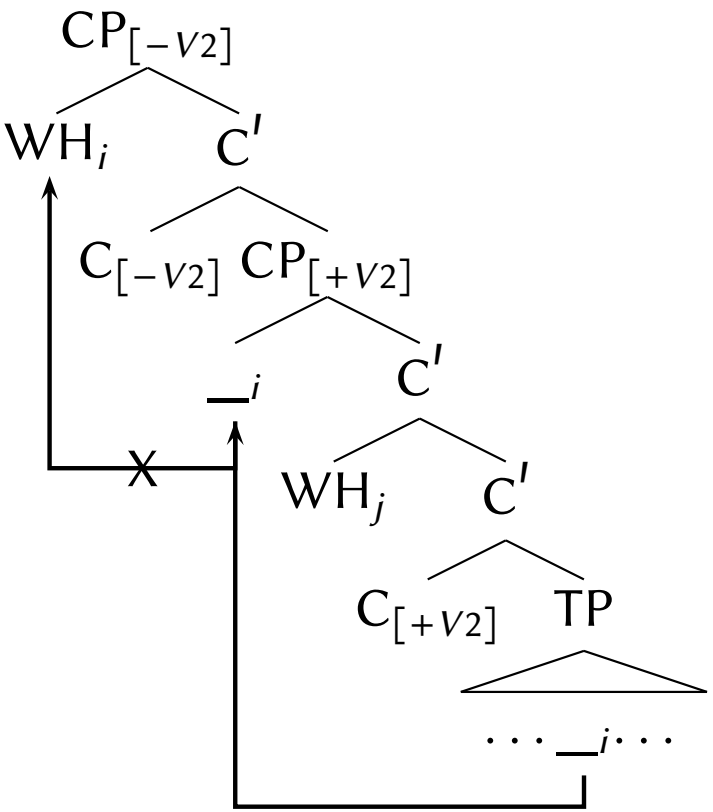
Appendix I: An anti-locality approach

Again, Yiddish poses a problem:

- Anti-locality is needed to exclude the empty escape hatch paradox (45-a) but must not be active with mulitple operators (51)/(52).
- Note that tucking-in does not solve the problem: V2′ is not an XP.

(51) Vos$_i$ . . . [$_{CP}$ __$_i$ az [$_{V2}$ __$_i$ [$_{V2'}$ in shul [$_{V2'}$ zoln . . .]]]]?
what that in school should

(52)



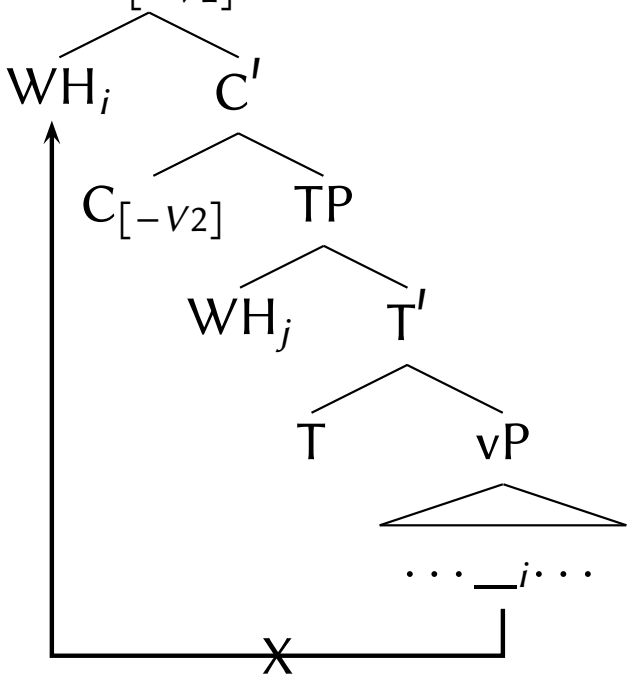
Appendix I: An anti-locality approach

An alternative analysis of Yiddish:

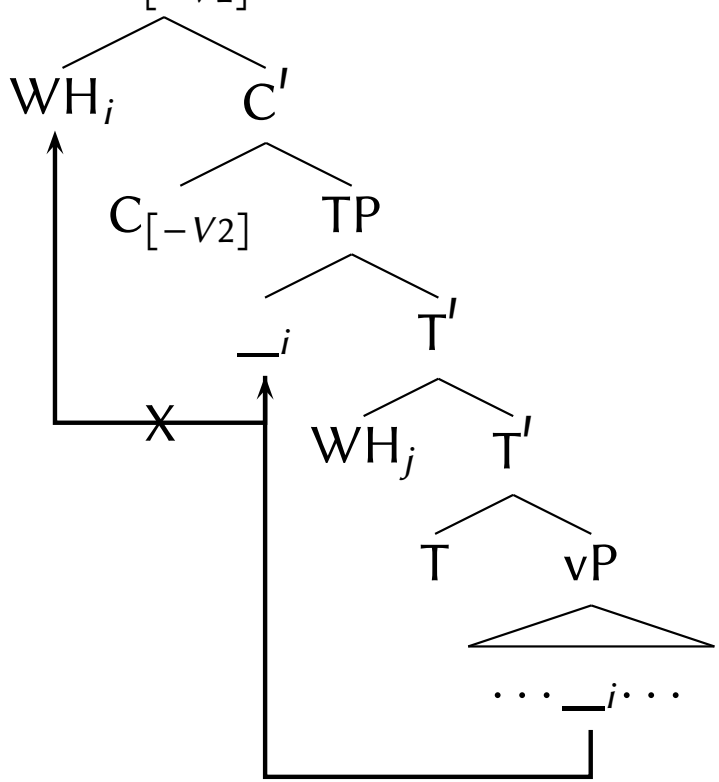
- Assuming that *wh*-movement in Yiddish targets SpecT (the subject remaining in Specv, see Santorini 1989, Diesing 1990; but cf. Vikner 1995 for discussion) avoids the anti-locality violation (53-a).
- However, (53-a) incurs a Minimality violation; and leapfrogging (53-b) (in the sense of Bobaljik 1995) is impossible due to anti-locality.

(53)

a.



b.



Appendix II: Subject-initial EV2 in Scandinavian

Extraction from subject-initial EV2 in Scandinavian:

- Icelandic (maybe Faroese) allows for extraction from subject-initial EV2s; Mainland Scandinavian (Danish Swedish, Norwegian) does not (Vikner 1995; but cf. Hrafnbjargarson et al. 2010 on Norwegian).
- (54-a,b) illustrates for Danish, (55-a,b) for Icelandic (Hrafnbjargarson et al. 2010).

(54) a. *Hvem$_i$ sagde han [$_{CP}$ (at) [$_{V2}$ — kunne ikke synge denne sang]]?
who said he that could not sing this song
Lit: 'Who did he say that could not sing this song?'

b. *Hvad$_i$ sagde han [$_{CP}$ at [$_{V2}$ han kunde ikke synge _$_i$]]?
what said he that he can not sing
'What did he say that he can not sing?'

(55) a. Hver$_i$ sagði hann [$_{CP}$ að [$_{V2}$ _$_i$ gæti ekki sungið fletta lag]]?
who said he that could not sing this song
Lit: 'Who did he say that could not sing this song?'

b. Hvaði sagði hann [$_{CP}$ að [$_{V2}$ hann gæti ekki sungið _$_i$]]?
what said he that he could not sing
'What did he say that he can not sing?'

Appendix II: Subject-initial EV2 in Scandinavian

Subject-initial EV2s in Scandinavian:

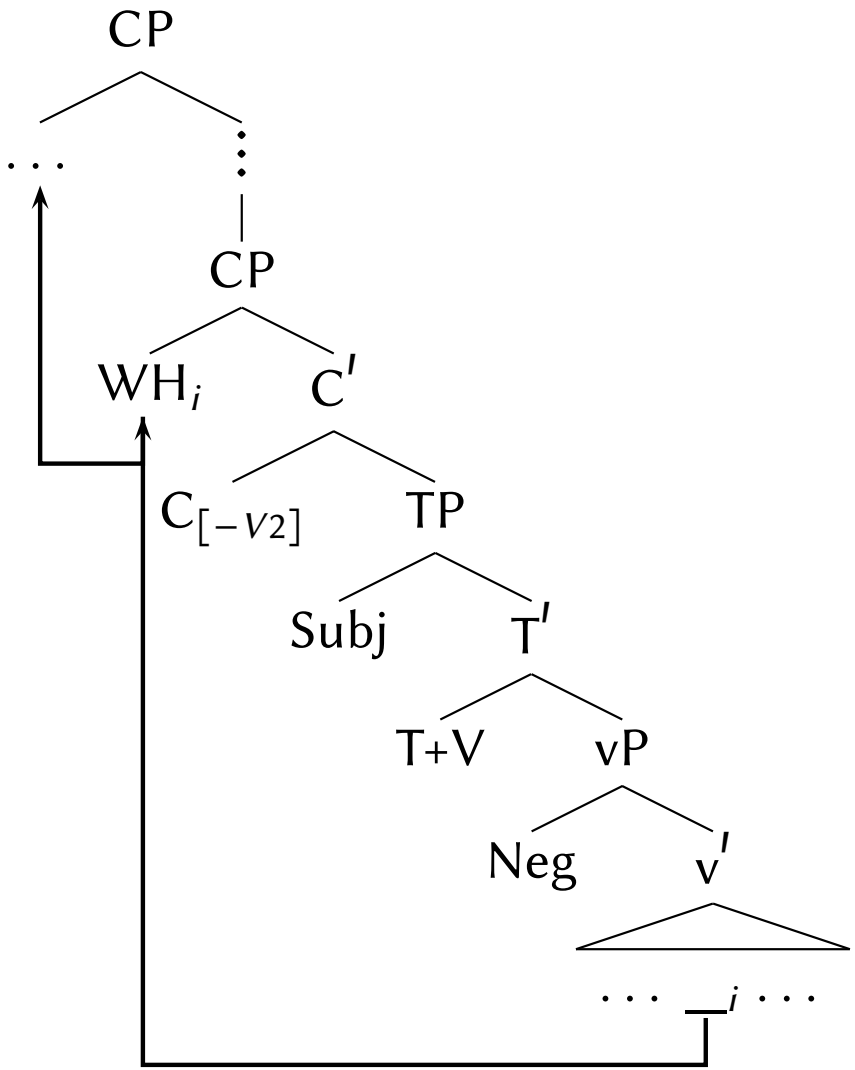
- Icelandic shows V-to-T movement, Danish and Swedish (and Norwegian) do not. Therefore, subject-initial V2-clauses can receive two parses in Icelandic: one with the subject in SpecC (56-a) and one with the subject in SpecT (56-b).
- In (56-b), there is only one CP, and its Spec$C_{[-V2]}$ is accessible as an escape hatch thus allowing for extraction (Vikner 1995), see (57). In contrast, Danish and Swedish, lacking V-to-T, only allow for a parse with two CPs like (56-a), where the escape hatch Spec$C_{[+V2]}$ is filled.

(56) a. *Hvað$_i$ sagði hann [$_{CP}$ að [$_{CP}$ hann gæti ekki sungið $\_\_{}_i$]]?
what said he that he could not sing
'What did he say that he could not sing?'

b. Hvað$_i$ sagði hann [$_{CP}$ að [$_{TP}$ hann gæti ekki sungið $\_\_{}_i$]]?
what said he that he could not sing
'What did he say that he could not sing?'

Appendix II: Subject-initial EV2 in Scandinavian

(57)



Appendix III: Keine (2020) and the necessity of the PIC

Successive cyclicity and V2-clauses:

- As already illustrated in (4-a), (16-b), and repeated here in (58-a), movement out of EV2 clauses in German appears to be possible.
- However, it requires that the moved element makes an intermediate touchdown at the edge of the EV2 (Spec$C_{[+V2]}$). If this position is already filled, ungrammaticality arises (58-b).

(58) a. [$_{V2}$ Wen$_i$ hat sie gesagt [$_{V2}$ __$_i$ hat sie __$_i$ getroffen]]?
who has she said has she met
'Who did she say that she met?'

b. *[$_{V2}$ Wen$_i$ hat sie gesagt [$_{V2}$ sie hat __$_i$ getroffen]]?
who.ACC has she said she has met

Note:
This does not follow from horizons. [∗wh∗]$_{C_{[+V2]}}$ has no horizon, and even if it had one, it would not follow from this that *wen* in (58) must move via the edge of the embedded domain. Keine's (2020) conclusion: The PIC is needed as well.

Appendix III: Keine (2020) and the necessity of the PIC

Successive cyclicity and V-final clauses:

- (59-a) shows a V2–V-final–V2 pattern. Long *wh*-movement from the lowest into the highest clause is blocked. The pattern becomes well-formed if it changes to V2–V2–V-final (59-b).
- (59-a) follows if, because of the PIC, movement across the V-final clause must land in Spec$C_{[-V2]}$ (__$_i$ before *dass*). This is impossible in (59-a) because $[*\text{wh}*]_{C_{[-V2]}} \dashv\Vdash C_{[+V2]}$. The horizons approach alone does not account for (59-a) (because of $[*\text{wh}*]_{C_{[+V2]}} \dashv\Vdash \varnothing$).

(59) a. *[$_{\text{V2}}$ Wen$_i$ hat Maria gesagt [$_{\text{CP}}$ (__$_i$) dass sie glaubt [$_{\text{V2}}$ __$_i$ hat
who has Maria said that she believes has
Sarah __$_i$ getroffen]]]
Sarah met
'Who did Maria say that she believes that Sarah met?'

b. [$_{\text{V2}}$ Wen$_i$ hat Maria gesagt [$_{\text{V2}}$ __$_i$ glaubt sie [$_{\text{CP}}$ dass Sarah __$_i$
who has Maria said believes she that Sarah
getroffen hat]]]
met has

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