

***Do*-support as spellout of split head chains**

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49th Annual Meeting of the North East Linguistic Society
Cornell University
7 October 2018

1. Claims

***Do*-support is not triggered by failure of some operation**

It's triggered by special integrity conditions on certain head chains.

***Do*-support is not triggered by idiosyncratic requirements of particular heads**

Variation in the surface position of *do* follows from independent parameters on verb position.

Section 2 Analysis: *Do* is inserted in split head chains.

Section 3 *Do*-support is not triggered by failure of Head Movement or Lowering.

Section 4 *Do*-support is not triggered by idiosyncratic requirements of particular heads.

2. Analysis: *Do* is inserted in split head chains

Heads in the clausal spine form a head chain:

(1) $[_{CP} C [_{TP} T [_{VP} v [_{VP} V \dots$ (C is part of the head chain in V2 sentences)

A head chain is pronounced as **an inflected verb** in one of the positions (*v* in English, *T* in French.)
(The precise mechanism of head chain formation is orthogonal. Possibilities include agreement, head movement or a mirror-theoretic complementation line.)

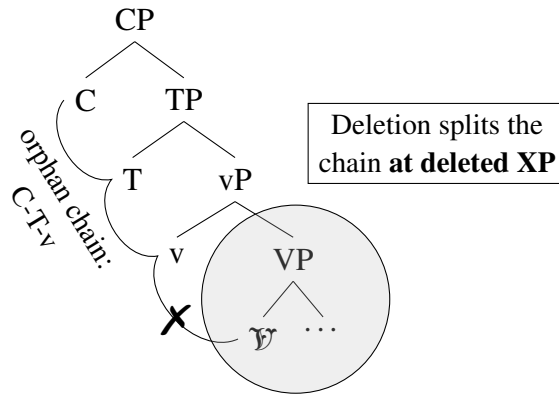
Parameter: Some languages require *integrity* of head chains

In languages with special integrity conditions, head chains are built around a special V: \mathcal{V}

Disrupting the integrity of a \mathcal{V} -chain causes *do*-support:

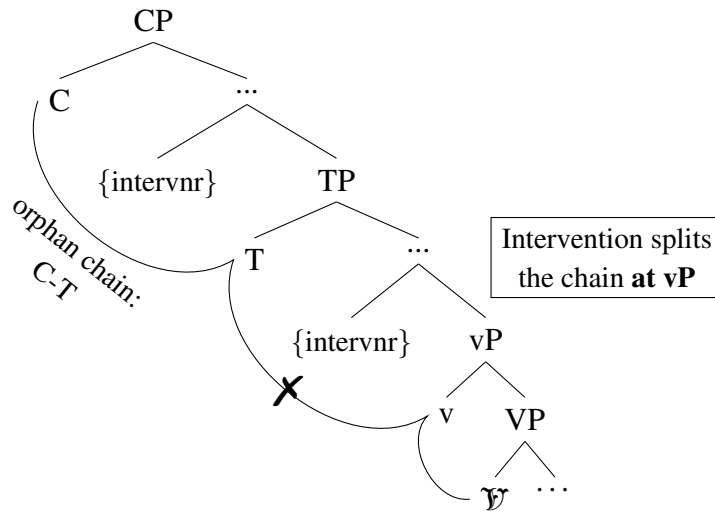
- **Standard view:** *Do*-support is due to **blocking** of head chain formation.
- **Our proposal:** Head chains are **fully formed but later split**.

(2) **Split-by-deletion**



(3) **Split-by-intervention**

(by heads & specifiers, not adjuncts: Bobaljik 1995)



Orphan chain

A head chain that becomes dissociated from a lexical verb due to splitting.

***Do* is inserted in orphan chains and surfaces where the lexical verb would.**

3. *Do*-support is not triggered by failure of Head Movement or Lowering

The traditional view

Chomsky 1957, Lasnik 1981, Halle & Marantz 1993, Bobaljik 1995, Embick & Noyer 2001:

- *Do* is inserted in **stranded heads** (typically T) as a Last Resort
- A head is stranded if it's affixal but cannot combine with V (by Head Movement, Lowering, etc.)

WRONG PREDICTION: a language with V-to-T movement should not have *do*-support.

3.1. Monnese has both V-to-T movement and *do*-support

Benincà & Poletto 2004, Bjorkman 2011

Both auxiliaries and lexical verbs move to T and precede adverbs (Benincà & Poletto 2004:59):

- (4) I à *semper* tʃakolà
he **have.3SG** *always* spoken
'He's always spoken.'

[_{TP} T+**have** *always* [_{AuxP} <have> ...]]

- (5) I tʃàkòla *semper*
he **speak.3SG** *always*
'He always speaks.'

[_{TP} T+**speak** *always* [_{VP} <speak> ...]]

→ The affixal requirement of T is always satisfied by verb-movement.

In further T-to-C movement, *do*-support emerges:

- (6) **Monnese has T-to-C** (Benincà & Poletto 2004:63):
kwal è -t tʃerkà fora?
which **have.2SG** -*you* searched out

'What have you chosen?'

[_{CP} C+T+**have** [_{TP} subject <T+have> ...]]

- (7) **T-to-C with lexical V triggers *do*-support** (Benincà & Poletto 2004:68):
ke fe -t majá?
what **do.2SG** -*you* eat.INF

'What do you eat?'

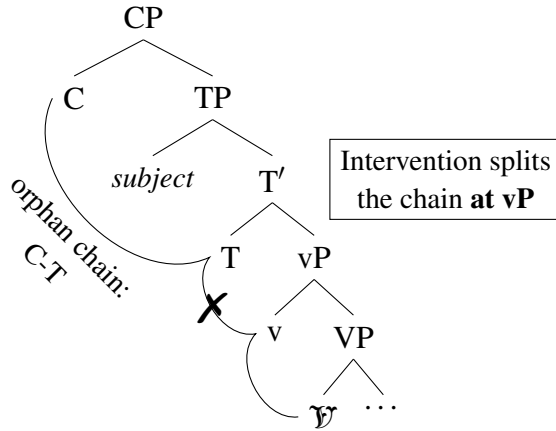
[_{CP} C+T+**do** [_{TP} subject <T+?> ...]]

⇒ A countercyclic effect: V-to-T is precluded by T-to-C.

3.2. Monnese *do*-support arises due to Split-by-intervention

The orphan chain is pronounced in C as *do*:

(8) T-to-C: Split-by-intervention



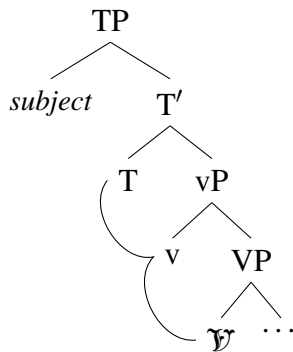
CORRECT PREDICTION: The lexical verb is pronounced low, despite the normal V-to-T.

- (9) l **tfàkola** mia
 he **speak.3SG** not
 'He doesn't speak.'
 (Benincà & Poletto 2004:60)

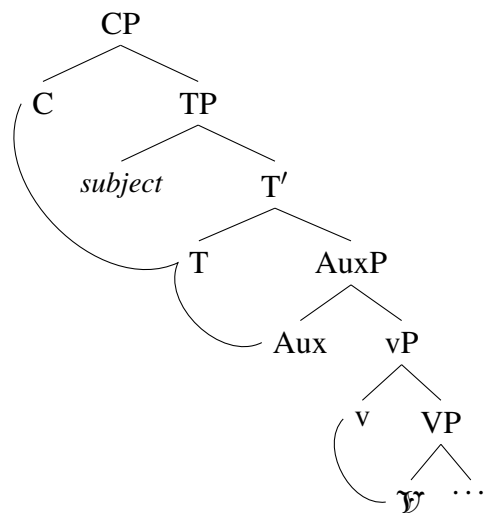
- (10) fe -t mia **majal** 'l pom?
 do.2SG -you not **eat.INF** the apple
 'Do you not eat the apple?'
 (Bjorkman 2011:190–191)

No orphan chains arise in other sentence types:

(11) V-to-T: no intervention



(12) Aux: no integrity constraints



⇒ **V-to-T movement does not preclude *do*-support**
 (See also Bjorkman 2011)

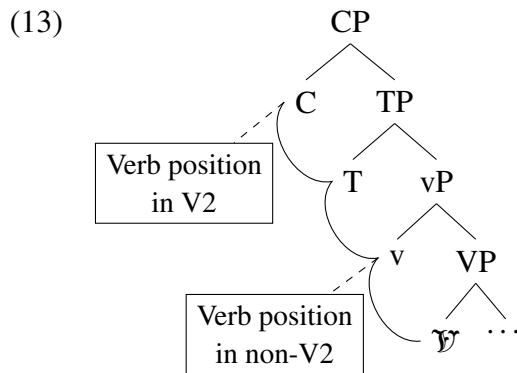
4. Do-support is not triggered by idiosyncratic requirements of particular heads

Do can surface in C, T, or v, or in multiple positions, in a predictable way

4.1. Mainland Scandinavian (MSc): Do in C or v

Position of *do* follows from independent parameters on verb position

Finite verb positions:

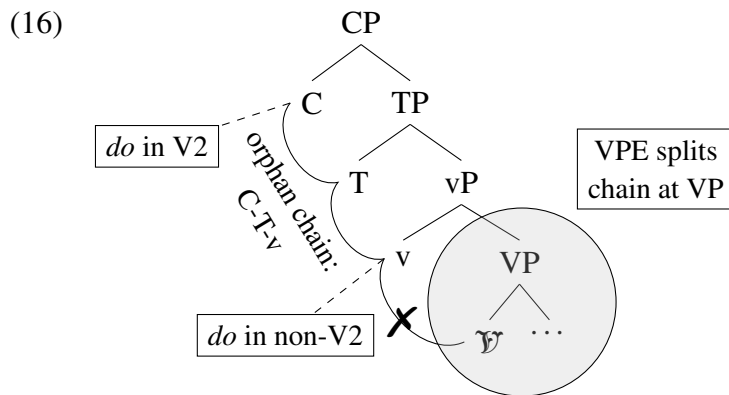


(14) Om morgenen **drikker** Peter ofte kafe.
 in the.morning **drinks** Peter often coffee
 ‘Peter often drinks coffee in the morning.’ Danish (Vikner 1995:47)

(15) Vi ved at Peter ofte **drikker** kaffe om morgenen.
 we know that Peter often **drinks** coffee in the.morning
 ‘We know that Peter often drinks coffee in the morning.’ Danish (Vikner 1995:47)

(den Besten 1983, Taraldsen 1985, Holmberg and Platzack 1995, Vikner 1995)

Do surfaces in those same positions under VP ellipsis & Split-by-deletion:



(17) Mona og Jasper *vaskede bilen*, eller rettere Mona **gjorde** Δ_{VP}
 Mona or Jasper *washed the.car*, or rather Mona **did**
 ‘Mona or Jasper washed the car, or rather Mona did.’ Danish (Houser et al. 2011:249)

- (18) Der er en forventning om, at vi skall *gå videre*, selv om det snarere vil være en
 there is an expectation about that we shall *go further* even if it rather will be a
 stor skuffelse end katastrofalt, hvis vi *ikke gør* Δ_{VP}
 big disappointment than catastrophic if we *not do*
 ‘We are expected to go further. That said, it would be a great disappointment, not a catastro-
 phe, if we don’t.’ Danish (Houser et al. 2011:251–252)

(Sailor 2009, 2018, Houser et al. 2011, Platzack 2012, Thoms 2012, Bentzen et al. 2013)

4.2. English: *Do* in C or T

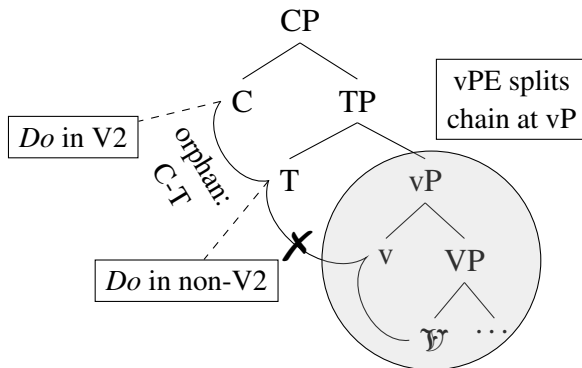
Surface position of *do* follows from site of split

Verb typically surfaces in v:

- (19) Mary *often drinks* coffee.

With **vP ellipsis & Split-by-deletion**, *do* surfaces in C or T, since v is not in the orphan chain:

(20)

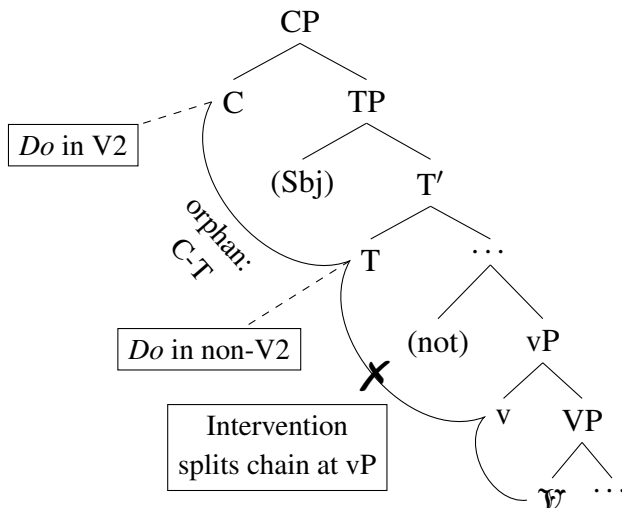


- (21) Sue *washed the car*.
Did Mary Δ_{VP} ?

- (22) Sue *washed the car*, but ...
 ... Mary **did not** Δ_{VP}

With **Split-by-intervention**, *do* also surfaces in C or T:

(23)

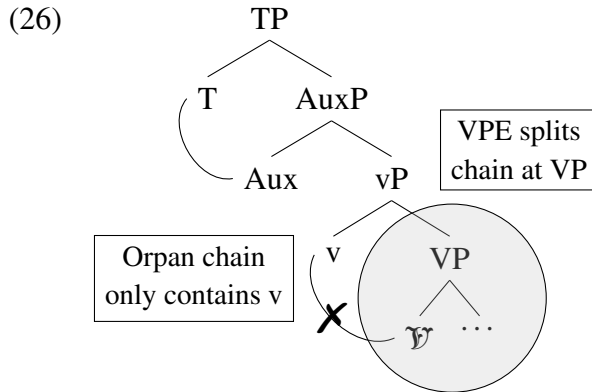


- (24) **Did** Mary wash the car?

- (25) Mary **did not** wash the car.

4.3. VP ellipsis under auxiliaries: *Do* in *v*

VPE can result in *do* under auxiliaries:



In MSc:

- (27) Nu *fisker* jeg ikke *efter en partner*. Men hvis jeg *havde gjort* Δ_{VP} , *havde* jeg ...
 now *fish* I not *after a partner* but if I *had done* had I
 ‘I’m not looking for a new partner. But if I had, I would ...’

Danish (Houser et al. 2011:271)

In British English (BrE):

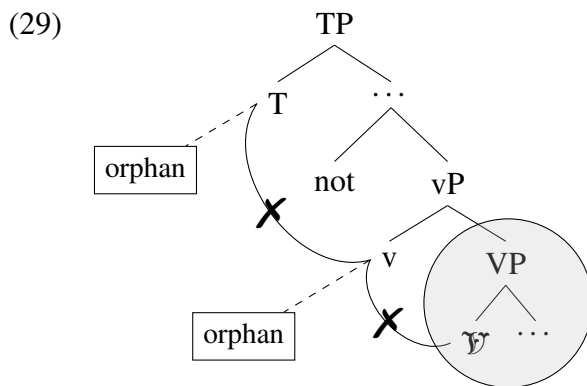
- (28) Kim isn’t *running for office* now, but she *has done* Δ_{VP} in the past.

(Thoms & Sailor 2018:1)

(Chalcraft 2006, Haddican 2007, Aelbrecht 2010, Thoms 2011, Baltin 2012, Thoms & Sailor 2018)

4.4. *Do* in both T and *v* in the same sentence

Double *do* in BrE (Chalcraft 2006): Split-by-deletion plus Split-by-intervention.



2 orphan chains → 2 instances of *do*-support:

- (30) John said he would *help*, but he *doesn’t* usually *do* Δ_{VP} .

(Chalcraft 2006:5)

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