Te-raising in Dutch non-finite verb clusters

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Introduction

New data on *te*-placement in Dutch verb clusters

(1) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

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- The verb in red: the verb that selects the *te*-infinitive

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- The numbers indicate the hierarchical position of the verbs in the cluster (V1 selects V2, V2 selects V3)
- The verb in red: the verb that selects the *te*-infinitive
- The verb in blue: the verb on which *te* normally appears
- In (1), V1 *hoeven* 'need to' selects a *te*-infinitive

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New data on *te*-placement in Dutch verb clusters

(2) Koen zal niet [*te* hoeven$_1$ gaan$_2$ voetballen$_3$].
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Koen will not to need.INF go.INF play.football.INF.
'Koen won't have to go and play football.'

- V1 *hoeven* 'need to' selects a *te*-infinitive
- Dutch speakers allow *te* also to appear on V1: *te*-raising (2)

Introduction

The analysis in a nutshell

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- Dutch verb clusters are cases of functional restructuring (Cinque 2001; IJbema 2001; Wurmbrand 2001)

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The analysis in a nutshell

- Dutch verb clusters are cases of functional restructuring (Cinque 2001; IJbema 2001; Wurmbrand 2001)
- *Te*-raising is an instance of clitic climbing

Outline

1. Methodology

2. The data

3. Prerequisites for the analysis

4. The analysis

5. Extension of the analysis: te-doubling

6. Conclusion and outlook

Methodology: design

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Large-scale questionnaire study

- Three types of clusters in 123-order were tested

Methodology: design

Cluster type I. *Te*-V1-V2-V3

(3) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

Methodology: design

Cluster type I. *Te*-V1-V2-V3

(3) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
Anne says here to want.INF remain.INF sit.INF.
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- The finite verb *zegt* 'says' in verb second position selects a *te*-infinitive

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(3) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

- The finite verb *zegt* 'says' in verb second position selects a *te*-infinitive
- The highest verb in the cluster (V1) is a *te*-infinitive

Methodology: design

Cluster type II. V1-*te*-V2-V3

(4) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

Methodology: design

Cluster type II. V1-*te*-V2-V3

(4) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
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- V1 *hoeven* 'need to' selects a *te*-infinitive

Methodology: design

Cluster type II. V1-*te*-V2-V3

(4) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

- V1 *hoeven* 'need to' selects a *te*-infinitive
- The second verb in the cluster (V2) is a *te*-infinitive

Methodology: design

Cluster type III. V1-V2-*te*-V3

(5) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

Methodology: design

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(5) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
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- V2 *zitten* 'sit' selects a *te*-infinitive

Methodology: design

Cluster type III. V1-V2-*te*-V3

(5) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

- V2 *zitten* 'sit' selects a *te*-infinitive
- The lowest verb in the cluster (V3) is a *te*-infinitive

Methodology: design

Goal of the questionnaire study:

- Test whether *te* can appear in a different position than it should appear in based on the selection requirements

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  - *te* occurring on either one of the other verbs of the cluster

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  - *te* being absent

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- Different versions of the three cluster types were included in the questionnaire:
  - the 'correct' version (meeting the selection requirements)
  - *te* occurring on either one of the other verbs of the cluster
  - *te* being absent
  - *te* occurring twice

Methodology: design

7 different versions of all cluster types:

1. *te*-V1-V2-V3
2. V1-*te*-V2-V3
3. V1-V2-*te*-V3
4. V1-V2-V3
5. *te*-V1-*te*-V2-V3
6. *te*-V1-V2-*te*-V3
7. V1-*te*-V2-*te*-V3

- 28 test items, 25 filler items, 5 practice items

Methodology: procedure

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Task

- Judgment Task, using a 5-point Likert Scale

Methodology: procedure

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- Online written questionnaire, created in LimeSurvey©

Methodology: procedure

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- Judgment Task, using a 5-point Likert Scale
- Online written questionnaire, created in LimeSurvey©
- Test items presented in randomized order, preceded by a practice round (5 practice items, same order for all participants)

Methodology: procedure

Instructions

- Participants were asked to answer the following question on a 5-point Likert scale after reading the test sentence out loud:

  'Is this a possible sentence in Dutch as it is spoken in your immediate environment?'

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  'Is this a possible sentence in Dutch as it is spoken in your immediate environment?'

  - 'Immediate environment' was defined as 'friends, family, town or city'
  - 5 = 'certainly', 1 = 'certainly not'; they could also assign 2,3,4 or 'I don't know', and comment on their rating in a comment field

Methodology: participants

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Participants

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  - 70 participants were excluded due to having lived abroad for longer than 10% of their lives

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- 531 native Dutch speakers completed the questionnaire, 459 were included for analysis:
  - 70 participants were excluded due to having lived abroad for longer than 10% of their lives
  - 2 participants were excluded due to inconsistent responses to the filler items

Methodology: participants

Participants

- Mean age: 53 (*SD* 12,5; range: 18-99)

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Methodology: participants

Participants

- Mean age: 53 (*SD* 12,5; range: 18-99)
- Gender: 250 female, 209 male
- Place of birth:The Netherlands: 361, Belgium: 95 (other: 3)

Methodology: participants

Figure 1: Distribution of included participants

1. Methodology
2. The data
3. Prerequisites for the analysis
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5. Extension of the analysis: te-doubling
6. Conclusion and outlook

The data: *te*-raising

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Two theoretical positions for *te*:

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1. *Te* occurs in the position as required by selection: *te* in situ

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Two theoretical positions for *te*:

1. *Te* occurs in the position as required by selection: *te* in situ
2. *Te* occurs in a higher position within the cluster: *te*-raising

The data: *te*-raising

(6) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

- In cluster type I, *te* is already on the highest verb of the cluster; we thus do not find *te*-raising in this cluster

The data: *te*-raising

(6) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

- In cluster type I, *te* is already on the highest verb of the cluster; we thus do not find *te*-raising in this cluster
- All 459 speakers allow *te* in situ (i.e. *te* in the position as required by selection)

The data: *te*-raising

- In cluster type II, 378 speakers allow *te* in situ:

(7) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

The data: *te*-raising

- 185 speakers allow *te*-raising in cluster type II:

(8) Koen zal niet [*te* hoeven$_1$ gaan$_2$ voetballen$_3$].
Koen will not to need.INF go.INF play.football.INF.
'Koen won't have to go and play football.'

The data: *te*-raising

- In cluster type III, 172 speakers allow *te* in situ:

(9) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

The data: *te*-raising

- 48 speakers allow *te*-raising in cluster type III, to V2 (10a) or V1 (10b), or both ((10a) & (10b)):

(10) a. Peter zal lang [moeten$_1$ *te* zitten$_2$ wachten$_3$].
Peter will long must.INF to sit.INF wait.INF.
'Peter will have to wait for a long time.'

b. Peter zal lang [*te* moeten$_1$ zitten$_2$ wachten$_3$].
Peter will long to must.INF sit.INF wait.INF.
'Peter will have to wait for a long time.'

The data: *te*-raising

- Taken together, *te* can be raised, with higher frequencies for *te*-raising in cluster type II than in cluster type III:

Type of cluster	***Te* in situ**	***Te*-raising**
I. *te*-V1-V2-V3	459	-
II. V1-*te*-V2-V3	378	185
III. V1-V2-*te*-V3	172	48

Table 1: Frequency overview of *te*-raising per type of cluster

The data: *te*-raising

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Table 1: Frequency overview of *te*-raising per type of cluster

- *Implicational relation*: if speakers allow *te*-raising, they also allow *te* in situ

The data: *te*-drop

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Two theoretical options for the presence of *te*:

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Two theoretical options for the presence of *te*:

1. *Te* is present in the cluster, as required by selection: no *te*-drop

The data: *te*-drop

Two theoretical options for the presence of *te*:

1. *Te* is present in the cluster, as required by selection: no *te*-drop
2. *Te* is absent in the cluster, even though selection requires it to be present: *te*-drop

The data: *te*-drop

Te-drop

- The data show that *te* can or even has to be dropped in cluster type II (11) and cluster type III (12)

(11) Koen zal niet [hoeven$_1$ gaan$_2$ voetballen$_3$].
Koen will not need.INF go.INF play.football.INF.
'Koen won't have to go and play football.'

(12) Peter zal lang [moeten$_1$ zitten$_2$ wachten$_3$].
Peter will long must.INF sit.INF wait.INF.
'Peter will have to wait for a long time.'

The data: *te*-drop

(13) Koen zal niet [hoeven$_1$ gaan$_2$ voetballen$_3$].
Koen will not need.INF go.INF play.football.INF.
'Koen won't have to go and play football.'

- In cluster type II, 187 speakers show optional *te*-drop, i.e. for these speakers *te* can be dropped, but they also allow *te* in situ, *te*-raising, or both

The data: *te*-drop

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- In cluster type II, 187 speakers show optional *te*-drop, i.e. for these speakers *te* can be dropped, but they also allow *te* in situ, *te*-raising, or both
- 19 speakers need *te* to be dropped in this cluster, i.e. they neither allow *te* in situ, nor *te*-raising

The data: *te*-drop

(14) Peter zal lang [moeten$_1$ zitten$_2$ wachten$_3$].
Peter will long must.INF sit.INF wait.INF.
'Peter will have to wait for a long time.'

- In cluster type III, 152 speakers show optional *te*-drop, i.e. these speakers allow *te* to be dropped, but also allow *te* in situ, *te*-raising, or both

The data: *te*-drop

(14) Peter zal lang [moeten$_1$ zitten$_2$ wachten$_3$].
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'Peter will have to wait for a long time.'

- In cluster type III, 152 speakers show optional *te*-drop, i.e. these speakers allow *te* to be dropped, but also allow *te* in situ, *te*-raising, or both
- 223 speakers need *te* to be dropped in this cluster, i.e. they neither allow *te* in situ, nor *te*-raising

The data: *te*-drop

- Taken together, *te* can be dropped, with high frequencies for obligatory *te*-drop in cluster type III.

Type of cluster	**No *te*-drop**	**Optional *te*-drop**	**Obligatory *te*-drop**
I. *te*-V1-V2-V3	451	8	0
II. V1-*te*-V2-V3	191	187	19
III. V1-V2-*te*-V3	20	152	223

Table 2: Frequency overview of *te*-drop per type of cluster

The data: geographical distribution

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Figure 2: Linguistic differences mapped onto geographical space

The data: geographical distribution

- There are no clear geographical patterns in the distribution of *te*-raising and *te*-drop

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- There are no clear geographical patterns in the distribution of *te*-raising and *te*-drop
- That is, there are no specific dialectal/regiolectal areas displaying (one of) these two phenomena: they are widespread and not restricted to (a) specific area(s)

The data: summary

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1. *Te*-raising occurs in cluster type II and III, with higher frequencies for cluster type II than for cluster type III

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Three main findings:

1. *Te*-raising occurs in cluster type II and III, with higher frequencies for cluster type II than for cluster type III
2. *Te*-drop occurs in cluster type II and III, with higher frequencies for cluster type III than cluster type II

The data: summary

Three main findings:

1. *Te*-raising occurs in cluster type II and III, with higher frequencies for cluster type II than for cluster type III
2. *Te*-drop occurs in cluster type II and III, with higher frequencies for cluster type III than cluster type II
3. There are no clear geographical patterns in the distribution of these two phenomena

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3. Prerequisites for the analysis
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Prerequisites for the analysis

- *Proposal*: Dutch non-finite verb clusters are cases of functional restructuring:

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  - Modal, aspectual and motion verbs are merged in functional heads above the lexical verb (Cinque 2001; Wurmbrand 2001)

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- Dutch modals select a TP complement (Aelbrecht 2009)

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- *Support*: the modal and lexical verb can be modified by conflicting temporal adverbs (Aelbrecht 2009: 35)

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- I assume Dutch modals to select a TP complement (Aelbrecht 2009)
- *Support*: the modal and lexical verb can be modified by conflicting temporal adverbs (Aelbrecht 2009: 35)

(15) *Gisteren* moest ik nog *volgende week* optreden
yesterday must.PAST I still *next* *week* perform
en nu zijn de plannen alweer een week opgeschoven.
and now are the plans again a week delayed.
'Yesterday, I still had to perform next week, and now the plans have been delayed with another week.'

Prerequisites for the analysis

The position and morphosyntactic status of *te*

- *Te* is merged in T (Bennis and Hoekstra 1989; Rutten 1991; IJbema 2001)

Prerequisites for the analysis

The position and morphosyntactic status of *te*

- *Te* is merged in T (Bennis and Hoekstra 1989; Rutten 1991; IJbema 2001)
- There is a debate regarding the morphosyntactic status of *te*, i.e. whether it is or isn't a prefix

Prerequisites for the analysis

Conflicting judgments on the distributional properties of *te*

- Zwart (1993: 104):

(16) a. Om in L.A. *te* leven en sterven.
for in L.A. to live.INF and die.INF.
'To live and die in L.A.'

b. Om in L.A. *ge*-boren en *(*ge*-)storven te zijn.
for in L.A. GE-born and GE-died to be.
'To be born and have died in L.A.'

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b. Om in L.A. *ge*-boren en *(*ge*-)storven te zijn.
for in L.A. GE-born and GE-died to be.
'To be born and have died in L.A.'

- IJbema (2001: 70): (16) shows that *te* is a clitic, as clitics can have scope over two elements in a coordination construction, whereas prefixes cannot (Miller 1991).

Prerequisites for the analysis

Conflicting judgments on the distributional properties of *te*

- Bennis (2000: 115) rejects coordination constructions with *te* taking scope over two infinitives (i.e. he argues that *te* is a prefix):

(17) De generaal moedigt het leger aan om *te* strijden
the general encourages the army PRT for to fight
en *(*te*) winnen.
and to win.
'The general encourages the army to fight and win.'

Prerequisites for the analysis

Te can be either a prefix or a clitic

- **My proposal**: For some speakers *te* is a prefix, whereas for others *te* is a clitic

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Te can be either a prefix or a clitic

- **My proposal**: For some speakers *te* is a prefix, whereas for others *te* is a clitic
- Speakers for whom *te* is a prefix, do not allow *te*-raising; speakers for whom *te* is a clitic, do

1. Methodology

2. The data

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The analysis: *Te*-raising is clitic climbing

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- In Italian, clitics can also appear on a different host than they are syntactically associated with (Rizzi 1982; Kayne 1989; Cinque 2004)

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- In Italian, clitics can also appear on a different host than they are syntactically associated with (Rizzi 1982; Kayne 1989; Cinque 2004)

(18) a. $<Ci>$ vorrei andar$<ci>$ con Maria.
there I.would.want go.INF.there with Maria.
'I would like to go there with Maria.'

b. $<{}^{*}Ci>$ detesterei andar$<ci>$ con Maria.
there I.would.hate go.INF.there with Maria.
'I would hate to go there with Maria.'

(Cardinaletti and Shlonsky 2004: 521)

The analysis: *Te*-raising is clitic climbing

- If speakers allow clitic climbing, then they also allow the clitic in situ

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- If speakers allow clitic climbing, then they also allow the clitic in situ
- *Recall:* for *te*-raising this implicational relation also holds: if speakers allow *te*-raising, then they also allow *te* in situ

The analysis: *Te*-raising is clitic climbing

- If speakers allow clitic climbing, then they also allow the clitic in situ
- *Recall:* for *te*-raising this implicational relation also holds: if speakers allow *te*-raising, then they also allow *te* in situ
- Restructuring is a necessary condition for both Italian clitic climbing and Dutch *te*-raising

The analysis: *Te*-raising is clitic climbing

- If speakers allow clitic climbing, then they also allow the clitic in situ
- *Recall:* for *te*-raising this implicational relation also holds: if speakers allow *te*-raising, then they also allow *te* in situ
- Restructuring is a necessary condition for both Italian clitic climbing and Dutch *te*-raising
- I therefore propose that ***te*-raising is a case of clitic climbing**

The analysis: *Te* in cluster type I.

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Cluster type I, *te*-V1-V2-V3

(19) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

- The finite verb *zegt* 'says' in verb second position selects the *te*-infinitive

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Cluster type I, *te*-V1-V2-V3

(19) Anne zegt hier [*te* willen$_1$ blijven$_2$ zitten$_3$].
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'Anne says that she wants to remain seated here.'

- The finite verb *zegt* 'says' in verb second position selects the *te*-infinitive
- V1 *willen* 'want' is in Mod, V2 *blijven* 'remain' in Asp and the lexical verb V3 *zitten* 'sit' is in V

The analysis: *Te* in cluster type I.

Cluster type I, *te*-V1-V2-V3

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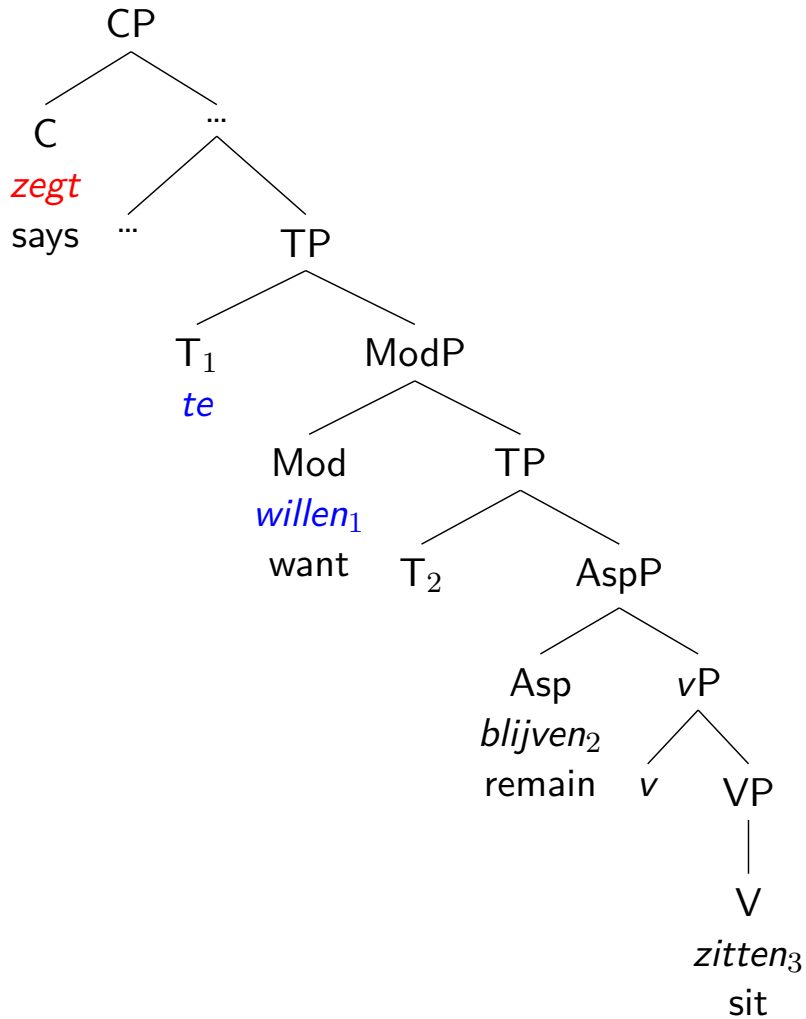
- The finite verb *zegt* 'says' in verb second position selects the *te*-infinitive
- V1 *willen* 'want' is in Mod, V2 *blijven* 'remain' in Asp and the lexical verb V3 *zitten* 'sit' is in V
- The data showed that there is no *te*-raising and no *te*-drop in this cluster type

The analysis: *Te* in cluster type I.

The structure of cluster type I:

(20)



The analysis: *Te* in cluster type II.

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Cluster type II, V1-*te*-V2-V3

(21) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

- The highest verb in the cluster, V1 *hoeven* 'need to' selects the *te*-infinitive

The analysis: *Te* in cluster type II.

Cluster type II, V1-*te*-V2-V3

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- The highest verb in the cluster, V1 *hoeven* 'need to' selects the *te*-infinitive
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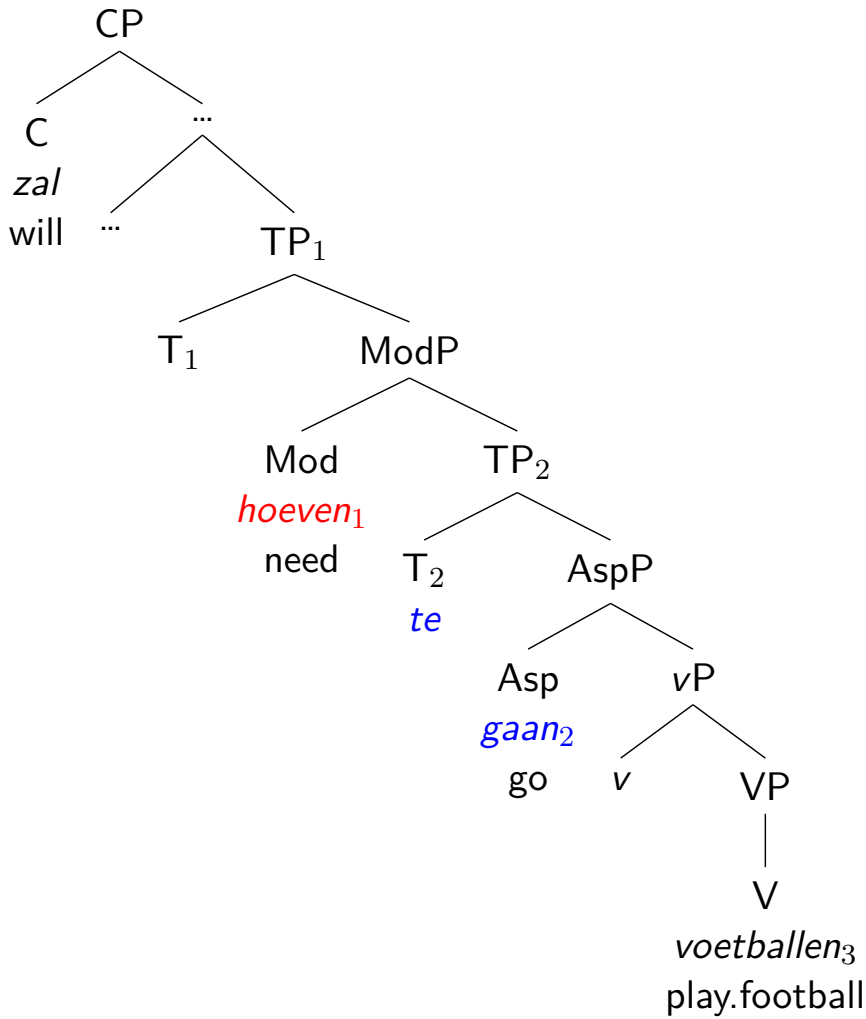
(22)



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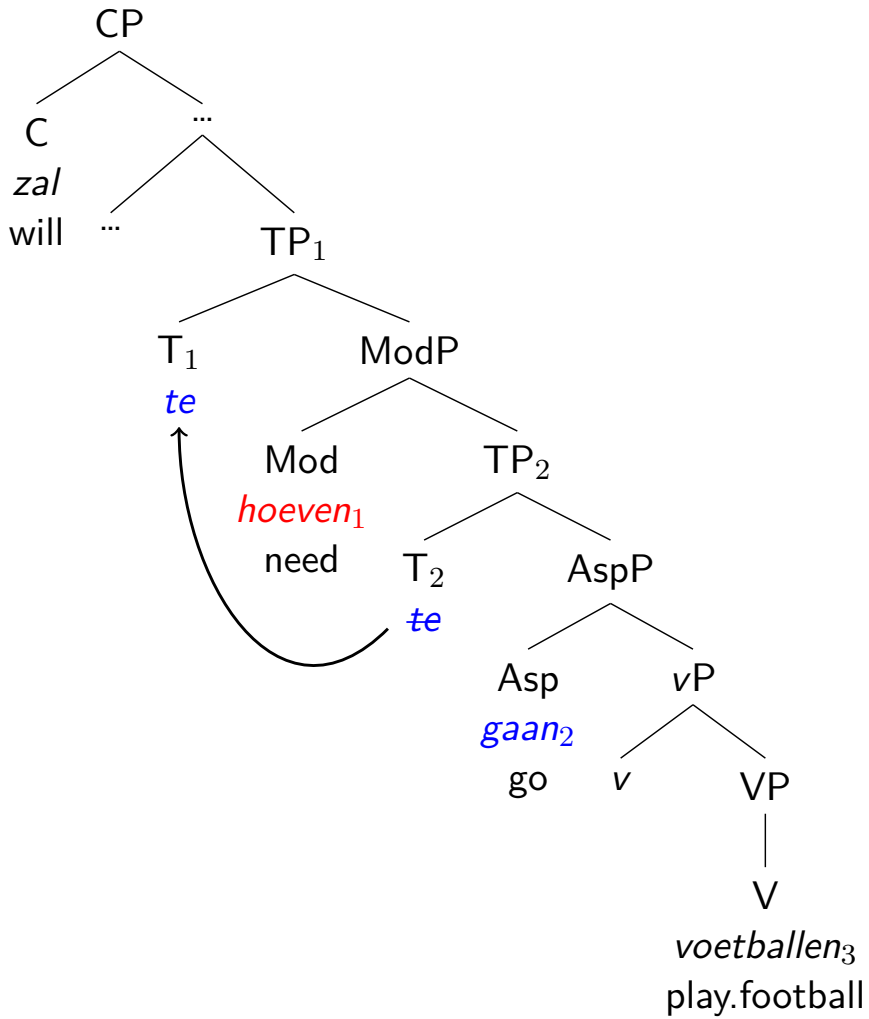
Te-raising in cluster type II:

(23)



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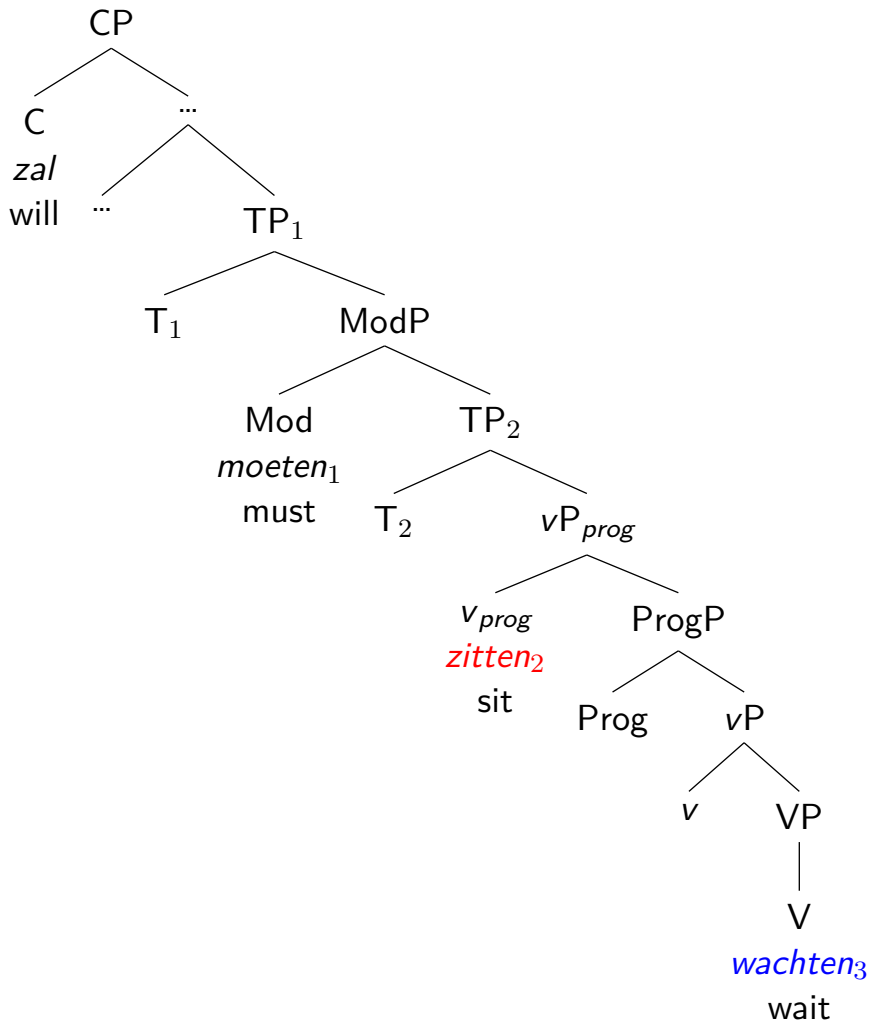
The analysis: *Te* in cluster type III.

The structure of cluster type III:

(26)



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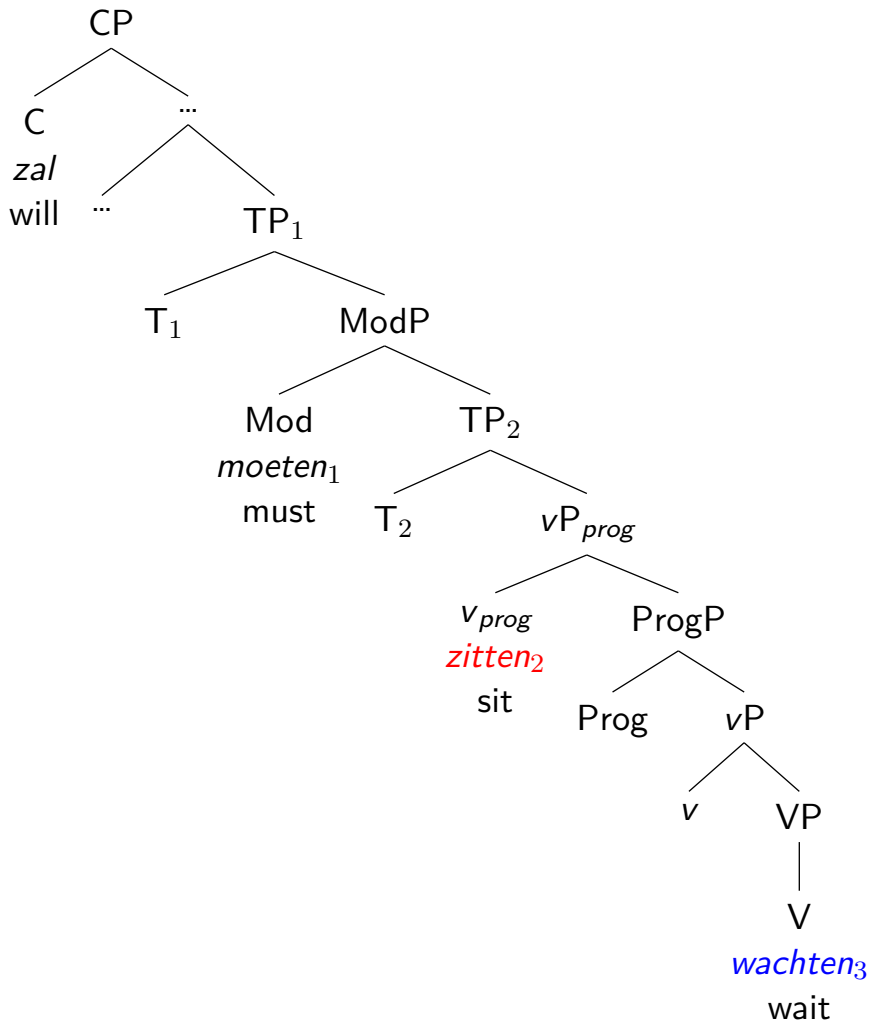
(28)



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- The high frequency of obligatory *te*-drop follows from the structure of the cluster: there is no T-position below V2 *zitten* 'sit' for *te* to be merged in

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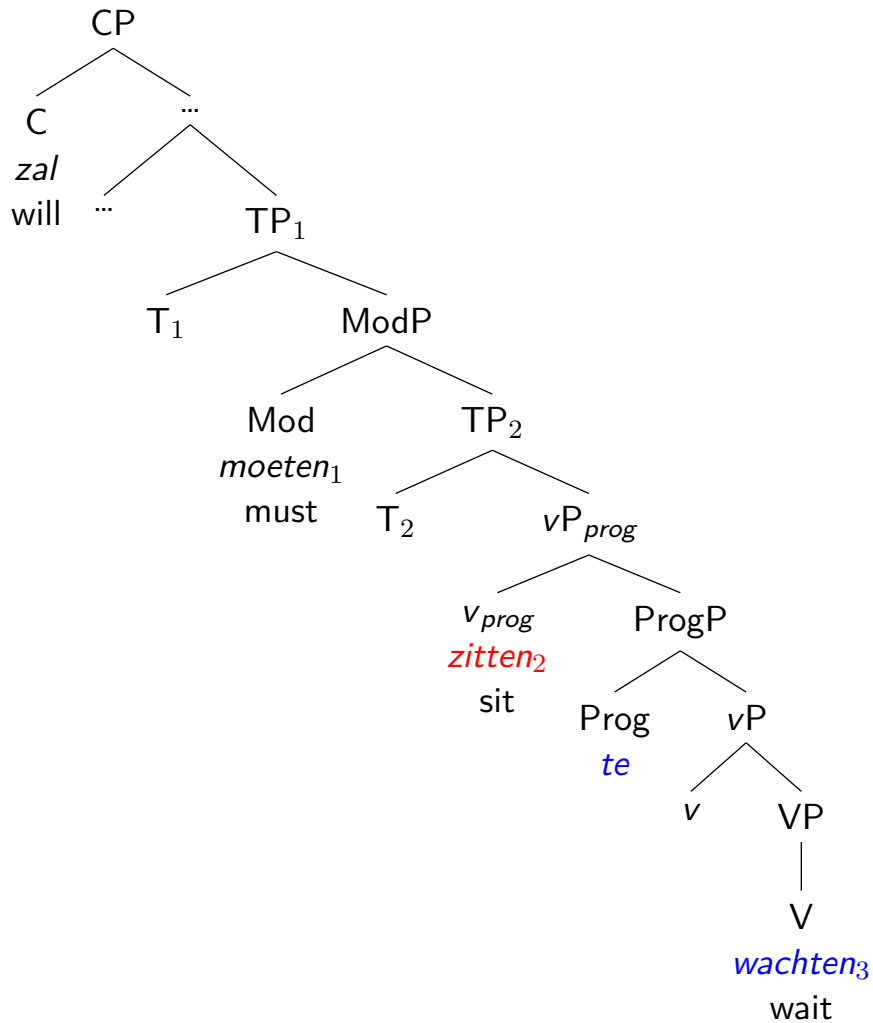
- For the 172 speakers who do allow *te* in cluster type III, I propose that they can spell out Prog as *te*, i.e. these speakers have reanalysed *te* as a progressive marker

The analysis: *Te* in cluster type III.

Te in cluster type III:

(30)



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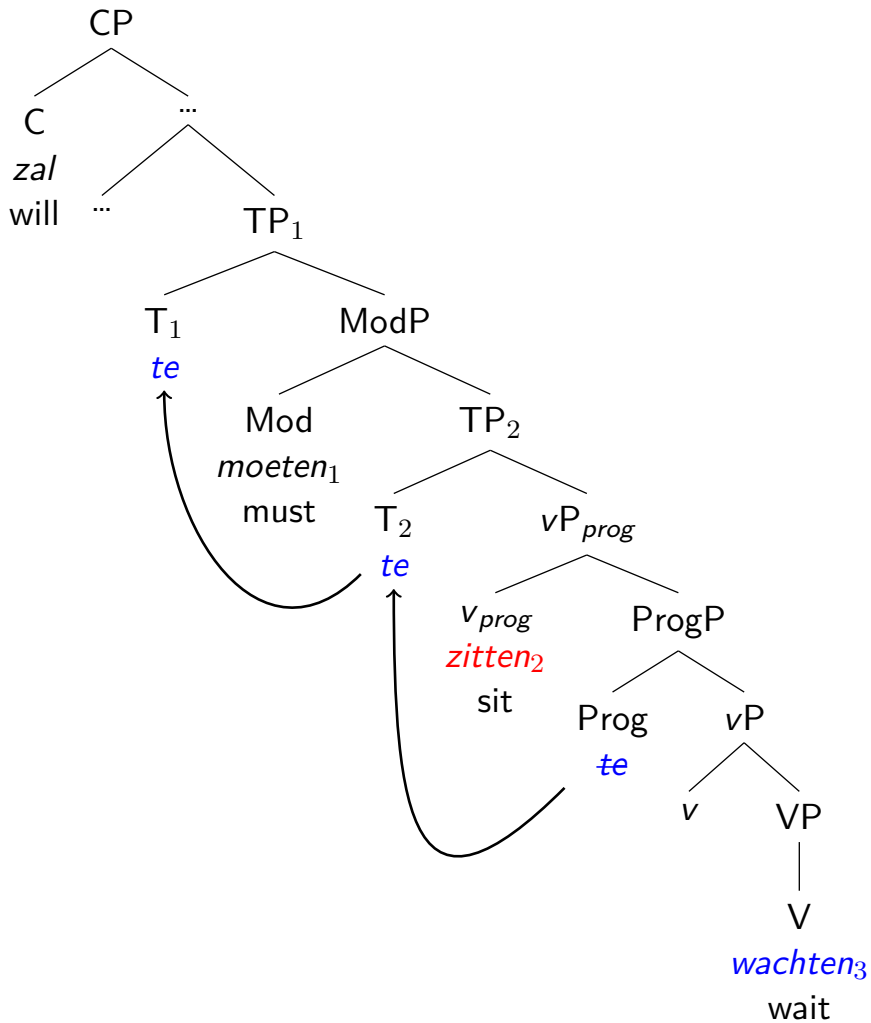
Te-raising to V2 or V1 in cluster type III:

(31)



1. Methodology
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3. Prerequisites for the analysis
4. The analysis
5. Extension of the analysis: te-doubling
6. Conclusion and outlook

Extension of the analysis: *te*-doubling

- In certain varieties of Italian clitic doubling occurs instead of clitic climbing in restructuring contexts (Cardinaletti and Shlonsky 2004: 525)

(32) A' *m* *la* dev leve*m* *la*.
I to-me it must take-away.to-me it.
'I have to take it away.'

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- *Te* can also be doubled:

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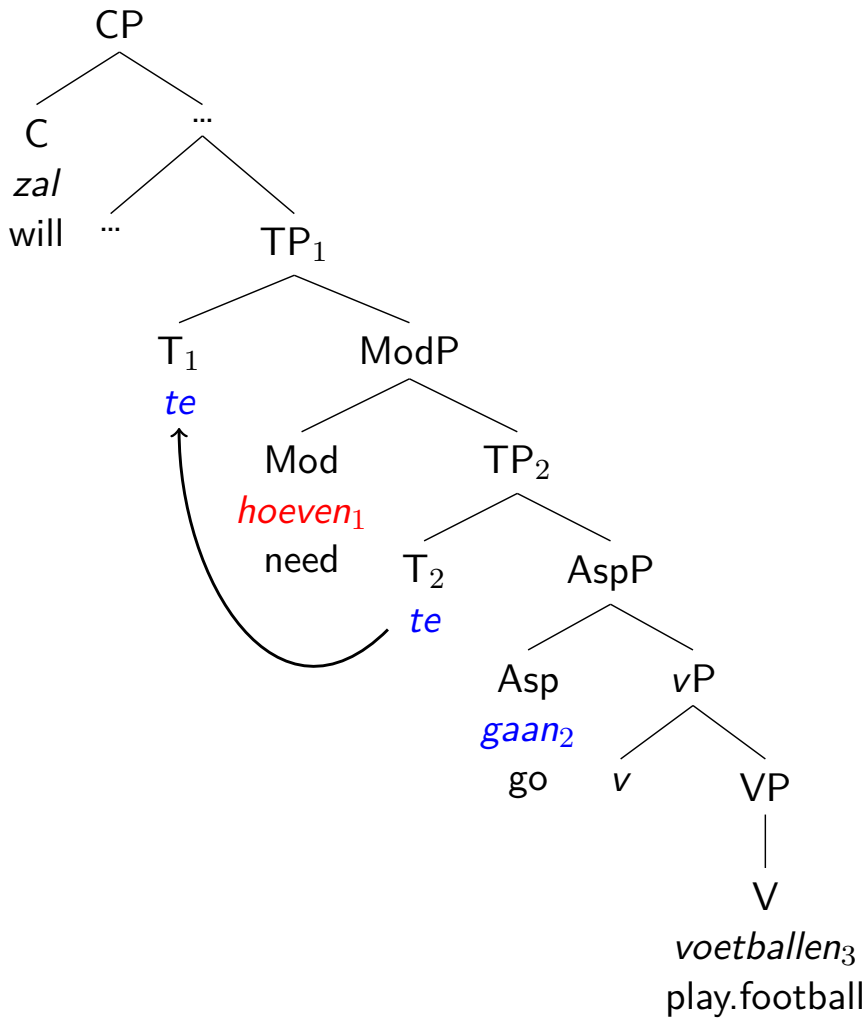
- *Implicational relation*: If speakers allow doubling, they also allow *te*-raising

Extension of the analysis: *te*-doubling

- I analyse *te*-doubling as cases of *te*-raising in which both copies of *te* are spelled out

(34)



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  - There is variation among speakers regarding the morphosyntactic status of *te*: for some it is a prefix, whereas for others it is a clitic
  - *Te*-raising is an instance of clitic climbing, which is possible when (i) there is a higher T-position for *te* to move to, and (ii) when *te* has the morphosyntactic status of a clitic in the speaker's grammar

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Topic for future research:

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- This study only focussed on variation in *te*-placement in three-verb clusters in 123-order
- **Future research**: investigate whether there is an interaction between *te*-placement and different cluster orders (i.e. 132, 213, 231, 312, 321)

- **Full paper**: www.bit.ly/Pots-te-raising
- www.crissp.be/activities
- **cora.pots@kuleuven.be**

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