Te-raising in Dutch non-finite verb clusters

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

(1) Koen zal niet [hoeven\textsubscript{1} *te gaan\textsubscript{2} voetballen\textsubscript{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 cluster (V1 selects V2, V2 selects V3)
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Introduction

New data on te-placement in Dutch verb clusters

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

(2) Koen zal niet [*te hoeven*$_1$ gaan$_2$ voetballen$_3$].
Koen will not to need.INF go.INF play.football.INF.
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- V1 *hoeven* ‘need to’ selects a *te*-infinitive
New data on *te*-placement in Dutch verb clusters

(2)  Koen zal niet [*te hoeven*\textsubscript{1} *gaan*\textsubscript{2} *voetballen*\textsubscript{3}].
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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- 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
1. Methodology

2. The data

3. Prerequisites for the analysis

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6. Conclusion and outlook
Methodology: design
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Large-scale questionnaire study

- Three types of clusters in 123-order were tested
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.’
Cluster type I. *Te-V1-V2-V3*

(3) Anne *zegt hier* [te *willen*₁ blijven₂ zitten₃].
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
Cluster type I. Te-V1-V2-V3

Anne zegt hier [te willen₁ blijven₂ zitten₃].
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
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 [hoeven₁ te gaan₂ voetballen₃].
    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
Cluster type II. V1-te-V2-V3

(4) Koen zal niet [hoeven₁ te gaan₂ voetballen₃].
   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

Cluster type III. V1-V2-te-V3

(5) Peter zal lang [moeten₁ zitten₂ te wachten₃].
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
Methodology: design

Cluster type III. V1-V2-te-V3

(5) Peter zal lang [moeten₁ zitten₂ te wachten₃].
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
Goal of the questionnaire study:

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

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

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  ▶ \textit{te} occurring on either one of the other verbs of the cluster
  ▶ \textit{te} being absent
Methodology: design

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  - *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
Methodology: procedure

Task

- Judgment Task, using a 5-point Likert Scale
Methodology: procedure

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- Judgment Task, using a 5-point Likert Scale
- Online written questionnaire, created in LimeSurvey©
Methodology: procedure

Task

- 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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  ‘Immediate environment’ was defined as ‘friends, family, town or city’
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?’

- ‘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

- 531 native Dutch speakers completed the questionnaire, 459 were included for analysis:
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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
Methodology: participants

Participants

- 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)
Methodology: participants

Participants

- **Mean age:** 53 (SD 12.5; range: 18-99)
- **Gender:** 250 female, 209 male
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

4. The analysis

5. Extension of the analysis: te-doubling

6. Conclusion and outlook
The data: *te*-raising
The data: *te*-raising

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
Two theoretical positions for *te*:

1. *Te* occurs in the position as required by selection: *te in situ*
The data: *te*-raising

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 blijven₂ zitten₃]*. 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 willen₁ blijven₂ zitten₃].
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:

\[(7) \quad \text{Koen zal niet [hoeven}_1 \ te \ gaan}_2 \ voetballen}_3].\]

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\textsubscript{1} gaan\textsubscript{2} voetballen\textsubscript{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 [moeten₁ zitten₂ te wachten₃].
    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 [ moeten₁ te zitten₂ wachten₃].
Peter will long must.INF to sit.INF wait.INF.
‘Peter will have to wait for a long time.’

b. Peter zal lang [ te moeten₁ zitten₂ wachten₃].
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:

<table>
<thead>
<tr>
<th>Type of cluster</th>
<th><em>Te</em> in situ</th>
<th><em>Te</em>-raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. <em>te</em>-V1-V2-V3</td>
<td>459</td>
<td>-</td>
</tr>
<tr>
<td>II. V1-<em>te</em>-V2-V3</td>
<td>378</td>
<td>185</td>
</tr>
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<td>III. V1-V2-<em>te</em>-V3</td>
<td>172</td>
<td>48</td>
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**Table 1**: Frequency overview of *te*-raising per type of cluster
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:

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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*
The data: *te-drop*

Two theoretical options for the presence of *te*:
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
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 [hoeven₁ gaan₂ voetballen₃].
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

(13) Koen zal niet [hoeven\textsubscript{1} gaan\textsubscript{2} voetballen\textsubscript{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
- 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 [moeten₁ zitten₂ wachten₃].
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

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.

<table>
<thead>
<tr>
<th>Type of cluster</th>
<th>No <em>te</em>-drop</th>
<th>Optional <em>te</em>-drop</th>
<th>Obligatory <em>te</em>-drop</th>
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<tr>
<td>I. <em>te</em>-V1-V2-V3</td>
<td>451</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>II. V1-<em>te</em>-V2-V3</td>
<td>191</td>
<td>187</td>
<td>19</td>
</tr>
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<td>III. V1-V2-<em>te</em>-V3</td>
<td>20</td>
<td>152</td>
<td>223</td>
</tr>
</tbody>
</table>

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
The data: geographical distribution

- 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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Three main findings:

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

2. **E**-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
Three main findings:

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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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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
1. Methodology

2. The data

3. Prerequisites for the analysis

4. The analysis

5. Extension of the analysis: te-doubling

6. Conclusion and outlook
Prerequisites for the analysis

▶ Proposal: Dutch non-finite verb clusters are cases of functional restructuring:
Prerequisites for the analysis

- **Proposal**: Dutch non-finite verb clusters are cases of functional restructuring:
  - Modal, aspectual and motion verbs are merged in functional heads above the lexical verb (Cinque 2001; Wurmbrand 2001)
Prerequisites for the analysis

- Dutch modals select a TP complement (Aelbrecht 2009)
Prerequisites for the analysis

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

- 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, 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.’
Prerequisites for the analysis

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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):

\[(17) \quad \text{De generaal moedigt het leger aan om } *\text{te strijden}\]
\[
\text{the general encourages the army PRT for to fight}
\]
\[
\text{en *(te) winnen. and to win. ‘The general encourages the army to fight and win.’}
\]
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
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
- 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

3. Prerequisites for the analysis

4. The analysis

5. Extension of the analysis: te-doubling

6. Conclusion and outlook
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)
The analysis: Te-raising is clitic climbing

- 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
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
The analysis: \textit{Te}-raising is clitic climbing

- If speakers allow clitic climbing, then they also allow the clitic in situ
- \textit{Recall}: for \textit{te}-raising this implicational relation also holds: if speakers allow \textit{te}-raising, then they also allow \textit{te} in situ
- Restructuring is a necessary condition for both Italian clitic climbing and Dutch \textit{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.
The analysis: *Te in cluster type I.*

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
The analysis: *Te* in cluster type I.

**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
- *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, \( te-V1-V2-V3 \)

(19) Anne zegt hier \( [te \ \text{willen}_1 \ \text{blijven}_2 \ \text{zitten}_3] \).
Anne says here to want.INF remain.INF sit.INF.
‘Anne says that she wants to remain seated here.’

- The finite verb \textit{zegt} ‘says’ in verb second position selects the \textit{te}-infinitive
- \textit{V1 willen} ‘want’ is in Mod, \textit{V2 blijven} ‘remain’ in Asp and the lexical verb \textit{V3 zitten} ‘sit’ is in V
- The data showed that there is no \textit{te}-raising and no \textit{te-drop} in this cluster type
The analysis: *Te* in cluster type I.

The structure of cluster type I:

(20)
The analysis: \( T_e \) in cluster type II.
The analysis: *Te* in cluster type II.

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

(21) Koen zal niet [hoeven\textsubscript{1} *te* gaan\textsubscript{2} voetballen\textsubscript{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, $V1$-$te$-$V2$-$V3$

(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
- $V1$ hoeven ‘need to’ is in Mod, $V2$ gaan ‘go’ in Asp and the
  lexical verb $V3$ voetballen ‘play football’ is in V
The analysis: *Te* in cluster type II.

Cluster type II, V1-\textit{te}-V2-V3

(21) Koen zal niet [hoeven\textsubscript{1}  \textit{te} gaan\textsubscript{2} voetballen\textsubscript{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
- V1 *hoeven* ‘need to’ is in Mod, V2 *gaan* ‘go’ in Asp and the lexical verb V3 *voetballen* ‘play football’ is in V
- The data showed that 185 speakers allow *te*-raising in this cluster
The analysis: *Te* in cluster type II.

The structure of cluster type II:

(22)
The analysis: *Te* in cluster type II.

*Te*-raising in cluster type II:

(23)
The analysis: $Te$ in cluster type II.

- Recall: there are also speakers who allow $te$-drop in cluster type II

(24) 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.’
The analysis: Te in cluster type II.

- *Recall*: there are also speakers who allow *te*-drop in cluster type II

(24) Koen zal niet [hoeven<sub>1</sub> gaan<sub>2</sub> voetballen<sub>3</sub>].
   Koen will not need.INF go.INF play.football.INF.
   ‘Koen won’t have to go and play football.’

- Dutch modals never select *te*-infinitives
The analysis: *Te in cluster type II.*

- *Recall:* there are also speakers who allow *te*-drop in cluster type II.

(24) Koen zal niet [hoeven$_1$ gaan$_2$ voetballen$_3$].
Koen will not need.INF go.INF play.football.INF.
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- Dutch modals never select *te*-infinitives.
- *Hoeven* ‘need to’ is becoming more modal: it is losing its ability the select a *te*-infinitive (Van de Velde 2017)

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The analysis: *Te* in cluster type II.

- *Recall:* there are also speakers who allow *te*-drop in cluster type II

(24) Koen zal niet [hoeven₁ gaan₂ voetballen₃].
Koen will not need.INF go.INF play.football.INF.
‘Koen won’t have to go and play football.’

- Dutch modals never select *te*-infinitives
- *Hoeven* ‘need to’ is becoming more modal: it is losing its ability the select a *te*-infinitive (Van de Velde 2017)
- For speakers who allow *te*-drop in this cluster, *hoeven* ‘need to’ is already more modal than for the speakers who don’t
The analysis: $Te$ in cluster type III.
The analysis: $T_e$ in cluster type III.

Cluster type III, V1-V2-$te$-V3

(25) 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 second verb in the cluster, V2 zitten ‘sit’ selects the $te$-infinitive
The analysis: $Te$ in cluster type III.

Cluster type III, V1-V2-nte-V3

(25) Peter zal lang [moeten₁ zitten₂ te wachten₃].
Peter will long must.INF sit.INF to wait.INF.
‘Peter will have to wait for a long time.’

- The second verb in the cluster, V2 zitten ‘sit’ selects the te-infinitive
- V1 moeten ‘must’ is in Mod, V2 zitten ‘sit’ is in $v_{prog}$ and the lexical verb V3 wachten ‘wait’ is in V
The analysis: *Te* in cluster type III.

### Cluster type III, V1-V2-*te*-V3

(25) Peter zal lang [moeten<sub>1</sub> *zitten<sub>2</sub> *te* wachten<sub>3</sub>].

Peter will long must.INF sit.INF to wait.INF.

‘Peter will have to wait for a long time.’

- The second verb in the cluster, V2 *zitten* ‘sit’ selects the *te*-infinitive
- V1 *moeten* ‘must’ is in Mod, V2 *zitten* ‘sit’ is in $v_{prog}$ and the lexical verb V3 *wachten* ‘wait’ is in V
- The data showed that 48 speakers allow *te*-raising in this cluster
The analysis: *Te* in cluster type III.

Cluster type III, V1-V2-Te-V3

(25) 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 second verb in the cluster, V2 *zitten* ‘sit’ selects the *te*-infinitive
- V1 *moeten* ‘must’ is in Mod, V2 *zitten* ‘sit’ is in $v_{prog}$ and the lexical verb V3 *wachten* ‘wait’ is in V
- The data showed that 48 speakers allow *te*-raising in this cluster
- Furthermore, 152 speakers optionally drop *te* in this cluster, and for 223 speakers *te*-drop is even obligatory
The analysis: \textit{Te} in cluster type III.

The structure of cluster type III:

(26)
The analysis: $Te$ in cluster type III.

- In cluster type III the verb selecting the $te$-infinitive is progressively-used $zitten$ ‘sit’
The analysis: *Te* in cluster type III.

- In cluster type III the verb selecting the *te*-infinitive is progressively-used *zitten* ‘sit’
- In Dutch, posture verbs, such as *zitten* ‘sit’, can be used in a periphrastic progressive construction:
The analysis: \( T e \) in cluster type III.

- In cluster type III the verb selecting the \( te \)-infinitive is progressively-used *zitten* ‘sit’
- In Dutch, posture verbs, such as *zitten* ‘sit’, can be used in a periphrastic progressive construction:

\[
(27) \quad \text{Sofia zit } te \text{ lachen.} \\
\text{Sofia sits to laugh.} \\
\text{‘Sofia is laughing.’}
\]
The analysis: *Te* in cluster type III.

- In cluster type III the verb selecting the *te*-infinitive is progressively-used *zitten* ‘sit’
- In Dutch, posture verbs, such as *zitten* ‘sit’, can be used in a periphrastic progressive construction:

  \[Sofia \text{ zit } \text{ te lachen.}\]

  Sofia sits to laugh.

  ‘Sofia is laughing.’

- The structure of cluster type III thus has a ProgP layer
The analysis: *Te in cluster type III.*

- Harwood (2013): there is a $vP_{\text{prog}}$ above $\text{ProgP}$
The analysis: Te in cluster type III.

- Harwood (2013): there is a $vP_{prog}$ above ProgP
- In the structure of cluster type III V2 *zitten* ‘sit’ is merged in $v_{prog}$
The analysis: \( Te \) in cluster type III.

The structure of cluster type III:

(28)
The analysis: \textit{Te} in cluster type III.

- There is no T-position below V2 \textit{zitten} ‘sit’, which selects the \textit{te}-infinitive
The analysis: *Te* in cluster type III.

- There is no T-position below V2 *zitten* ‘sit’, which selects the *te*-infinitive.
- The structure of cluster type III thus predicts that speakers do not allow *te* to occur in this cluster.
The analysis: Te in cluster type III.

- *Recall:* low frequencies for both *te in situ* (172 speakers) and *te-raising* (48 speakers) in cluster type III.
The analysis: *Te* in cluster type III.

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- The majority of speakers (223) need *te* to be dropped in this cluster:
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- \textit{Recall}: low frequencies for both \textit{te} in situ (172 speakers) and \textit{te}-raising (48 speakers) in cluster type III.
- The majority of speakers (223) need \textit{te} to be dropped in this cluster:

(29) Peter zal lang [moeten\textsubscript{1} zitten\textsubscript{2} wachten\textsubscript{3}].
Peter will long must.INF sit.INF wait.INF.
‘Peter will have to wait for a long time.’
The analysis: *Te* in cluster type III.

- *Recall*: low frequencies for both *te* in situ (172 speakers) and *te*-raising (48 speakers) in cluster type III
- The majority of speakers (223) need *te* to be dropped in this cluster:

\[(29)\]  
Peter zal lang [moeten\textsubscript{1} zitten\textsubscript{2} wachten\textsubscript{3}].  
Peter will long must.INF sit.INF wait.INF.  
‘Peter will have to wait for a long time.’

- 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
The analysis: *Te in cluster type III.*

- 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)
The analysis: *Te* in cluster type III.

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

(31)
1. Methodology

2. The data

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) \[ A' \text{ } m \text{ } la \text{ dev } levem \text{ } la. \]

I to-me it must take-away.to-me it.
‘I have to take it away.’

[8x251]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) \[ A' \text{ } m \text{ } la \text{ dev } levem \text{ } la. \]

I to-me it must take-away.to-me it.
‘I have to take it away.’
Extension of the analysis: te-doubling

- Te can also be doubled:

(33) Koen zal niet [te hoeven$\textsubscript{1}$ te gaan$\textsubscript{2}$ voetballen$\textsubscript{3}$].
Koen will not to need.INF to go.INF play.football.INF.
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Extension of the analysis: te-doubling

- *Te* can also be doubled:

(33)  Koen zal niet [te hoeven\textsubscript{1} te gaan\textsubscript{2} voetballen\textsubscript{3}].
Koen will not to need.INF to go.INF play.football.INF.
‘Koen won’t have to go and play football.’

- *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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- **New data**: The infinitival marker *te* can raise in Dutch non-finite verb clusters
- **Analysis**:
  - Dutch verb clusters are cases of functional restructuring
  - Dutch modal verbs select a TP complement
  - *Te* is generated in T
  - There is variation among speakers regarding the morphosyntactic status of *te*: for some it is a prefix, whereas for others it is a clitic
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- **New data**: The infinitival marker *te* can raise in Dutch non-finite verb clusters

- **Analysis**:
  - Dutch verb clusters are cases of functional restructuring
  - Dutch modal verbs select a TP complement
  - *Te* is generated in T
  - 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
Topic for future research:

- Different word orders are possible in Dutch verb clusters (without any semantic effect)
Conclusion and outlook

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- This study only focussed on variation in te-placement in three-verb clusters in 123-order
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Topic for future research:

- Different word orders are possible in Dutch verb clusters (without any semantic effect)
- 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


