To place your *te* or not, and if so, where?

Variation in *te*-placement in Dutch non-finite verb clusters

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Outline

1. The whole talk in a nutshell
2. Methodology
3. The data
4. Prerequisites for the analysis
5. The analysis
6. Conclusion and outlook

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1. The whole talk in a nutshell

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6. Conclusion and outlook
New data on -placement in Dutch verb clusters

Koen zal niet [hoeven 1] to gaan 2 voetballen 3.

‘Koen won’t have to go and play football.’

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 -infinitive

The verb in blue: the verb on which - normally appears

In (1), V1 hoeven ‘need to’ selects the -infinitive te gaan ‘to go’.

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New data on \textit{te}-placement in Dutch verb clusters

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

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.’

- 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
New data on te-placement in Dutch verb clusters

(1) 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.’

- 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 the te-infinitive te gaan ‘to go’
New data on *te*-placement in Dutch verb clusters

(2) 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.’

- V1 *hoeven* ‘need to’ selects a *te*-infinitive
The whole talk in a nutshell

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

(2) 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.’

- V1 *hoeven* ‘need to’ selects a *te*-infinitive
- Many Dutch speakers allow or even need *te* to be dropped, contrary to selection requirements: *te-drop* (2)
The whole talk in a nutshell

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

(3)  Koen zal niet \[te \text{ hoeven}_1 \text{ gaan}_2 \text{ voetballen}_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
The whole talk in a nutshell

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

(3) 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.’

- V1 *hoeven* ‘need to’ selects a *te*-infinitive
- Many Dutch speakers also allow *te* to appear on V1 instead of V2: *te*-raising (3)
New data on te-placement in Dutch verb clusters

(3) Koen zal niet [te 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.’

▶ V1 hoeven ‘need to’ selects a te-infinitive
▶ Many Dutch speakers also allow te to appear on V1 instead of V2: te-raising (3)
▶ In addition, we also find te-doubling
The whole talk in a nutshell

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

(3) Koen zal niet [te *hoeven*₁ gaan₂ voetballen₃].
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
- Many Dutch speakers also allow *te* to appear on V1 instead of V2: *te*-raising (3)
- In addition, we also find *te*-doubling
- Focus of this talk: *te*-drop and *te*-raising
The whole talk in a nutshell

Main points of the analysis

▶ Dutch verb clusters are cases of functional restructuring (Cinque 2001; IJbema 2001; Wurmbrand 2001)
▶ Te-raising is an instance of clitic climbing
▶ Te-drop is due to differences in structural complement size
▶ Te-raising thus fills a previously unexplained gap in the cross-linguistic distribution of restructuring phenomena across Germanic and Romance

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1. The whole talk in a nutshell

2. Methodology

3. The data

4. Prerequisites for the analysis

5. The analysis

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*

\(4\) 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.’
Methodology: design

Cluster type I. Te-V1-V2-V3

(4) 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
Cluster type I. *Te-V1-V2-V3*

(4) **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
Cluster type II. V1-te-V2-V3

(5) 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.’
Methodology: design

Cluster type II. V1-te-V2-V3

(5) 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.’

- V1 *hoeven* ‘need to’ selects a *te*-infinitive
Methodology: design

Cluster type II. V1-te-V2-V3

(5) 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-\textit{te}-V3

\begin{equation}
\text{(6) Peter zal lang [moeten}_1 \text{ zitten}_2 \text{ te wachten}_3].}
\text{Peter will long must.INF sit.INF to wait.INF.}
\text{‘Peter will have to wait for a long time.’}
\end{equation}
Methodology: design

Cluster type III. V1-V2-te-V3

(6) 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

(6) 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
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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- Different versions of the three cluster types were included in the questionnaire:
  - the ‘correct’ version (meeting the selection requirements)
  - *te* occurs on one of the other verbs of the cluster
  - *te* is 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* occurs on one of the other verbs of the cluster
  - *te* is absent
  - *te* occurs 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

Task

- 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’
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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

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

- 70 participants were excluded due to them having lived abroad for longer than 10% of their lives.
- 2 participants were excluded due to inconsistent responses to the filler items.

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Methodology: participants

Participants

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

- Mean age: 53 ($SD$ 12.5; range: 18-99)
Methodology: participants

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- **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. The whole talk in a nutshell

2. Methodology

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The data: \textit{te-drop}
The data: *te-drop*

Terminology:

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

**Terminology:**

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*

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<tbody>
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<td>I. <em>te-V1-V2-V3</em></td>
<td>451 (98,3%)</td>
<td>8 (0,7%)</td>
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<td>II. V1-<em>te-V2-V3</em></td>
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**Table 1:** Frequency overview of *te-drop* per type of cluster
## The data: te-drop

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

- 62 speakers (13,5%) rejected all versions of cluster type II
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Table 1: Frequency overview of te-drop per type of cluster

- 62 speakers (13,5%) rejected all versions of cluster type II
- 64 speakers (13,9%) rejected all versions of cluster type III
The data: *te*-drop

Te-drop

- Te cannot be dropped in cluster type I (7)

(7) 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 data: *te*-drop

*Te*-drop

- However, in cluster type II (8) and cluster type III (9), *te* can or even has to be dropped

(8) 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.’

(9) 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 data: *te*-drop

(10) 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 (40.7%) show optional *te*-drop, i.e. for these speakers *te* can be dropped, but they also allow *te* in situ and/or *te*-raising
The data: te-drop

(10) 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 (40.7%) show optional
    te-drop, i.e. for these speakers te can be dropped, but they
    also allow te in situ and/or te-raising

➤ 19 speakers (4.2%) need te to be dropped in this cluster, i.e.
    they neither allow te in situ, nor te-raising
In cluster type III, 152 speakers (33.1%) show optional *te*-drop, i.e. these speakers allow *te* to be dropped, but also allow *te* in situ and/or *te*-raising.
The data: *te*-drop

(11) 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.’

- In cluster type III, 152 speakers (33.1%) show optional *te*-drop, i.e. these speakers allow *te* to be dropped, but also allow *te* in situ and/or *te*-raising
- 223 speakers (48.6%) need *te* to be dropped in this cluster, i.e. they neither allow *te* in situ, nor *te*-raising
The data: *te*-raising
The data: te-raising

Terminology:

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

**Terminology:**

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

**Te-raising**

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<tr>
<td>I. <em>te</em>-V1-V2-V3</td>
<td>459 (100%)</td>
<td>-</td>
<td>-</td>
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<td>II. V1-<em>te</em>-V2-V3</td>
<td>193 (51,1%)</td>
<td>165 (43,6%)</td>
<td>20 (5,3%)</td>
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<td>III. V1-V2-<em>te</em>-V3</td>
<td>124 (72,1%)</td>
<td>39 (22,7%)</td>
<td>9 (5,2%)</td>
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**Table 2**: Frequency overview of *te*-raising per type of cluster
The data: te-raising

(12) 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
The data: te-raising

(12) 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 (100%) allow te in situ (i.e. te in the position required by selection requirements)
The data: *te*-raising

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

- In cluster type II, 193 (51.1%) of the speakers who allow *te* in this cluster, only allow *te* in situ (i.e. no *te*-raising)
The data: \textit{te}-raising

(13) \ldots [ <te> \text{hoeven}_1 <te> \text{gaan}_2 \text{voetballen}_3 ]. \\
\ldots \text{to need.INF to go.INF play.football.INF.} \\
\text{‘Koen won’t have to go and play football.’}

\begin{itemize}
\item In cluster type II, 193 (51.1\%) of the speakers who allow \textit{te} in this cluster, only allow \textit{te} in situ (i.e. no \textit{te}-raising)
\item 165 speakers (43.6\%) show optional \textit{te}-raising, i.e. for these speakers \textit{te} can be raised, but they also allow \textit{te} in situ
\end{itemize}
The data: *te*-raising

(13) \[ \text{[<te> hoeven}_1 \text{ <te> gaan}_2 \text{ voetballen}_3].} \]

... to need.INF to go.INF play.football.INF.

‘Koen won’t have to go and play football.’

- In cluster type II, 193 (51.1%) of the speakers who allow *te* in this cluster, only allow *te* in situ (i.e. no *te*-raising)
- 165 speakers (43.6%) show optional *te*-raising, i.e. for these speakers *te* can be raised, but they also allow *te* in situ
- 20 speakers (5.3%) need *te* to be raised in this cluster

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The data: te-raising

(14) ...[ <te> moeten₁ <te> zitten₂ <te> wachten₃].
... to must.INF to sit.INF to wait.INF.
‘Peter will have to wait for a long time.’

- In cluster type III, 124 (72,1%) of the speakers who allow te in this cluster, only allow te in situ (i.e. no te-raising)
The data: *te*-raising

(14) ...[<te> moeten₁ <te> zitten₂ <te> wachten₃]. ... to must.INF to sit.INF to wait.INF. ‘Peter will have to wait for a long time.’

- In cluster type III, 124 (72,1%) of the speakers who allow *te* in this cluster, only allow *te* in situ (i.e. no *te*-raising)
- 39 speakers (22,7%) show optional *te*-raising, i.e. for these speakers *te* can be raised, but they also allow *te* in situ
The data: *te*-raising

(14) ...[<te> moeten₁ <te> zitten₂ <te> wachten₃].
... to must.INF to sit.INF to wait.INF.
‘Peter will have to wait for a long time.’

- In cluster type III, 124 (72,1%) of the speakers who allow *te* in this cluster, only allow *te* in situ (i.e. no *te*-raising)
- 39 speakers (22,7%) show optional *te*-raising, i.e. for these speakers *te* can be raised, but they also allow *te* in situ
- 9 speakers (5,2%) need *te* to be raised in this cluster
The data: *te*-doubling

In addition, we find cases of *te*-doubling: *te* appears twice, whereas only one *te* is required by selection requirements. *Te*-doubling is attested in all three cluster types, but much less frequent in cluster type III than in cluster type I and II.
The data: *te*-doubling

(15) 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.’

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    Koen will not to need.INF to go.INF play.football.INF.
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The data: geographical distribution

Figure 2: Linguistic differences mapped onto geographical space

▶ The darker the lines between locations, the more linguistically similar the varieties spoken in those locations

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The data: geographical distribution

Figure 2: Linguistic differences mapped onto geographical space

- The darker the lines between locations, the more linguistically similar the varieties spoken in those locations
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, both phenomena are widespread and not restricted to (a) specific area(s)
The data: summary

Two main findings:

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

   For the largest group of speakers who allow the-raising, this raising is optional. I.e., for them the following implicational relation holds: if they allow the-raising, they also allow the-in situ.

   For a small group of speakers, the-raising is obligatory.

2. The-drop occurs in cluster types II and III, with higher frequencies for cluster type III than cluster type II.

   In addition, we also find the-doubling (not the main focus of this talk).

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Two main findings:

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

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

In addition, we also find te-doubling (not the main focus of this talk)
Two main findings:

1. Te-raising occurs in cluster types II and III, with higher frequencies for cluster type II than for cluster type III
   - For the largest group of speakers who allow te-raising, this raising is optional

2. Te-drop occurs in cluster types II and III, with higher frequencies for cluster type III than for cluster type II
   - In addition, we also find te-doubling (not the main focus of this talk)
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The data: summary

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Two main findings:

1. *Te*-raising occurs in cluster types II and III, with higher frequencies for cluster type II than for cluster type III
   - For the largest group of speakers who allow *te*-raising, this raising is optional
   - I.e., for them the following *implicational relation* holds: if they allow *te*-raising, they also allow *te* in situ
   - For a small group of speakers, *te*-raising is obligatory

2. *Te*-drop occurs in cluster types II and III, with higher frequencies for cluster type III than cluster type II
   - In addition, we also find *te*-doubling (not the main focus of this talk)
1. The whole talk in a nutshell

2. Methodology

3. The data

4. Prerequisites for the analysis

5. The analysis

6. Conclusion and outlook
Prerequisites for the analysis

Four theoretical tenets:
Prerequisites for the analysis

Four theoretical tenets:

1. Approach to verb clusters: functional restructuring
Prerequisites for the analysis

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2. The size of the complement of Dutch modals: TP
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1. Approach to verb clusters: functional restructuring
2. The size of the complement of Dutch modals: TP
3. The position of te: merged in T
Prerequisites for the analysis

Four theoretical tenets:

1. Approach to verb clusters: functional restructuring
2. The size of the complement of Dutch modals: TP
3. The position of te: merged in T
4. The morphosyntactic status of te: clitic vs. prefix
Prerequisites for the analysis

Approach to verb clusters

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

Approach to verb clusters

- **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

The size of the complement of Dutch modals

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

The size of the complement of Dutch modals

▶ 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

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

(16) *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 by 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)
- We find conflicting judgments on the distributional properties of te (Zwart 1993; Bennis 2000; IJbema 2001)
Prerequisites for the analysis

Conflicting judgments on the distributional properties of *te*

- Zwart (1993: 104):

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

  b. Om in L.A. *ge-* boren en *(ge-)* sterven 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

Conflicting judgments on the distributional properties of *te*

- Zwart (1993: 104):

\[(17) \quad \begin{align*}
\text{a. Om in L.A. } & \text{te leven en (te) sterven.} \\
& \text{for in L.A. to live.INF and to die.INF.} \\
& \text{‘To live and die in L.A.’} \\
\text{b. Om in L.A. } & \text{ge- boren en * (ge-) storven te zijn.} \\
& \text{for in L.A. GE- born and GE- died to be.} \\
& \text{‘To be born and have died in L.A.’}
\end{align*}\]

- IJbema (2001: 70): (17) shows that *te* is a clitic, as clitics can have scope over two elements in a coordination, whereas prefixes cannot (Miller 1991)
Prerequisites for the analysis

Conflicting judgments on the distributional properties of \textit{te}

- Bennis (2000: 115) rejects coordinations with \textit{te} taking scope over two infinitives (i.e. he argues that \textit{te} is a prefix):

(18) De generaal moedigt het leger aan om \textit{te strijden} the general encourages the army PRT for to fight en * (\textit{te}) winnen. and to win.

‘The general encourages the army to fight and win.’
Prerequisites for the analysis

The morphosyntactic status of *te*

- **My proposal:** *te* can be either a prefix or a clitic
Prerequisites for the analysis

The morphosyntactic status of te

► **My proposal:** te can be either a prefix or a clitic
► Differing native speaker judgments reflect variation in the categorial status of te
The morphosyntactic status of *te*

- **My proposal**: *te* can be either a prefix or a clitic
- Differing native speaker judgments reflect variation in the categorial status of *te*
- Consequently, speakers for whom *te* is a prefix, do not allow *te*-raising; speakers for whom *te* is a clitic, do
1. The whole talk in a nutshell

2. Methodology

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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 the one 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)

(19)  

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

- Restructuring is a necessary condition for both Italian clitic climbing and Dutch *te*-raising
The analysis: *Te*-raising is clitic climbing

- 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: $Te$-raising is clitic climbing

Further support: three parallels between Italian and Dutch restructuring
The analysis: *Te*-raising is clitic climbing

Further support: three parallels between Italian and Dutch restructuring

1. Auxiliary switch
The analysis: *Te*-raising is clitic climbing

Further support: three parallels between Italian and Dutch restructuring

1. Auxiliary switch
2. Clitic doubling
The analysis: *Te*-raising is clitic climbing

Further support: three parallels between Italian and Dutch restructuring

1. Auxiliary switch
2. Clitic doubling
3. Variation in optionality of clitic climbing
The analysis: *Te*-raising is clitic climbing

Auxiliary switch

- A restructuring effect in which the auxiliary of the lower, lexical verb is selected, instead of the auxiliary that is associated with the higher, functional verb:

(20) Ci sarei voluto andare con Maria.
there I.would.be wanted go.INF with Maria.
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The analysis: *Te*-raising is clitic climbing

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- Functional *volere* ‘want’ normally selects auxiliary *avere* ‘have’
The analysis: Te-raising is clitic climbing

**Auxiliary switch**

- A restructuring effect in which the auxiliary of the lower, lexical verb is selected, instead of the auxiliary that is associated with the higher, functional verb:

  \[(20) \text{Ci sarei voluto andare con Maria.} \]
  \[
  \text{there I.would.be wanted go.INF with Maria.} \\
  \text{‘I would have liked to go there with Maria.’} \\
  \]

- Functional *volere* ‘want’ normally selects auxiliary *avere* ‘have’

- In (20), the auxiliary associated with lexical verb *andare* ‘go’ is selected instead (e.g. *sarei* ‘would be’ (*essere* ‘be’))
The analysis: further parallels between Italian and Dutch restructuring

Auxiliary switch

- We see the same restructuring effect in verb clusters in (mostly Southern) varieties of Dutch:

(21) ...dat ik naar huis ben moeten gaan.
...that I to house am must.INF go.INF
‘...that I had to go home.’
The analysis: further parallels between Italian and Dutch restructuring

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- We see the same restructuring effect in verb clusters in (mostly Southern) varieties of Dutch:

(21)  
  ...dat ik naar huis  *ben moeten*  *gaan.*  
  ...that I  to  house  am  must.INF  go.INF  
  ‘...that I had to go home.’

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- Functional *moeten* normally selects auxiliary *hebben* ‘have’
- In (21), the auxiliary associated with lexical verb *gaan* ‘go’ is selected instead (e.g. *ben* ‘am’ (*zijn* ‘be’))
The analysis: further parallels between Italian and Dutch restructuring

Clitic doubling

- Both in varieties of Italian (Cardinalletti & Shlonsky 2004: 251) and Dutch, we see clitic doubling patterns in restructuring contexts:

(22) A’ *m la dev leve m la.
I to-me it must take-away.to-me it.
‘I have to take it away.’

(23) Koen zal niet [te hoeven₁ te gaan₂ voetballen₃].
Koen will not to need.INF to go.INF play.football.INF.
‘Koen won’t have to go and play football.’
The analysis: further parallels between Italian and Dutch restructuring

Variation in optionality of clitic climbing

- Recall: In the Dutch data, we see three patterns: obligatory te-raising, optional te-raising, and no te-raising (i.e. te in situ)
Variation in optionality of clitic climbing

- **Recall**: In the Dutch data, we see three patterns: obligatory te-raising, optional te-raising, and no te-raising (i.e. te in situ)
- Exactly these three patterns are also found for clitic climbing in restructuring contexts across varieties of Italian (see amongst others Cinque (2004))
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  - Standard Italian (and other varieties) has optional clitic climbing
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Variation in optionality of clitic climbing

- **Recall**: In the Dutch data, we see three patterns: obligatory *te*-raising, optional *te*-raising, and no *te*-raising (i.e. *te* in situ)
- Exactly these three patterns are also found for clitic climbing in restructuring contexts across varieties of Italian (see amongst others Cinque (2004))
  - Many northern varieties have obligatory clitic in situ
  - Standard Italian (and other varieties) has optional clitic climbing
  - Many southern varieties have obligatory clitic climbing
The analysis: \( Te \) in cluster type I.

Anne zegt hier te willen blijven zitten.

'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

▶ There is no \( te \)-raising and no \( te \)-drop in this cluster type
The analysis: $Te$ in cluster type I.

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

\[(24)\] 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: \textit{Te} in cluster type I.

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

(24) \begin{align*}
\text{Anne zegt hier } & \text{[te willen}_1 \text{ blijven}_2 \text{ zitten}_3\text{].} \\
\text{Anne says here to want.INF remain.INF sit.INF.}
\end{align*}

‘Anne says that she wants to remain seated here.’

\begin{itemize}
  \item The finite verb \textit{zegt} ‘says’ in verb second position selects the \textit{te}-infinitive
  \item \textit{V1 willen} ‘want’ is in Mod, \textit{V2 blijven} ‘remain’ in Asp and the lexical verb \textit{V3 zitten} ‘sit’ is in V
\end{itemize}
The analysis: *Te in cluster type I.*

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

(24) 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 the *te*-infinitive
- V1 *willen* ‘want’ is in Mod, V2 *blijven* ‘remain’ in Asp and the lexical verb V3 *zitten* ‘sit’ is in V
- 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:

(25)
The analysis: *Te* in cluster type II.

[Koen won't have to go and play football.]

The highest verb in the cluster, *hoeven* 'need to' selects the te-infinitive *gaan* 'go' in Asp and the lexical verb *voetballen* 'play football' is in V.
The analysis: *Te* in cluster type II.

Cluster type II, V1-\(\text{te}\)-V2-V3

(26) 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

(26) 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
- 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-*te*-V2-V3

(26) **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.’*

- 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
- 185 speakers allow *te*-raising in this cluster
The analysis: *Te* in cluster type II.

The structure of cluster type II:

(27)

\[ \text{C} \quad \text{zal} \quad \text{will} \quad \ldots \quad \text{TP}_1 \quad \text{ModP} \quad \text{T}_1 \quad \text{AspP} \quad \text{vP} \quad \text{VP} \quad \text{V} \quad \text{voetballen} \quad \text{play.fotball} \]

\[ \text{hoveven}_1 \quad \text{need} \quad \text{go} \quad \text{te} \quad \text{gaan}_2 \quad \text{v} \quad \text{VP} \quad \text{V} \quad \text{Te} \]

\[ \text{CP} \quad \ldots \quad \text{TP}_1 \quad \text{Mod} \quad \text{TP}_2 \quad \text{AspP} \quad \text{vP} \quad \text{VP} \quad \text{V} \quad \text{voetballen} \quad \text{play.fotball} \]
The analysis: *Te* in cluster type II.

*Te*-raising in cluster type II:

\[(28)\]
The analysis: *Te* in cluster type II.

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

(29) 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.’
The analysis: *Te* in cluster type II.

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

(29) 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.’

- Diachronic work shows that in the last fifty years, *hoeven* is losing its ability the select a *te*-infinitive (Van de Velde 2017)
The analysis: *Te in cluster type II.*

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

(29) Koen zal niet [hoeven₁ gaan₂ voetballen₃].
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‘Koen won’t have to go and play football.’

- Diachronic work shows that in the last fifty years, *hoeven* is losing its ability the select a *te*-infinitive (Van de Velde 2017)
- The fact that this an ongoing language change is reflected by variation among speakers in allowing or disallowing *te*-drop in this cluster
The analysis: Te in cluster type III.
The analysis: *Te* in cluster type III.

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

(30) 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
The analysis: *Te in cluster type III.*

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

(30) 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
- 48 speakers allow *te*-raising in this cluster
The analysis: *Te* in cluster type III.

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

(30) Peter zal lang [moeten\textsubscript{1} zitten\textsubscript{2} *te* wachten\textsubscript{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
- 48 speakers allow *te*-raising in this cluster
- Furthermore, 152 speakers optionally drop *te* in this cluster, and for 223 speakers *te*-drop is obligatory
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: \( Te \) in cluster type III.

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

\[(31) \text{ Sofia zit } te \text{ lachen. } \]

Sofia sits to laugh.
‘Sofia is laughing.’
The analysis: *Te* in cluster type III.

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

  \[(31) \text{Sofia } \textit{zit } \textit{te lachen}. \]
  
  ‘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 \( vP_{prog} \) above 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:

(32)
The analysis: \( Te \) 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**: The majority of speakers (223) need $te$ to be dropped in this cluster:
The analysis: *Te* in cluster type III.

- *Recall:* The majority of speakers (223) need *te* to be dropped in this cluster:

\[(33) \quad \text{Peter zal lang [moeten}_1 \text{ zitten}_2 \text{ wachten}_3].\]

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**: The majority of speakers (223) need *te* to be dropped in this cluster:

(33) Peter zal lang [moeten₁ zitten₂ wachten₃].
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:** The majority of speakers (223) need *te* to be dropped in this cluster:

  (33) 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 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:

(34)

```
CP
  C
  zal
  will
  TP₁
  T₁
  ModP
  C
  moeten₁
  must
  TP₂
  T₂
  vPₚrog
  vₚrog
  zitten₂
  sit
  ProgP
  Prog
  vP
  v
  VP
  V
  wachten₃
  wait
```
The analysis: *Te* in cluster type III.

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

(35)
Extension of the analysis: *te*-doubling

Recall: *te* can also be doubled:

\[(36)\]

Koen zal niet *te hoeven* te *gaan* *te* *voetballen*.

'Koen won't have to go and play football.'
Extension of the analysis: *te*-doubling

- **Recall:** *te* can also be doubled:

\[(36)\] Koen zal niet \([te\ \text{hoeven}_1\ te\ \text{gaan}_2\ \text{voetballen}_3]\).
Koen will not to need.INF to go.INF play.football.INF.
‘Koen won’t have to go and play football.’
Extension of the analysis: *te*-doubling

- **Recall**: *te* can also be doubled:

\[(36) \quad \text{Koen zal niet} \ [te \ \text{hoeven}_1 \ te \ \text{gaan}_2 \ \text{voetballen}_3].\]

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.

(37)
1. The whole talk in a nutshell

2. Methodology

3. The data

4. Prerequisites for the analysis

5. The analysis

6. Conclusion and outlook
Conclusion and outlook

- **New data**: The infinitival marker *te* in Dutch non-finite verb clusters can be raised, doubled, and dropped.
Conclusion and outlook

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- **Analysis**: 
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- **Analysis**: Dutch verb clusters are cases of functional restructuring.
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  - Dutch verb clusters are cases of functional restructuring
  - *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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  - *Te-doubling* is the spell-out of both copies of displaced *te*
  - *Te-drop* is due to differences in structural complement size
Conclusion and outlook

Topic for future research:

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