

*Te* wel of niet (*te*) hoeven (*te*) plaatsen  
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. Displaced morphology in verb clusters across Germanic
7. Conclusion and outlook

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- (1) Koen zal niet [**hoeven**<sub>1</sub> *te* **gaan**<sub>2</sub> voetballen<sub>3</sub>].  
Koen will not need.INF to go.INF play.football.INF.  
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- ▶ **The verb in blue**: the verb on which *te* normally appears



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'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'

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

- (2) 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.'
- ▶ 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**<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.'
- ▶ 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* *hoeven*<sub>1</sub> *gaan*<sub>2</sub> voetballen<sub>3</sub>].  
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*<sub>1</sub> *gaan*<sub>2</sub> voetballen<sub>3</sub>].  
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)

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

- (4) Koen zal niet [*te* *hoeven*<sub>1</sub> *te* *gaan*<sub>2</sub> voetballen<sub>3</sub>].  
Koen will not to 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

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

- (4) Koen zal niet [*te* *hoeven*<sub>1</sub> *te* *gaan*<sub>2</sub> voetballen<sub>3</sub>].  
Koen will not to 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
  - ▶ Many Dutch speakers also allow *te* to appear twice, instead of once: *te*-doubling (4)

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

- (5) Koen zal niet [*hoeven*<sub>1</sub> *gaan*<sub>2</sub> *te* voetballen<sub>3</sub>].  
Koen will not need.INF go.INF to play.football.INF.  
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'Koen won't have to go and play football.'

- ▶ V1 *hoeven* 'need to' selects a *te*-infinitive
- ▶ A relatively smaller group of Dutch speakers also allow *te* to appear on V3 instead of V2: *te*-lowering (5)

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- ▶ V1 *hoeven* 'need to' selects a *te*-infinitive
- ▶ A relatively smaller group of Dutch speakers also allow *te* to appear on V3 instead of V2: *te*-lowering (5)
- ▶ **Focus of today's talk:** *te*-raising and *te*-drop

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## 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 (cf. Italian)
- ▶ *Te*-doubling is the spell out of both copies of raised *te*
- ▶ *Te*-drop is due to differences in structural complement size
  
- ▶ *Te*-raising fills a previously unexplained gap in the cross-linguistic distribution of restructuring phenomena across Germanic and Romance



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# 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*

- (6) Anne *zegt* hier [*te willen*<sub>1</sub> *blijven*<sub>2</sub> *zitten*<sub>3</sub>].  
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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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

- (7) Koen zal niet [**hoeven**<sub>1</sub> *te* **gaan**<sub>2</sub> voetballen<sub>3</sub>].  
Koen will not need.INF to go.INF play.football.INF.  
'Koen won't have to go and play football.'

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- ▶ V1 *hoeven* 'need to' selects a *te*-infinitive



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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

- (8) 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.'

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- (8) Peter zal lang [moeten<sub>1</sub> zitten<sub>2</sub> *te* wachten<sub>3</sub>].  
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- ▶ V2 *zitten* 'sit' selects a *te*-infinitive

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'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

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## Goal of the questionnaire study:

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  - ▶ *te* occurs on one of the other verbs of the cluster
  - ▶ *te* is absent

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  - ▶ 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

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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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- ▶ 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

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## 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

# Methodology: participants

## Participants

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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

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# The data: geographical distribution

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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 variation in *te*-placement (i.e. *te*-raising, -drop, -doubling and -lowering)

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- ▶ There are no clear geographical patterns in the distribution of variation in *te*-placement (i.e. *te*-raising, -drop, -doubling and -lowering)
- ▶ That is, the phenomena are widespread and not restricted to (a) specific area(s)

# The data: *te*-drop



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## 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

<b>Type of cluster</b>	<b>No <i>te</i>-drop</b>	<b>Optional <i>te</i>-drop</b>	<b>Obligatory <i>te</i>-drop</b>
I. <i>te</i> -V1-V2-V3	451 (98,3%)	8 (0,7%)	0 (0%)
II. V1- <i>te</i> -V2-V3	191 (41,6%)	187 (40,7%)	19 (4,2%)
III. V1-V2- <i>te</i> -V3	20 (4,4%)	152 (33,1%)	223 (48,6%)

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

## The data: *te*-drop

Type of cluster	No <i>te</i> -drop	Optional <i>te</i> -drop	Obligatory <i>te</i> -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
- ▶ 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 (9)

(9) Anne *zegt* hier [*\* (te) willen*<sub>1</sub> *blijven*<sub>2</sub> *zitten*<sub>3</sub>].  
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 (10) and cluster type III (11), *te* can or even has to be dropped

- (10) 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.'
- (11) Peter zal lang [moeten<sub>1</sub> zitten<sub>2</sub> wachten<sub>3</sub>].  
Peter will long must.INF sit.INF wait.INF.  
'Peter will have to wait for a long time.'

## The data: *te-drop*



Figure 3: Distribution of *te-drop* with *hoeven* 'need'



## The data: *te*-drop

- (12) 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.'

- ▶ 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

- (12) Koen zal niet [**hoeven**<sub>1</sub> **gaan**<sub>2</sub> voetballen<sub>3</sub>].  
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- ▶ 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

## The data: *te*-drop



Figure 4: Distribution of *te*-drop with *zitten* 'sit'

## The data: *te*-drop

- (13) Peter zal lang [moeten<sub>1</sub> zitten<sub>2</sub> wachten<sub>3</sub>].  
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

## The data: *te*-drop

- (13) Peter zal lang [moeten<sub>1</sub> zitten<sub>2</sub> wachten<sub>3</sub>].  
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

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## 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

<b>Type of cluster</b>	<b>No</b>	<b>Optional</b>	<b>Obligatory</b>
I. <i>te</i> -V1-V2-V3	459 (100%)	-	-
II. V1- <i>te</i> -V2-V3	193 (51,1%)	165 (43,6%)	20 (5,3%)
III. V1-V2- <i>te</i> -V3	124 (72,1%)	39 (22,7%)	9 (5,2%)

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

## The data: *te*-raising

- (14) Anne *zegt* hier [ *te* *willen*<sub>1</sub>    *blijven*<sub>2</sub>    *zitten*<sub>3</sub>].  
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

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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

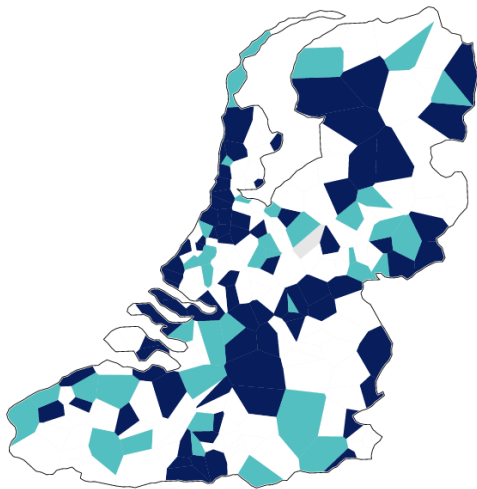


Figure 5: Distribution of *te*-raising with *hoeven* 'need'

## The data: *te*-raising

(15) ...[ <*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)

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- ▶ 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

## The data: *te*-raising



Figure 6: Distribution of *te*-raising to V2 with *zitten* 'sit'



## The data: *te*-raising



Figure 7: Distribution of *te*-raising to V1 with *zitten* 'sit'

## The data: *te*-raising

(16) ...[ <*te*> moeten<sub>1</sub> <*te*> zitten<sub>2</sub> <*te*> wachten<sub>3</sub>].  
... 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)

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- ▶ 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

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- (17) Koen zal niet [*te* *hoeven*<sub>1</sub> *te* *gaan*<sub>2</sub> voetballen<sub>3</sub>].  
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  - ▶ *Te*-doubling: *te* appears twice, whereas only one *te* is required by selection requirements

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

- ▶ In addition, we find cases of *te*-doubling
- ▶ *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: summary

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Two main findings:

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## Two main findings:

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

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1. *Te*-drop occurs in cluster types II and III, with higher frequencies for cluster type III than cluster type II
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  - ▶ I.e., for them the following *implicational relation* holds: if they allow *te*-raising, they also allow *te* in situ

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  2. *Te*-raising occurs in cluster types II and III, with higher frequencies for cluster type II than for cluster type III
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    - ▶ 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
- ▶ 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. Displaced morphology in verb clusters across Germanic
7. Conclusion and outlook



# Prerequisites for the analysis

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3. The position of *te*: merged in T
4. The morphosyntactic status of *te*: clitic vs. prefix

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## Approach to verb clusters

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

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- ▶ **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)



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

(18) *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):

- (19) 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-)* *storven* te zijn.  
for in L.A. GE- born and GE- died to be.  
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for in L.A. GE- born and GE- died to be.  
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- ▶ IJbema (2001: 70): (19) 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 *te*

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

- (20) 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

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# 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*
- ▶ Consequently, speakers for whom *te* is a prefix, do not allow *te*-raising; speakers for whom *te* is a clitic, do

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The analysis: *Te*-raising is clitic climbing

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- (21) 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.  
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(Cardinaletti and Shlonsky 2004: 521)

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- ▶ 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**



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Further support: three parallels between Italian and Dutch restructuring

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1. Auxiliary switch
2. Clitic doubling
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# 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:

(22) Ci    **sarei**            **voluto andare** con Maria.  
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- ▶ In (22), 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:

(23) ...dat ik naar huis **ben moeten gaan**.  
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- ▶ Functional *moeten* normally selects auxiliary *hebben* 'have'
- ▶ In (23), 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:

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

(25) Koen zal niet [*te* hoeven<sub>1</sub> *te* gaan<sub>2</sub> voetballen<sub>3</sub>].  
Koen will not to need.INF to go.INF play.football.INF.  
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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)

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- ▶ 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.

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

- (26) Anne *zegt* hier [*te willen*<sub>1</sub> blijven<sub>2</sub> zitten<sub>3</sub>].  
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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- ▶ V1 *willen* 'want' is in Mod, V2 *blijven* 'remain' in Asp and the lexical verb V3 *zitten* 'sit' is in V

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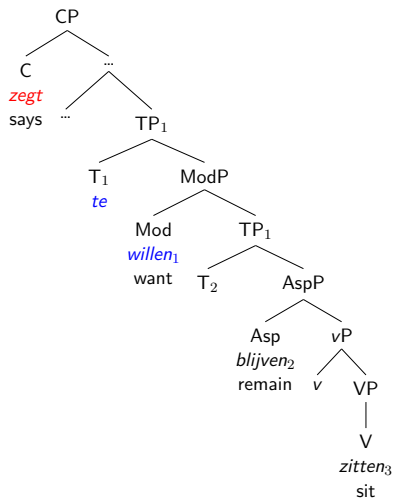
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- ▶ The finite verb *zegt* 'says' in verb second position selects the *te*-infinitive
- ▶ V1 *willen* 'want' is in Mod, V2 *blijven* 'remain' in Asp and the lexical verb V3 *zitten* 'sit' is in V
- ▶ There is no *te*-raising and no *te*-drop in this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

## The analysis: *Te* in cluster type I.

The structure of cluster type I:

(27)



The analysis:  $Te$  in cluster type II.

## The analysis: *Te* in cluster type II.

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

- (28) Koen zal niet [**hoeven**<sub>1</sub> *te* gaan<sub>2</sub> voetballen<sub>3</sub>].  
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

- (28) Koen zal niet [**hoeven**<sub>1</sub> *te* **gaan**<sub>2</sub> voetballen<sub>3</sub>].  
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

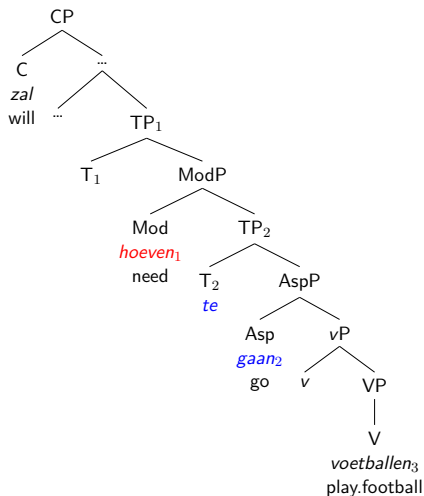
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- ▶ The highest verb in the cluster, V1 *hoeven* 'need to' selects the *te*-infinitive
- ▶ V1 *hoeven* 'need to' is in Mod, V2 *gaan* 'go' in Asp and the lexical verb V3 *voetballen* 'play football' is in V
- ▶ 185 speakers allow *te*-raising in this cluster

## The analysis: *Te* in cluster type II.

The structure of cluster type II:

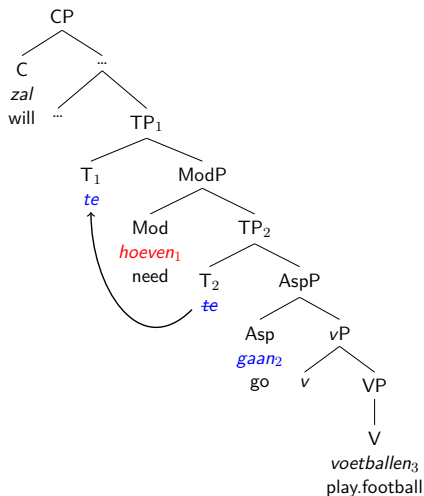
(29)



## The analysis: *Te* in cluster type II.

*Te*-raising in cluster type II:

(30)



## The analysis: *Te* in cluster type II.

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

(31) 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.'

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- ▶ Diachronic work shows that in the last fifty years, *hoeven* is losing its ability to select a *te*-infinitive (Van de Velde 2017)

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- ▶ Diachronic work shows that in the last fifty years, *hoeven* is losing its ability to select a *te*-infinitive (Van de Velde 2017)
- ▶ The fact that this is 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 II.

- ▶ This is also visible in the data: a correlation test between *te*-drop in this cluster type and age of the participants shows a (weak) correlation ( $r = .20$ ,  $df = 457$ ,  $p < .001$ )

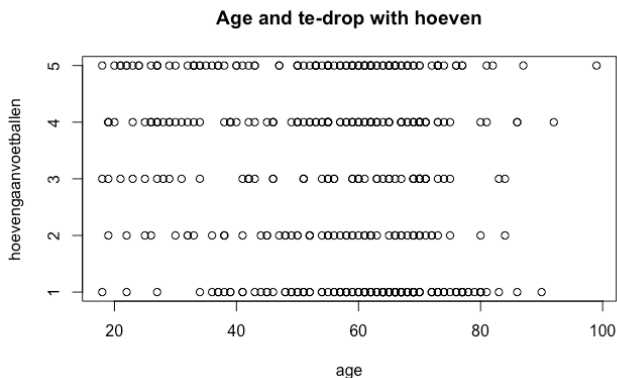


Figure 8: Age of participants and *te*-drop with *hoeven* 'need'

The analysis:  $Te$  in cluster type III.



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

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

- (32) 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

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

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

- (32) 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.  
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- ▶ The second verb in the cluster, V2 *zitten* 'sit' selects the *te*-infinitive
- ▶ 48 speakers allow *te*-raising in this cluster

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

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- ▶ 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

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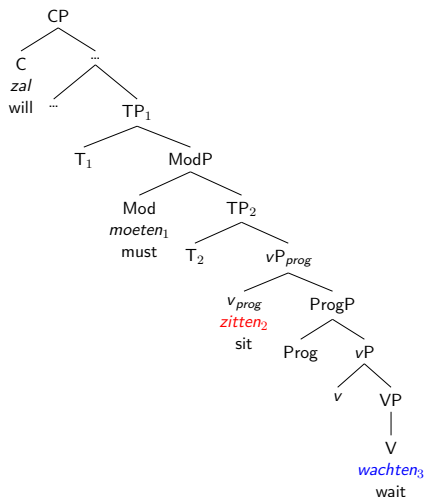
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(34)



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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



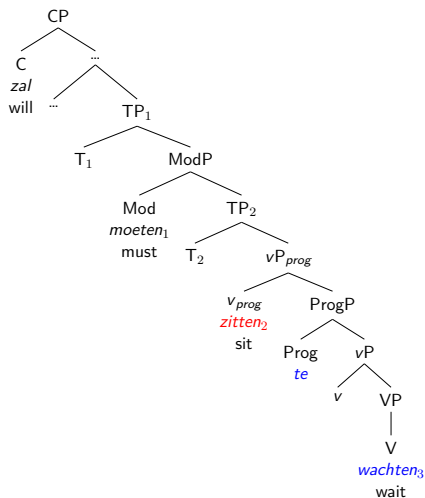
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- ▶ For the 172 speakers who do allow *te* in cluster type III, I propose that they can spell out Prog as *te*, i.e. these speakers have reanalysed *te* as a progressive marker

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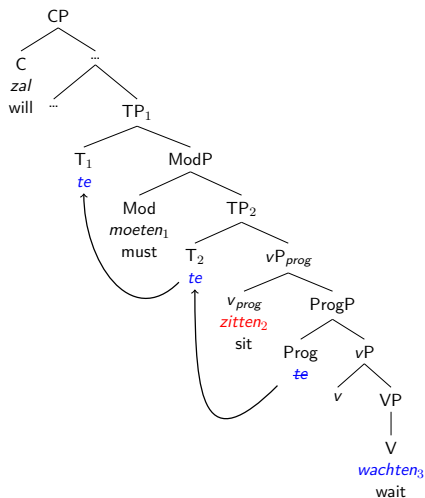
(36)



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

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

(37)



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

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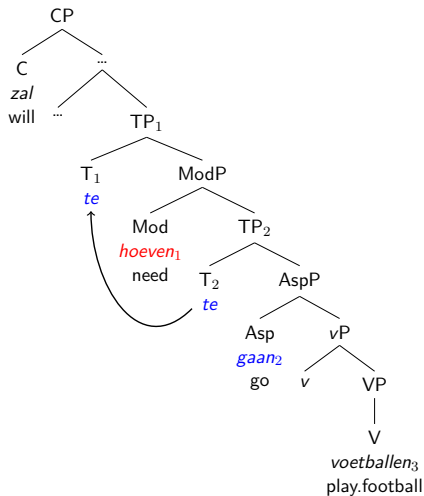
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- ▶ *Implicational relation*: If speakers allow doubling, they also allow *te*-raising

## Extension of the analysis: *te*-doubling

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

(39)



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- ▶ In addition to *te*-drop, *te*-raising, and *te*-doubling, the data also show a fourth pattern: *te*-lowering
- ▶ *Te*-lowering: *te* appears on a lower position than required by selection requirements
- ▶ *Te*-lowering shows interesting similarities with other morphological displacement phenomena in other Germanic languages, such as German and Afrikaans

# Displaced morphology in verb clusters across Germanic

## Lowering of the infinitival marker in German

- ▶ In German, the infinitival marker can also be lowered (Salzmann 2017: 2):

- (41) a. **ohne** das Buch lesen<sub>3</sub> gekonnt<sub>2</sub> **zu haben**<sub>1</sub>.  
without the book read.INF can.PTCP to have.INF  
'without having been able to read the book.'
- b. **ohne** das Buch **haben**<sub>1</sub> lesen<sub>3</sub> **zu können**<sub>2</sub>.  
without the book have.INF read.INF to can.INF  
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# Displaced morphology in verb clusters across Germanic

## Lowering of the past participle marker

- ▶ We also find lowering of other types of verbal morphology in verb clusters, e.g. lowering of the past participle marker, in (older) varieties of Dutch, German and Afrikaans

# Displaced morphology in verb clusters across Germanic

Ge-lowering in Middle German dialects (Höhle 2006: 68):

- (42) in die edele vrouwen **het(e)**<sub>1</sub> **lazen**<sub>2</sub> daz **ge-** tan<sub>3</sub>.  
him the noble lady have let.INF that GE- do.  
'the noble lady had let him do that.'

# Displaced morphology in verb clusters across Germanic

## Ge-lowering in Kahrkams Afrikaans (De Vos 2001: 96)

- (43) Ons **had**<sub>1</sub> ook mos maar **laat**<sub>2</sub> **ge-** ploeg<sub>3</sub>.  
We have also ADV ADV let GE- plough  
'We also (began) ploughing.'



# Displaced morphology in verb clusters across Germanic

## *Ghe*-raising (Postma 1999: 320)

- ▶ As we find both *te*-lowering and *te*-raising, we find, besides *ge*-lowering, *ge*-raising in some Germanic varieties

(44) Men zoud-ze        niet *ghe-*    *connen*<sub>1</sub> *raken*<sub>2</sub>.  
One would-them not GHE- be.able damage  
'One would not be able to damage them.'

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- ▶ These data show that in sub-standard/older varieties of Germanic, verbal morphology can be expressed on either one of the three verbs of the cluster
- ▶ In German and Afrikaans, an ascending word order is a requirement for displaced verbal morphology
- ▶ **Future research:** testing if this also applies to Dutch *te*-displacement patterns (i.e. comparing *te*-placement in 321 order and ascending word orders)

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  - ▶ **Te-drop** is due to differences in structural complement size

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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](http://www.bit.ly/Pots-te-raising)
- ▶ [www.crissp.be/activities](http://www.crissp.be/activities)
- ▶ [cora.pots@kuleuven.be](mailto:cora.pots@kuleuven.be)

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