

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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The whole talk in a nutshell

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

- (1) Koen zal niet [**hoeven**₁ *te gaan*₂ voetballen₃].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

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- ▶ **The verb in blue**: the verb on which *te* normally appears

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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 the *te*-infinitive *te gaan* 'to go'

The whole talk in a nutshell

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

- (2) Koen zal niet [*hoeven*₁ *gaan*₂ voetballen₃].
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 voetballen₃].
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*₁ *gaan*₂ 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

The whole talk in a nutshell

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

- (3) Koen zal niet [*te* *hoeven*₁ *gaan*₂ 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)

The whole talk in a nutshell

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

- (4) Koen zal niet [*te* *hoeven*₁ *te* *gaan*₂ voetballen₃].
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

The whole talk in a nutshell

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

- (4) Koen zal niet [*te* *hoeven*₁ *te* *gaan*₂ voetballen₃].
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)

The whole talk in a nutshell

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

- (5) Koen zal niet [*hoeven*₁ *gaan*₂ *te* voetballen₃].
Koen will not need.INF go.INF to 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

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- (5) Koen zal niet [*hoeven*₁ *gaan*₂ *te* voetballen₃].
Koen will not need.INF go.INF to play.football.INF.
'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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(5) Koen zal niet [*hoeven*₁ *gaan*₂ *te* voetballen₃].
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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

The whole talk 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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- ▶ *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*₁ blijven₂ zitten₃].
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*

- (6) Anne *zegt* hier [*te willen*₁ *blijven*₂ *zitten*₃].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

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

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

- (6) Anne *zegt* hier [*te willen*₁ *blijven*₂ *zitten*₃].
Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

- ▶ 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**₁ *te* **gaan**₂ 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

- (7) Koen zal niet [**hoeven**₁ *te* **gaan**₂ 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

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

- (7) Koen zal niet [**hoeven**₁ *te* **gaan**₂ voetballen₃].
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- ▶ 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 [moeten₁ zitten₂ *te* wachten₃].
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

- (8) 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

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

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

Methodology: procedure

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Task

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Methodology: procedure

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- ▶ 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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'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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 - ▶ 70 participants were excluded due to them 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 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

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

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Methodology: participants

Participants

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

Methodology: participants



Figure 1: Distribution of included participants

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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)

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)
- ▶ That is, the phenomena are widespread and not restricted to (a) specific area(s)

The data: *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

Type of cluster	No <i>te</i>-drop	Optional <i>te</i>-drop	Obligatory <i>te</i>-drop
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

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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*



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

The data: *te*-drop



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

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

Type of cluster	No	Optional	Obligatory
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



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

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*-doubling

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- (9) Koen zal niet [*te* *hoeven*₁ *te* *gaan*₂ voetballen₃].
Koen will not to need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

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

The data: *te*-doubling

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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

The data: *te*-doubling

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Koen will not to need.INF to go.INF play.football.INF.
'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:

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

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

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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
2. *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

The data: summary

Two main findings:

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

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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
2. *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

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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
 2. *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
- ▶ In addition, we also find *te*-doubling (not the main focus of this talk)

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Four theoretical tenets:

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1. Approach to verb clusters: functional restructuring

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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)

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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)

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)

(10) *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 of *te*

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

Prerequisites for the analysis

The position of *te*

- ▶ *Te* is merged in T (Bennis and Hoekstra 1989; Rutten 1991; IJbema 2001)
- ▶ *Support*: verbs that can select either a bare infinitive or a *te*-infinitive; only when a *te*-infinitive is selected, we can have two temporally-conflicting adverbs (IJbema 2001: 74)

Prerequisites for the analysis

- ▶ *Te* is merged in T (Bennis and Hoekstra 1989; Rutten 1991; IJbema 2001)
- ▶ *Support*: verbs that can select either a bare infinitive or a *te*-infinitive; only when a *te*-infinitive is selected, we can have two temporally-conflicting adverbs (IJbema 2001: 74)

- (11) a. *Vandaag leer* ik hem (**morgen*) *koken*.
Today teach I him tomorrow koken.
Intended: 'Today I teach him to cook tomorrow.'
- b. *Vandaag leer* ik hem *morgen* *te* *koken*.
Today teach I him tomorrow to cook.
'Today I teach him to cook tomorrow.'

Prerequisites for the analysis

The morphosyntactic status of *te*

- ▶ We find conflicting judgments on the distributional properties of *te* (Zwart 1993; Bennis 2000; IJbema 2001)

- (12) 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.
'To be born and have died in L.A.'

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'To be born and have died in L.A.'

- ▶ IJbema (2001: 70): (12) 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):

- (13) 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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- ▶ **My proposal:** *te* can be either a prefix or a clitic

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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
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The analysis: *Te*-raising is clitic climbing

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- (14) 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

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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**

The analysis: *Te*-raising is clitic climbing

Further support: four parallels between Italian and Dutch restructuring

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1. Auxiliary switch

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3. Clitic doubling
4. 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:

(15) Ci **sarei** **voluto andare** con Maria.
there I.would.be wanted go.INF with Maria.
'I would have liked to go there with Maria.'

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The analysis: *Te*-raising is clitic climbing

Auxiliary switch

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

(16) ...dat ik naar huis **ben moeten gaan**.
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'...that I had to go home.'

The analysis: *Te*-raising is clitic climbing

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- ▶ Functional *moeten* normally selects auxiliary *hebben* 'have'
- ▶ In (16), the auxiliary associated with lexical verb *gaan* 'go' is selected instead (e.g. *ben* 'am' (*zijn* 'be'))

The analysis: *Te*-raising is clitic climbing

Degraded morphology on the modal/aspectual verb

- ▶ In Italian, the infinitival modal/aspectual verb in restructuring contexts always lacks the infinitive marker *-e*:

(17) Ci vorrei poter(*-e) andar-e con Maria.
There I.would.want be-able.INF go.INF with Maria.
'I would like to be able to go there with Maria.'

(Cardinaletti Shlonsky 2004:529)

The analysis: *Te*-raising is clitic climbing

Degraded morphology on the modal/aspectual verb

- ▶ In Dutch, modals appear without the past participle marker *ge-* in restructuring contexts:

- (18) a. Ik heb hem *ge*-zien.
I have him GE-seen.
'I have seen him.'
- b. ...dat ik hem heb (**ge*-)zien lopen.
...that I him have GE-seen walk.INF
'...that I have seen him walk by.'

The analysis: *Te*-raising is clitic climbing

Clitic doubling

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

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

(20) 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: *Te*-raising is clitic climbing

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))

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 - ▶ Many northern varieties have obligatory clitic in situ
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- ▶ *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.

The analysis: *Te* in cluster type I.

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

- (21) 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

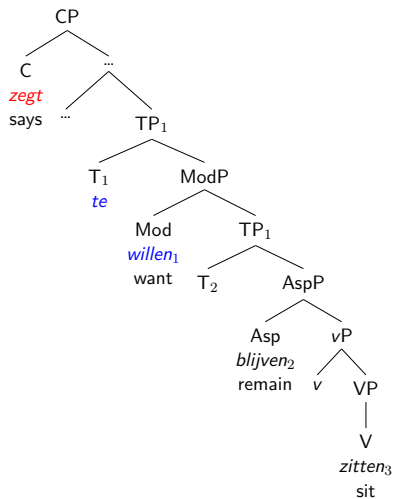
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Anne says here to want.INF remain.INF sit.INF.
'Anne says that she wants to remain seated here.'

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

(22)



The analysis: Te in cluster type II.

The analysis: *Te* in cluster type II.

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

- (23) Koen zal niet [**hoeven**₁ *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

The analysis: *Te* in cluster type II.

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

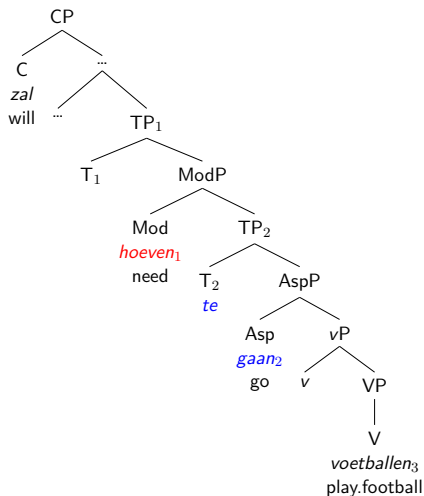
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- ▶ The highest verb in the cluster, V1 *hoeven* 'need to' selects the *te*-infinitive
- ▶ 185 speakers allow *te*-raising in this cluster

The analysis: *Te* in cluster type II.

The structure of cluster type II:

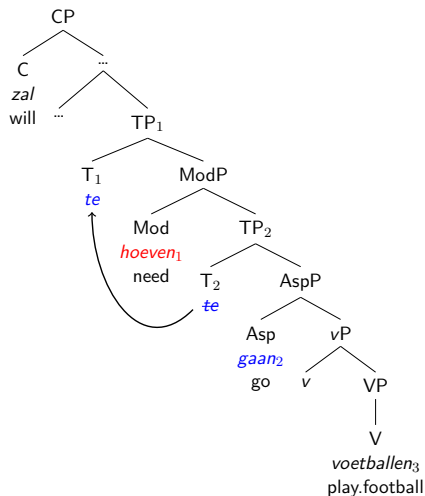
(24)



The analysis: *Te* in cluster type II.

Te-raising in cluster type II:

(25)



The analysis: *Te* in cluster type II.

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

(26) 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.'

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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 ($r = .20$, $df = 457$, $p < .001$)

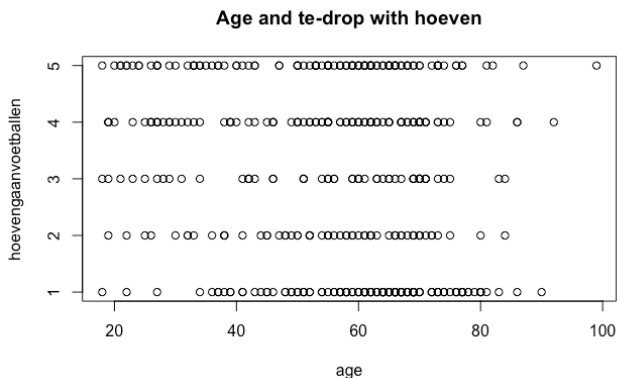


Figure 8: Age of participants and *te*-drop with *hoeven* 'need'

The analysis: Te in cluster type III.

The analysis: *Te* in cluster type III.

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

- (27) 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

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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

The analysis: *Te* in cluster type III.

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- ▶ 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

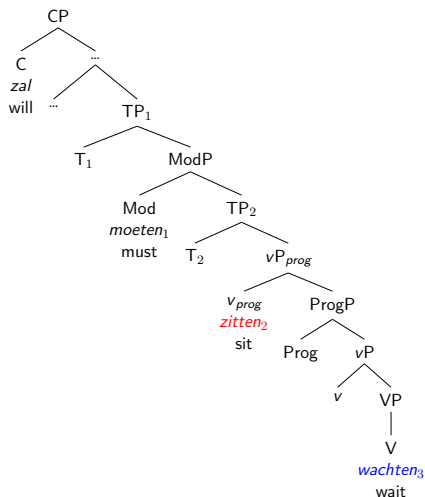
The analysis: *Te* in cluster type III.

- ▶ 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:

(29)



The analysis: *Te* in cluster type III.

- ▶ There is no T-position below V2 *zitten* 'sit', which selects the *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:

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'Peter will have to wait for a long time.'

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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

The analysis: *Te* in cluster type III.

Te as spell-out of Prog

- ▶ 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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- ▶ 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
- ▶ *Support*: up until the 19th century, three-verb clusters with progressively-used *zitten* did not contain the infinitival marker *te* (Van Pottelberge 2002)

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- ▶ *Support*: up until the 19th century, three-verb clusters with progressively-used *zitten* did not contain the infinitival marker *te* (Van Pottelberge 2002)
- ▶ In other words, in older varieties of Dutch all speakers showed *te*-drop, and only later a subgroup of speakers reanalysed *te* as a progressive marker

The analysis: *Te* in cluster type III.

- (31) ...Ic sou thuys [moeten₁ **sitten**₂ **ontsparen**₃].
...I should home must.INF sit.INF save.money.INF
'...I should be home saving money.'

(Jan van Dale, 1528, WNT)

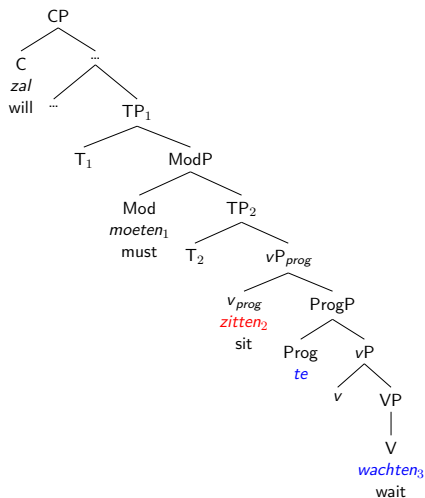
- (32) Eene dame die gedurig de kronkelbochten van haar
A lady who patiently the curves of her
boa [had₁ **zitten**₂ **te verschikken**₃].
boa had sit to rearrange.
'A lady who had patiently been rearranging her boa.'

(N. beets, *Camera Obscura*, 1841, WNT)

The analysis: *Te* in cluster type III.

Te in cluster type III:

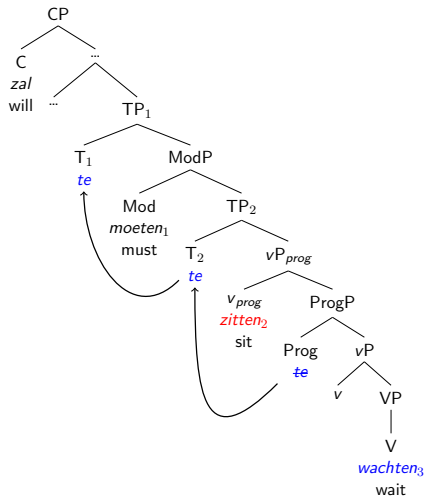
(33)



The analysis: *Te* in cluster type III.

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

(34)



Extension of the analysis: *te*-doubling

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

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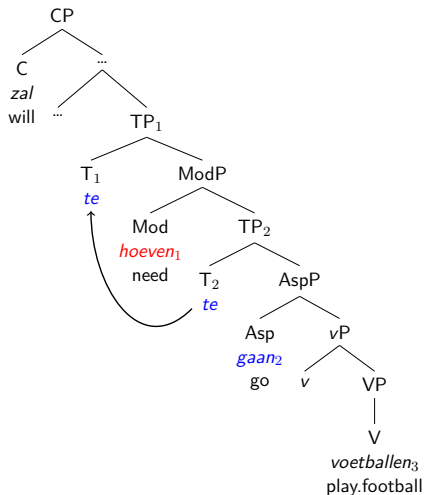
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'Koen won't have to go and play football.'

- ▶ *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

(36)



1. The whole talk in a nutshell
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Displaced morphology in verb clusters across Germanic

Displaced morphology in verb clusters across Germanic

- ▶ In addition to *te*-drop, *te*-raising, and *te*-doubling, the data also show a fourth pattern: *te*-lowering

- (37) ...niet [hoeven₁ <*te*> gaan₂ <*te*> voetballen₃].
...not need.INF to go.INF to play.football.INF.
'Koen won't have to go and play football.'
- (38) zegt [<*te*> willen₁ <*te*> blijven₂ <*te*> zitten₃].
says to want.INF to remain.INF to sit.INF.
'Anne says that she wants to remain seated here.'

Displaced morphology in verb clusters across Germanic

- ▶ Te-lowering: *te* appears on a lower position (or two) than required by selection requirements

Displaced morphology in verb clusters across Germanic

- ▶ Te-lowering: *te* appears on a lower position (or two) 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):

- (39) a. **ohne** das Buch lesen₃ gekonnt₂ **zu haben**₁.
without the book read.INF can.PTCP to have.INF
'without having been able to read the book.'
- b. **ohne** das Buch **haben**₁ lesen₃ **zu können**₂.
without the book have.INF read.INF to can.INF
'without having been able to read the book.'

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):

- (40) in die edele vrouwen **het(e)**₁ **lazen**₂ daz **ge-** tan₃.
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)

- (41) Ons **had**₁ ook mos maar **laat**₂ **ge-** ploeg₃.
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

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

Displaced morphology in verb clusters across Germanic

Doubling phenomena across Germanic: *te*-doubling and parasitic participles

- ▶ *Recall*: we find cases of *te*-doubling in Dutch
- ▶ *Te*-doubling is also attested in Afrikaans

- (43) Die vredesamesprekings ...[behoort₁ binnekort *te*
The peace.negotiation has.to soon to
hervat₃ *te word*₂].
resume.INF to be.PASS.INF
'The peace negotiation has to be resumed soon.'

(Korpusportaal, 2015)

Displaced morphology in verb clusters across Germanic

Doubling phenomena across Germanic: *te*-doubling and parasitic participles

- ▶ We also find doubling of the past participle (marker) in Afrikaans and Frisian

(44) Maar ek **het**₁ die liefde **ge-loop**₂ **ge-ruil**₃ vir
But I have the love GE-walk GE-replace.INF for
die haat.
the hate.
'I have replaced love by hate.'

(Korpusportaal, 2015)

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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. Displaced morphology in verb clusters across Germanic
7. Conclusion and outlook

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- ▶ 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

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