

**To raise or to lower?
Variation in *te*-placement in Dutch non-finite verb clusters**

INTRODUCTION In contrast to their finite counterparts (Barbiers et al. 2005; Wurmbrand 2017) non-finite verb clusters have received barely any attention in the literature. This paper presents new data on the position of the infinitival marker *te* ‘to’ in non-finite verb clusters in Dutch (1).

- (1) Vanwege de winterstop zal hij vandaag niet <*te*> **hoeven**₁ <*te*> **gaan**₂ <*te*> **voetballen**₃.
Because.of the winter.break will he today not to need.INF to go.INF to play.football.INF
‘Because of the winter break, he won’t have to go and play football today.’

The highest non-finite verb in (1), *hoeven* ‘need to’, selects a *te*-infinitive, i.e. selection requirements dictate that *te* should appear on V2 *gaan* ‘go’. However, *te* can undergo raising, and thus surface on V1 instead of on V2. There are also speakers who allow *te*-lowering, i.e. *te* appears on V3 instead of on V2. I take Dutch verb clusters to be cases of restructuring and argue that *te*-raising is an instance of clitic climbing (Cinque 2001). I analyze *te*-lowering as a case of parasitic Reverse Agree (Wurmbrand 2012), analogous to parasitic participles in other Germanic languages.

EMPIRICAL RESULTS I conducted a large-scale questionnaire study of three types of non-finite three-verb clusters, in which selection requirements dictate *te* should appear on V1 (*te*-V1-V2-V3; *te willen*₁ *blijven*₂ *zitten*₃ ‘to want to remain seated’), on V2 (V1-*te*-V2-V3; cf. (1)), and on V3 (V1-V2-*te*-V3; *moeten*₁ *zitten*₂ *te wachten*₃ ‘have to be waiting’, lit. must sit to wait). The data show that: (i) *te*-raising is more common in V1-*te*-V2-V3 (185 speakers) than in V1-V2-*te*-V3 (46); (ii) if speakers allow *te*-raising or lowering, they also allow *te* in situ; (iii) the deeper *te* is embedded, the more optional it becomes, to the point of it being mostly obligatorily dropped in V1-V2-*te*-V3.

Type of clusters	<i>Te</i> -raising	<i>Te</i> -lowering	<i>Te</i> in situ	No <i>te</i> -drop	<i>Te</i> -drop	
					Optional	Obligatory
I. <i>te</i> -V1-V2-V3	-	59	395	387	8	0
II. V1- <i>te</i> -V2-V3	185	40	376	189	187	19
III. V1-V2- <i>te</i> -V3	46	-	172	20	152	223

PREREQUISITES FOR THE ANALYSIS I argue that Dutch non-finite verb clusters are cases of functional restructuring (Cinque 2001; Wurmbrand 2001), in which modal, aspectual and motion verbs are generated in functional heads in the functional sequence (Fseq) of the lexical verb. One key property of restructuring in other languages, such as Italian, is clitic climbing (2).

- (2) a <*Ci*> **vorrei** [andar<*ci*> con Maria]. *Italian*
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 & Shlonsky 2004: 521)

In (2a), the clitic of the embedded clause can climb up to the auxiliary of the matrix clause when the matrix verb is a modal. Clitic climbing is blocked when the matrix verb is lexical, *detestato* ‘hated’ in (2b). I propose that *te*-raising in Dutch non-finite verb clusters is an instance of clitic climbing.

THE MORPHOLOGICAL MAKE-UP OF *TE* *Te* has been argued to be a prefix (Bennis 2000) and a clitic (IJbema 2001). I propose that there is variation among speakers regarding the status of *te*: those for whom *te* is a prefix do not allow *te*-raising, while others have reanalyzed *te* as a clitic, and do allow *te*-raising. Syntactically, I assume that *te* is generated in T (Bennis & Hoekstra 1989).

ANALYSIS OF *TE*-RAISING AND *TE*-DROP IN V1-*TE*-V2-V3 I follow Aelbrecht (2009) in assuming that Dutch modal verbs are inserted in a functional head Mod and select a TP complement. Support for this claim is that the modal and main verb can be modified by conflicting temporal adverbs (3).

- (3) **Gisteren moest ik nog volgende week werken** en nu ben ik weer van het rooster gehaald.
Yesterday must.PST I still next week work and now am I again of the schedule taken.
‘Yesterday, I still had to work next week, and now they took me of the schedule again.’

With Dutch modals selecting TPs, the structure for V1-*te*-V2-V3 in example (1) is thus as follows:

(4) [CP C zal [... [TP1 T1 [ModP Mod *hoeven* [TP2 T2 *te* [AspP Asp *gaan* [VP V *voetballen*]]]]]]]]

For speakers for whom *te* is a prefix, *te* will appear on V2 *gaan* ‘go’. For speakers for whom *te* is a clitic, however, it can move up from T₂ to T₁, thus appearing to the left of V1 *hoeven*. As for *te*-drop, Van de Velde (2017) shows that over the last fifty years, *hoeven* ‘need to’ has shown a dramatic increase in selecting bare rather than *te*-infinitives. This is why many speakers allow *te* to be absent in (1). The speakers who can optionally drop *te*, have two competing structures in their grammar, which is typical for a syntactic change in progress.

ANALYSIS OF *TE*-RAISING AND *TE*-DROP IN V1-V2-*TE*-V3 In V1-V2-*te*-V3 the posture verb *zitten* ‘sit’ is used as a progressive marker. In line with Harwood (2013), I take there to be a vP_{prog} head above ProgP. The verb *zitten* ‘sit’ is merged in v_{prog}:

(5) [CP C zal [... [TP1 T1 [ModP Mod *moeten* [TP2 T2 [vP_{prog} v_{prog} *zitten* [ProgP Prog [vP V *wachten*]]]]]]]]

Recall that *te*-drop is very frequent in this cluster type, while *te*-raising is much less frequent than in V1-*te*-V2-V3. (4) shows that there is no T position below v_{prog} in which *te* can be merged; I thus predict all speakers to drop *te* in this cluster. For the speakers who do allow *te* here, I propose that they can spell out not only T, but also Prog as *te*: they have reanalyzed *te* as a progressive marker. These speakers have no or optional *te*-drop in this cluster. The low frequency of *te*-raising in this cluster type can now also be explained. For *te*-raising, two conditions have to be met: (i) *te* has to be reanalyzed as a clitic and (ii) it has to be able to spell out Prog. As these are arguably two marked options in Dutch, I predict *te*-raising in V1-V2-*te*-V3 to also be more marked than in V1-*te*-V2-V3.

ANALYSIS OF *TE*-LOWERING I analyze *te*-lowering as a case of parasitic Reverse Agree (Wurmbrand 2012) between the higher verb selecting the *te*-infinitive and one of the verbs of the cluster. A similar phenomenon, parasitic participles, is attested in other Germanic languages (6):

(6) Hy soe it **dien**₃ / **dwaan**₃ **wollen**₂ **ha**₁. *Frisian*
 he would it do.PART / do.INF wollen.PART have
 ‘He would have liked to do it.’ (Den Dikken & Hoekstra 1997: 1058)

In (6), V1 *ha* ‘have’ selects a participle, V2, which in turn selects an infinitive (V3). However, V3 can also appear in participle form. Wurmbrand analyzes this as multiple Agree between the past tense feature of V1, and V2 and V3. Both *te*-lowering and parasitic participles are optional, semantically vacuous, require a higher licensing verb, and only occur in restructuring contexts. Based on the fact that two participles can occur in sentences such as (6), we expect the occurrence of two *te*’s to be possible in non-finite verb clusters as well. This is indeed attested in the data (7):

(7) Anne zegt op haar comfortabele stoel ***te* willen**₁ ***te* blijven**₂ ***zitten***₃.
 Anne says on her comfortable chair to want.INF to remain.INF sit.INF
 ‘Anne says she wants to remain seated on her comfortable chair.’

In (7), the finite verb *zegt* ‘says’ in verb second position selects a *te*-infinitive; *te* appears twice as the result of multiple Agree between the finite verb, and V1 and V2 of the cluster.

CONCLUSION This study presents new data on variation in *te*-placement in Dutch non-finite verb clusters. I analyzed these clusters as cases of functional restructuring. By comparing *te*-raising and lowering to phenomena attested in restructuring contexts in Italian and Germanic, I have shown that the former can be analyzed as clitic climbing, and the latter as the result of parasitic Reverse Agree.

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