Roots in progress

A case study on Dutch semi-lexical verbs

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Outline

Introduction: semi-lexicality

- In Dutch, posture verbs like *zitten* 'to sit' can be used to express durative or progressive aspect

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(1) Ik heb **zitten** te lezen.
I have sit to read.
'I have been reading.'

Introduction: semi-lexicality

- The use of these verbs is *semi-lexical*, as they show functional and lexical behaviour at the same time

Introduction: semi-lexicality

- *Functional*: being able to express aspect or modality

Introduction: semi-lexicality

- *Functional*: being able to express aspect or modality
- *Lexical*: being able to select a specific type of complement

Introduction: semi-lexicality

Dutch lexical verbs can select a *te*-complement:

(2) Hij heeft **besloten** ***te werken***.
He has decided to work
'He has decided to work.'

Introduction: semi-lexicality

Dutch functional verbs never select a *te*-complement:

(3) Hij heeft **moeten** (****te***) ***werken***.
He has must to work
'He had to work.'

Introduction: semi-lexicality

Dutch semi-lexical verbs like *zitten* 'to sit' optionally select a *te*-complement:

(4) Hij heeft **zitten** (***te***) ***werken***.
He has sit to work
'He has been working.'

Introduction: semi-lexicality

These verbs furthermore show a high degree of morphosyntactic optionality:

(5) …dat hij heeft moeten **zitten** ***te*** **werken**.
…dat he has must sit to work

(6) …dat hij heeft moeten **zitten** **werken**.
…dat he has must sit work

(7) …dat hij heeft moeten ***te*** **zitten** **werken**.
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- This is completely ungrammatical with fully lexical or fully functional verbs

Introduction: main research questions

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2. How can we account for the high degree of morphosyntactic optionality displayed by semi-lexical elements?

Introduction: the main proposal in a nutshell

- Semi-lexicality is the result of a root being inserted in the functional domain of another root (Klockmann 2017; Cavirani-Pots 2020; Cavirani-Pots et al. 2021; cf. Song 2019)

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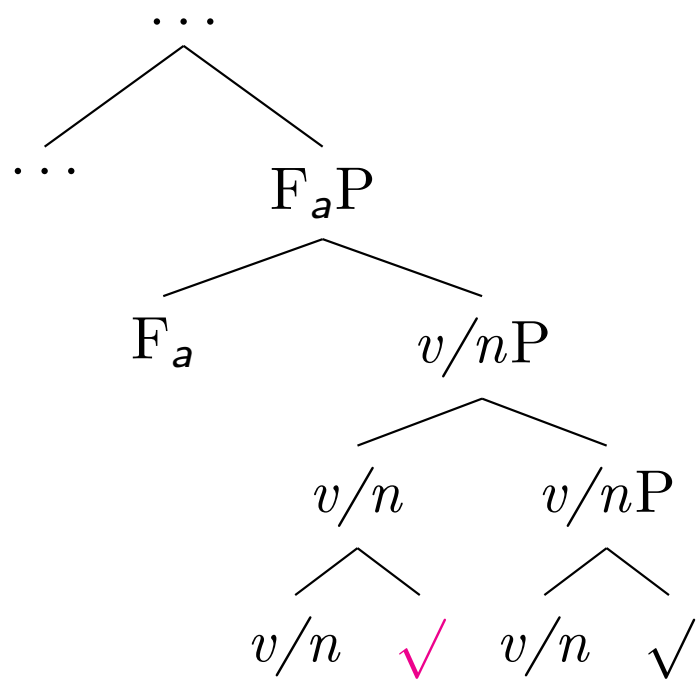
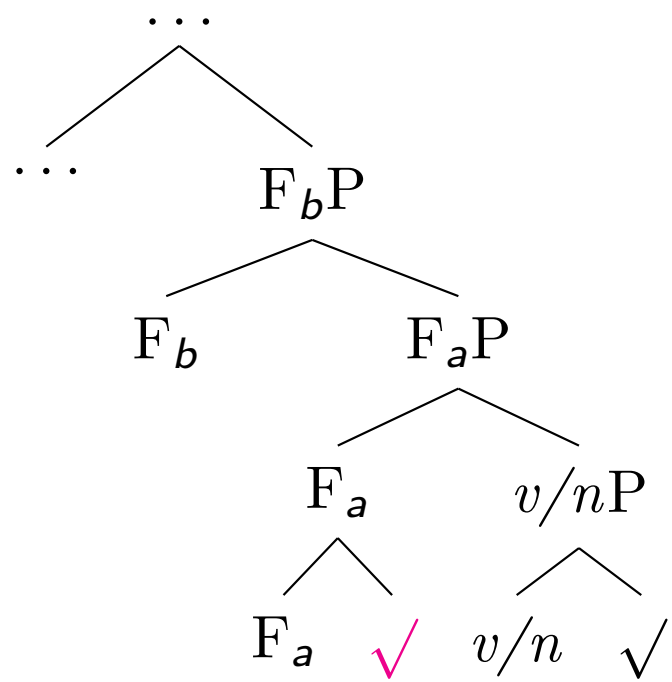
- Semi-lexicality is the result of a root being inserted in the functional domain of another root (Klockmann 2017; Cavirani-Pots 2020; Cavirani-Pots et al. 2021; cf. Song 2019)
- There are two consecutive stages of semi-lexicality (i.e. semi-lexicality is the result of grammaticalisation)

Introduction: the main proposal in a nutshell

(8) **Semi-lexical stage I**



(9) **Semi-lexical stage II**



→ The root in pink is the semi-lexically used root.

Introduction: The empirical domain

- I present a case study on two Dutch semi-lexical verbs, *hoeven* 'to need' and *zitten* 'to sit'

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- I present a case study on two Dutch semi-lexical verbs, *hoeven* 'to need' and *zitten* 'to sit'
- Both verbs are semi-lexical

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- Like *zitten*, *hoeven* shows both functional and lexical behaviour:
  - *Lexical*: it can select a *te*-complement, but does so optionally
  - *Functional*: it can be used to express modality of (the absence of) necessity
- *Hoeven* also shows a high degree of morphosyntactic variation

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- I will claim that:
- *hoeven* is on its way from the first stage of semi-lexicality to the second
- *zitten* is uniformly in the first stage
- This results in different degrees of morphosyntactic optionality between the two verbs

Methodology: design

Large-scale questionnaire study

- The verbs of interest, *hoeven* 'to need' and *zitten* 'to sit' were embedded in non-finite three verb clusters in standard word order

Methodology: design

Hoeven verb cluster

(10) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

Methodology: design

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- V1 *hoeven* selects a *te*-infinitive
- The second verb in the cluster (V2) is a *te*-infinitive

Methodology: design

Zitten verb cluster

(11) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

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Zitten verb cluster

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- V2 *zitten* selects a *te*-infinitive

Methodology: design

Zitten verb cluster

(11) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

- V2 *zitten* selects a *te*-infinitive
- The lowest verb in the cluster (V3) is a *te*-infinitive

Methodology: design

Goal of the questionnaire study:

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  - *te* is absent

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

Methodology: design

7 different versions of both 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

- 14 test items, 25 filler items, 5 practice items

Methodology: procedure

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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: participants

Participants

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

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

Methodology: participants

Figure 1: Distribution of included participants

The results: prerequisites

Data preparation

- The verbs of interest are not used in all regions of the language area

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- 64 participants do not use *zitten* semi-lexically

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- Ratings of 4 and 5 were interpreted as the given test item being grammatical for the participant
- Ratings of 1, 2 and 3 were interpreted as the given test item being ungrammatical for the participant

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Terminology

- When *te* occurs in a higher position than required: **high-*te***

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- When *te* occurs in a higher position than required: **high-*te***
- When *te* occurs in the 'correct' position below the selecting verb: **low-*te***

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- When *te* occurs in a higher position than required: **high-*te***
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- When *te* is absent: ***te*-drop**

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- When *te* occurs in a higher position than required: **high-*te***
- When *te* occurs in the 'correct' position below the selecting verb: **low-*te***
- When *te* is absent: ***te*-drop**
- When *te* occurs twice: ***te*-doubling**

The results: prerequisites

Terminology

(12) ...*te* hoeven gaan voetballen. **high-*te***
...to need go play.football.

(13) ...hoeven *te* gaan voetballen. **low-*te***
...need to go play.football.

(14) ...hoeven gaan voetballen. ***te*-drop**
...need go play.football

(15) ...*te* hoeven *te* gaan voetballen. ***te*-doubling**
...to need to go play.football

The results: weighted frequencies

Phenomenon	*hoeven* cluster	*zitten* cluster
High-*te*	19,3%	7,7%
Low-*te*	51,2%	19,6%
Te-drop	22,4%	71,0%
Te-doubling	7,1%	1,7%

Table 1: Weighted frequencies of all phenomena

The results: optionality

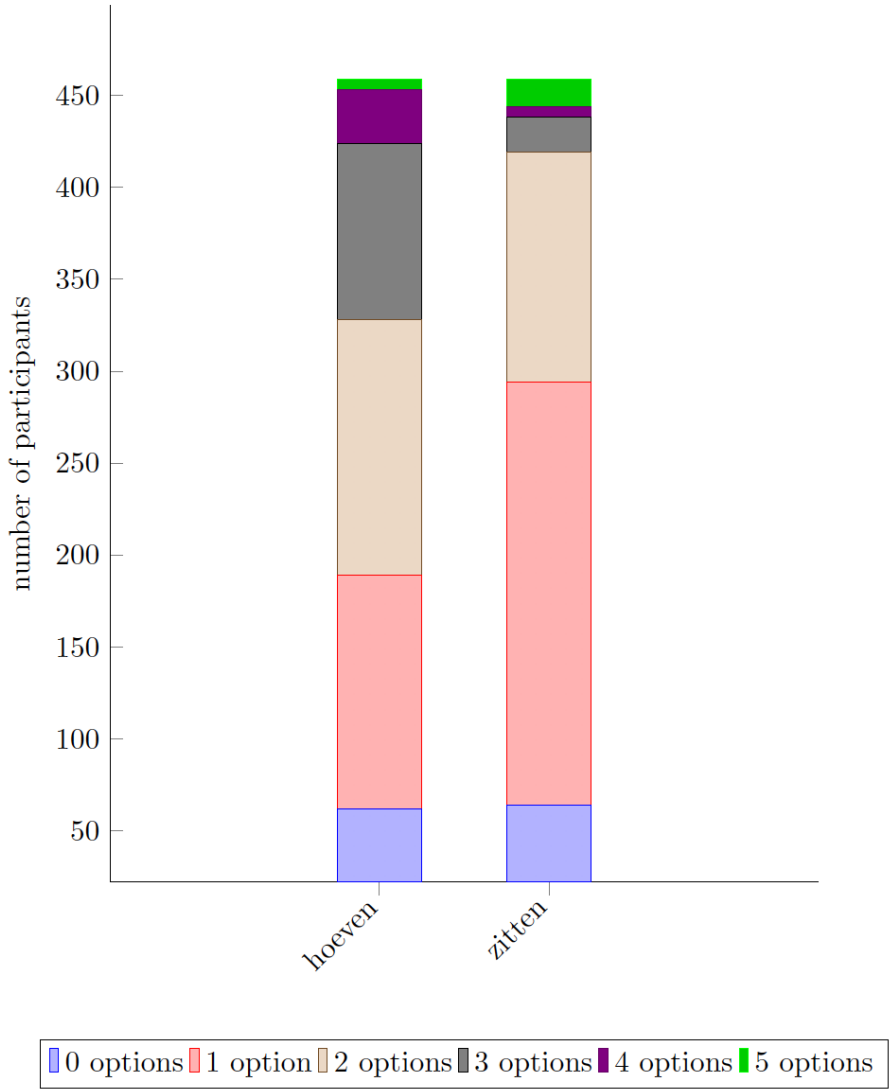

Figure 2: Optionality in both cluster types

The results: summary

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- In both clusters, *te*-doubling is very rare, virtually non-existent in the *zitten* cluster
- The *hoeven* cluster shows more inter-speaker variation than the *zitten* cluster

The main proposal

Why formalising semi-lexicality

- Semi-lexical items do not behave as 'we expect them to'

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Why formalising semi-lexicality

- Semi-lexical items do not behave as 'we expect them to'
- They seem to be neither fully lexical nor fully functional
- The 'in between' syntactic behaviour of these elements is problematic for their integration in a theory of linguistic categories
- The number of nouns, verbs and adjectives which behave semi-lexically makes it hard to set them aside as exceptions (Ross 1972, Emonds 1985, Van Riemsdijk 1998, Vos 1999, Corver and Van Riemsdijk 2001)

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- Formalising semi-lexicality gives us a tool to formalise the early steps of grammaticalisation
- E.g. the stage of functional item towards affix is much more theoretically fleshed out than the step from lexical to functional
- Formalising semi-lexicality is furthermore important for our theory of the syntax-lexicon interface

The main proposal

Roots and features

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Roots and features

- An important question in the semi-lexicality debate is how semi-lexicality should be analysed in terms of roots and syntactic features
- De Belder (2011) argues that semi-lexicality surfaces when a functional item is inserted in a root position (semi-lexicality is syntactic)
- Klockmann (2017) argues that semi-lexicality is the result of a root that bears one or more features in the lexicon (semi-lexicality is lexical)

The main proposal

Theoretical assumptions

- Semi-lexicality is the result of early grammaticalisation (Haider 2001, Hagemijer 2001, Klockmann 2017)

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Theoretical assumptions

- Semi-lexicality is the result of early grammaticalisation (Haider 2001, Hagemijer 2001, Klockmann 2017)
- A lexical item is a featureless root; a functional item is a (bundle of) functional feature(s) (Halle & Marantz 1993; Harley & Noyer 1999; Borer 2005a)

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- v and n a mere categorizers of roots, not introducing any arguments (Kratzer 1996; Lin 2001; Marantz 2005; Bowers 2010; Lohndal 2014; cf. Borer 2005b)

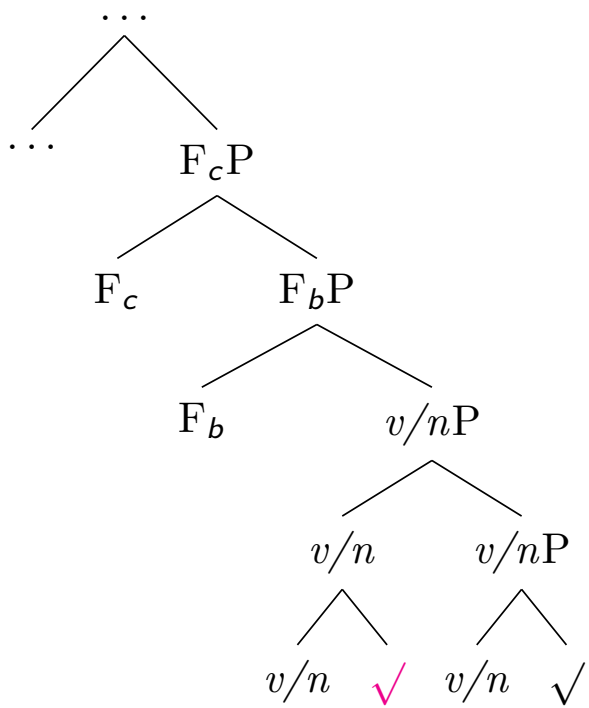
The main proposal

Main proposal

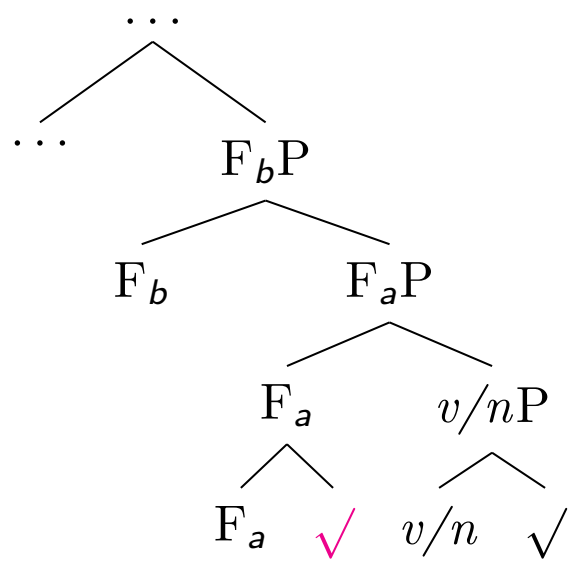
- There are two stages of semi-lexicality, which are early steps on a grammaticalisation path

The main proposal

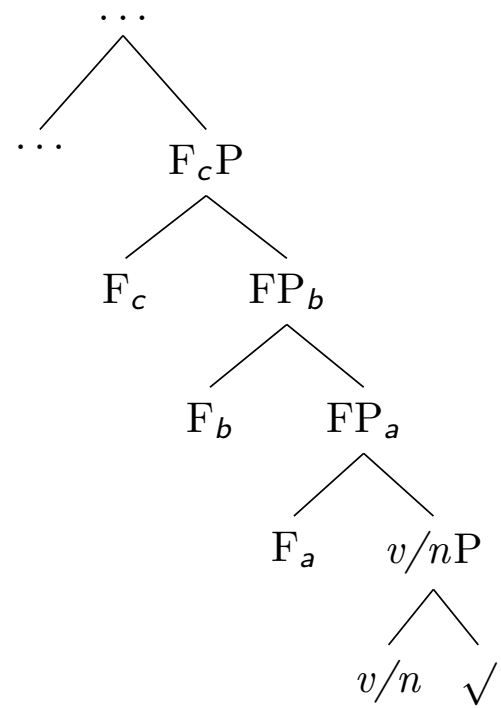
Semi-lex stage I



Semi-lex stage II



Functional stage



→ The root in pink is the semi-lexically used root

The main proposal

- Revision of standard grammaticalisation path (cf. Hopper & Traugott 1993)

(16) $\mathrm{A}_{\textit{lexical}} > \mathrm{B}_{\textit{functional}} / \mathrm{A}_{\textit{lexical}}\ (> \mathrm{B}_{\textit{functional}})$

The main proposal

- Revision of standard grammaticalisation path (cf. Hopper & Traugott 1993)

Stage	Vocabulary items
Stage 0	$A_{lexical}$
Stage I	$A_{lexical}$ + semi-lexical use_{stageI} of $A_{lexical}$
Stage II	$A_{lexical}$ + semi-lexical $use_{stageII}$ of $A_{lexical}$
Stage III	$B_{functional}$ (+ $A_{lexical}$)

The case study: prerequisites

Three theoretical prerequisites, regarding:

1. the featural specification of the verbal domain in Germanic
2. the spell out of *te*
3. the direction of Agree

The case study: prerequisites

The featural specification of the verbal domain (I)

- I assume the featural specification of the verbal domain in Germanic as proposed by Wurmbrand (2012)

The case study: prerequisites

The featural specification of the verbal domain (I)

- I assume the featural specification of the verbal domain in Germanic as proposed by Wurmbrand (2012)
- There is a four-way split among interpretable, uninterpretable, valued and unvalued features (Pesetsky and Torrego 2007, Bošcović 2009)

The case study: prerequisites

The featural specification of the verbal domain (II)

- Every verbal head enters the derivation with an unvalued [uT]-feature

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- Every functional verbal head has a valued [iT]-feature corresponding to its semantic interpretation
  - E.g.: v bears a [uT:_]-feature, Mod bears an [uT:_]-feature and [iT:Mod]-feature

The case study: prerequisites

The featural specification of the verbal domain (II)

- Every verbal head enters the derivation with an unvalued [uT]-feature
- Every functional verbal head has a valued [iT]-feature corresponding to its semantic interpretation
  - E.g.: v bears a [uT:_]-feature, Mod bears an [uT:_]-feature and [iT:Mod]-feature
- At PF, the valuation of [uT:_]-feature on v is what is morphologically realised on the given verb (see also Stechow 2003 et seq, and Gronn and Stechow 2011)

The case study: prerequisites

The spell out of *te*

- I assume that v can spell out *te* when the [uT:_]-feature on v has been valued for [irrealis]

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- I.e. *te* is not an independent functional head in narrow syntax, but the spell out of a feature on v when the right feature valuation has taken place
- *Te* started out as an marker of irrealis clauses (IJbema 2001); I therefore assume that *te* is still associated with this feature

The case study: prerequisites

The direction of Agree

- I follow Wurmbrand (2012) in assuming that verbal feature valuation in Germanic is the result of Reverse Agree

The case study: prerequisites

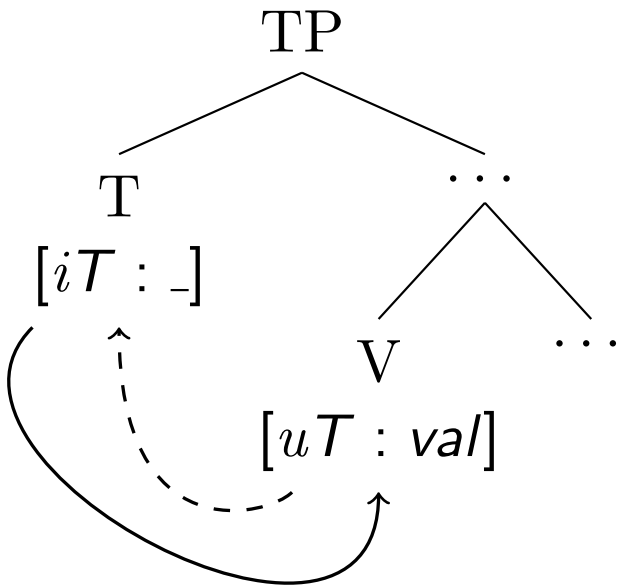
The direction of Agree

- I follow Wurmbrand (2012) in assuming that verbal feature valuation in Germanic is the result of Reverse Agree
- I.e. feature probing is upwards, valuation is downwards

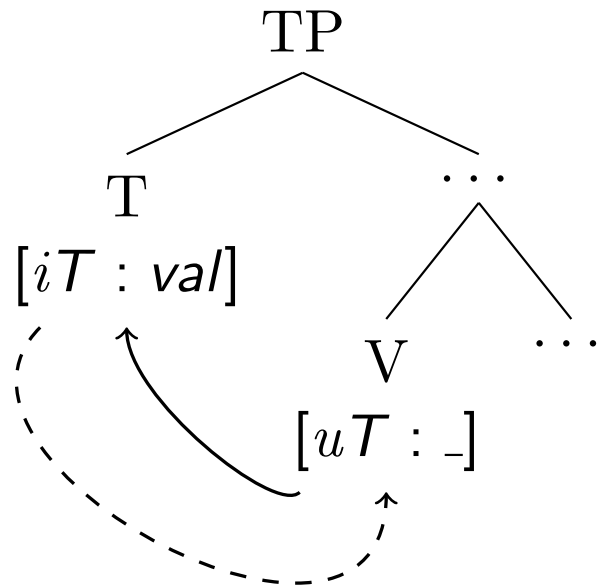
The case study: prerequisites

The direction of Agree

Standard Agree



Reverse Agree



The case study: the analysis

- A first step of the analysis: *hoeven* is grammaticalising from stage I of semi-lexicality to stage II

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Tests for semi-lexicality

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  3. they establish a thematic relation with the subject; they do not allow weather-*it* subjects

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- Wurmbrand (2001) has three tests for the status of semi-lexically used restructuring verbs:
  1. they occur in IPP form when embedded under a perfective auxiliary
  2. they do not allow extraposition
  3. they establish a thematic relation with the subject; they do not allow weather-*it* subjects
- Both *hoeven* and *zitten* pass the first and second test

Case study: the analysis

The IPP effect

(17) dat ze dat niet heeft **gehoeven**.
that she that not has need.PTCP
'that she didn't need that.'

(18) dat ze niet heeft {**hoeven**/***gehoeven**} (te) werken.
that she not has need.INF/need.PTCP to work
' that she didn't need to work.'

(19) dat ze niet heeft {**zitten**/***gezeten**} (te) werken.
that she not has sit.INF/sit.PTCP to work
'that she hasn't been working.'

Case study: the analysis

Blocking of extraposition

(20) dat ze **besluit** [de koek te eten].
that she decides the cookie to eat
'that she decides to eat the cookie.'

(21) *dat Frans niet **hoeft** [de koek te eten].
that Frans not need the cookie to eat
'that Frans doesn't need to eat the cookie.'

(22) *dat Frans **zit** [de koek te eten].
that Frans sit the cookie to eat
'that Frans is eating the cookie.'

Case study: the analysis

- *Hoeven* and *zitten* show different results on the third test

Case study: the analysis

Blocking of weather-*it* subjects

(23) ***Het* hoeft** niet te sneeuwen.
it need not to snow
'It doesn't need to snow.

(24) ****Het* zit** niet te sneeuwen.
it sit not to snow
'It is not snowing.'

Case study: the analysis

Hoeven in both the first and second stage

- *Hoeven* shares the capacity to occur with weather-*it* subjects with functional verbs (auxiliary verbs and modals)

Case study: the analysis

Hoeven in both the first and second stage

- *Hoeven* shares the capacity to occur with weather-*it* subjects with functional verbs (auxiliary verbs and modals)
- I take this as an indication that *hoeven* is grammaticalising from the first stage of semi-lexicality to the second stage of semi-lexicality

Case study: the analysis

Hoeven in both the first and second stage

- Further support for this assumption is given by Van de Velde (2017)

Case study: the analysis

Hoeven in both the first and second stage

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- Over the last 50 years, *hoeven* has shown a rapid increase in selecting a bare rather than a *te*-infinitive, while acquiring a more modal interpretation

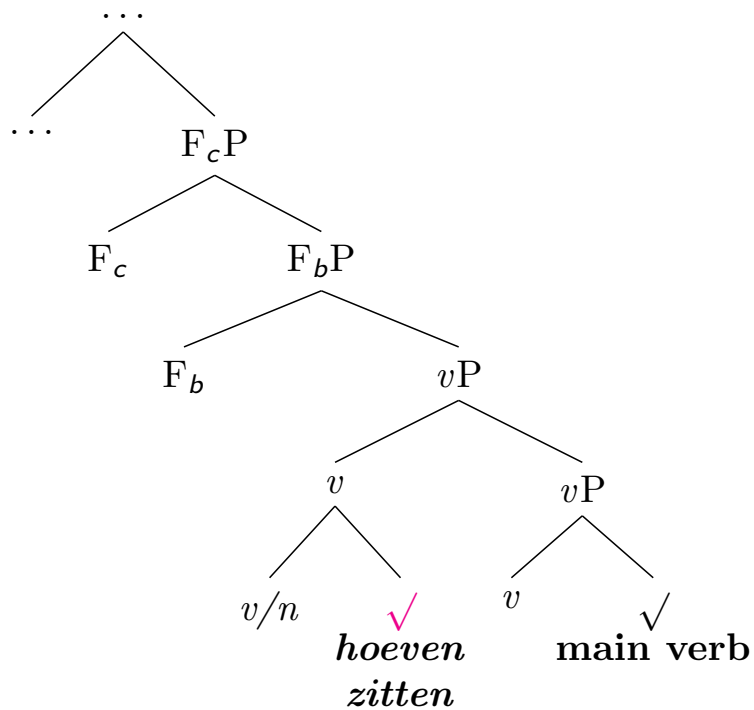
Case study: the analysis

Hoeven in both the first and second stage

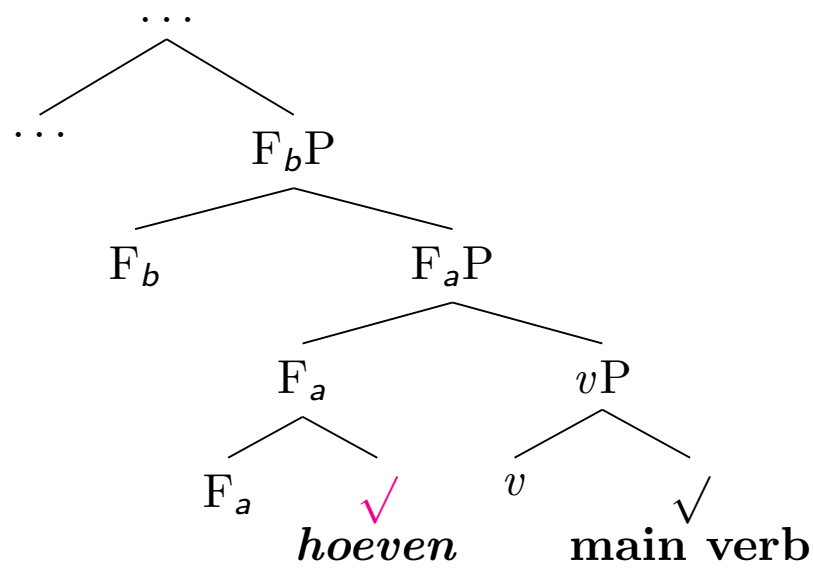
- Further support for this assumption is given by Van de Velde (2017)
- Over the last 50 years, *hoeven* has shown a rapid increase in selecting a bare rather than a *te*-infinitive, while acquiring a more modal interpretation
- Given that *zitten* blocks weather-*it* subjects and does not seem to change in its morphosyntactic behaviour, I assume that this verbs is uniformly in the first stage of semi-lexicality

Case study: the analysis

Semi-lex stage I



Semi-lex stage II



Case study: the analysis

- *Recall*: the morphosyntactic behaviour of *hoeven* was tested with the following test item

(25) 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.'

Case study: the analysis

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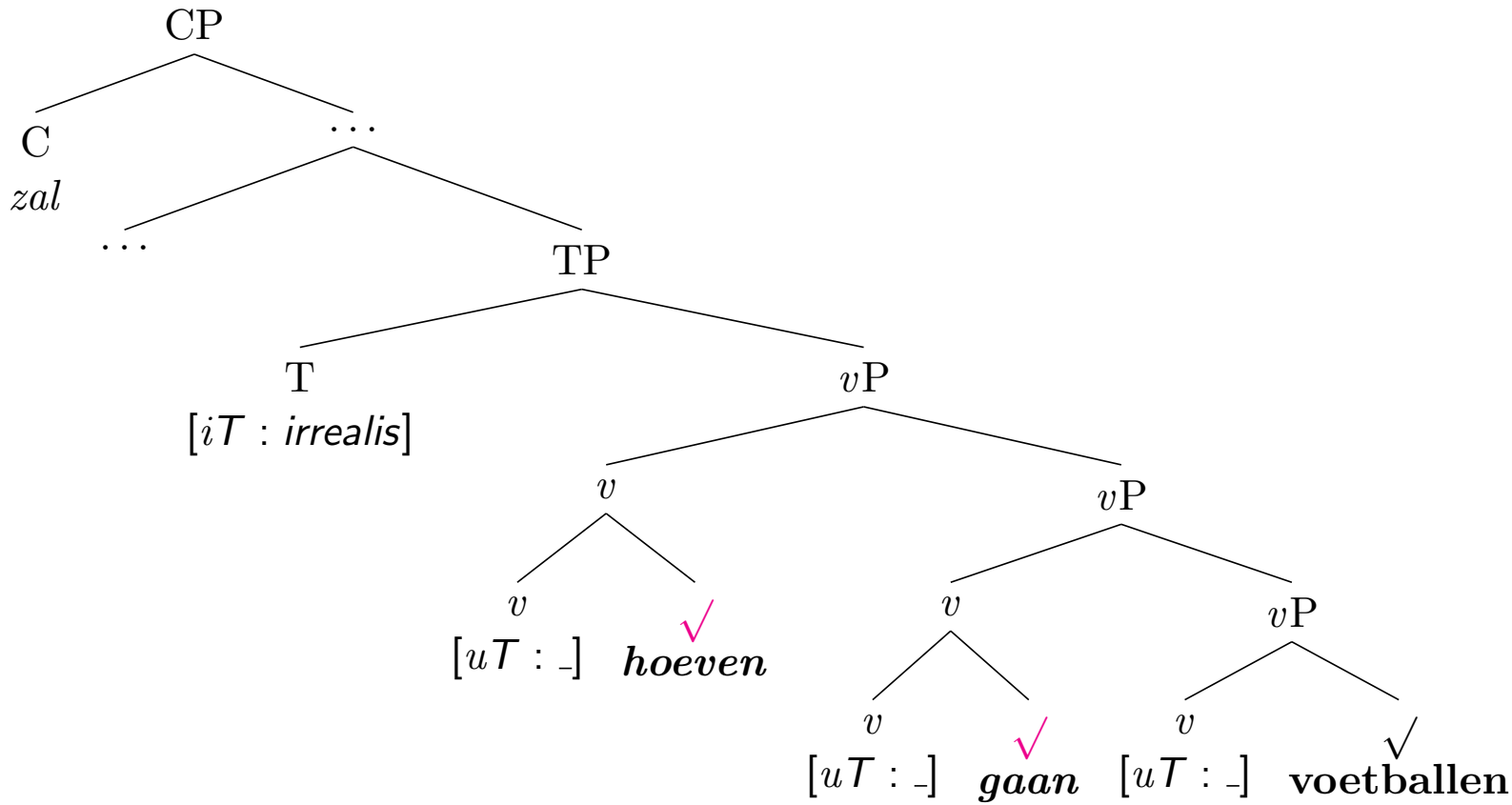
(25) Koen zal niet [hoeven$_1$ *te* gaan$_2$ voetballen$_3$].
Koen will not need.INF to go.INF play.football.INF.
'Koen won't have to go and play football.'

- Applying the three tests for semi-lexicality, V2 *gaan* 'go' is semi-lexical as well, and blocks weather-*it* subjects (i.e. semi-lexical stage I)

Case study: the analysis

(26) **Structure of *hoeven* cluster (sem-lex stage I)**



The case study: the analysis

Recap of the data

- In the *hoeven* cluster, low-*te* is the most frequent, but high-*te* and *te*-drop occur relatively frequently as well

The case study: the analysis

Recap of the data

- In the *hoeven* cluster, low-*te* is the most frequent, but high-*te* and *te*-drop occur relatively frequently as well
- *te*-doubling is very infrequent

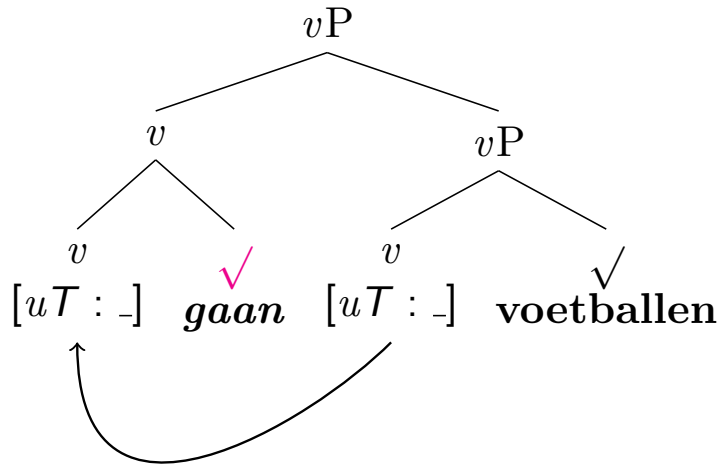
The case study: the analysis

Recap of the data

- In the *hoeven* cluster, low-*te* is the most frequent, but high-*te* and *te*-drop occur relatively frequently as well
- *te*-doubling is very infrequent
- The *hoeven* cluster shows a high degree of intra-speaker variation

Case study: the analysis

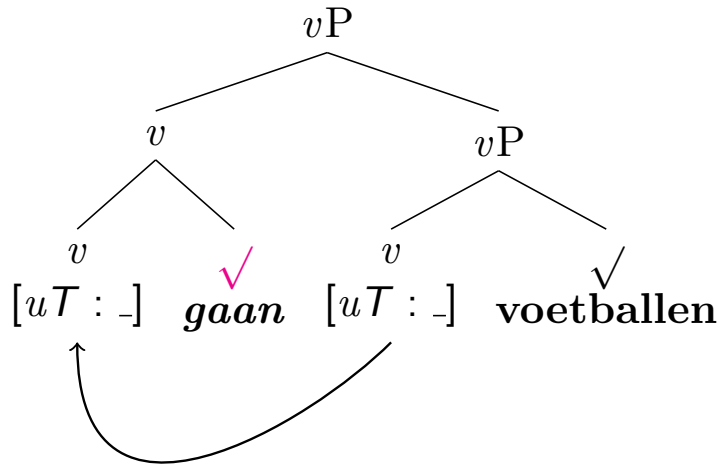
(27) **Agree step I (sem-lex stage I)**



- $[uT : \_]$ on the lower v probes up and Agrees with the $[uT : \_]$ on the second v

Case study: the analysis

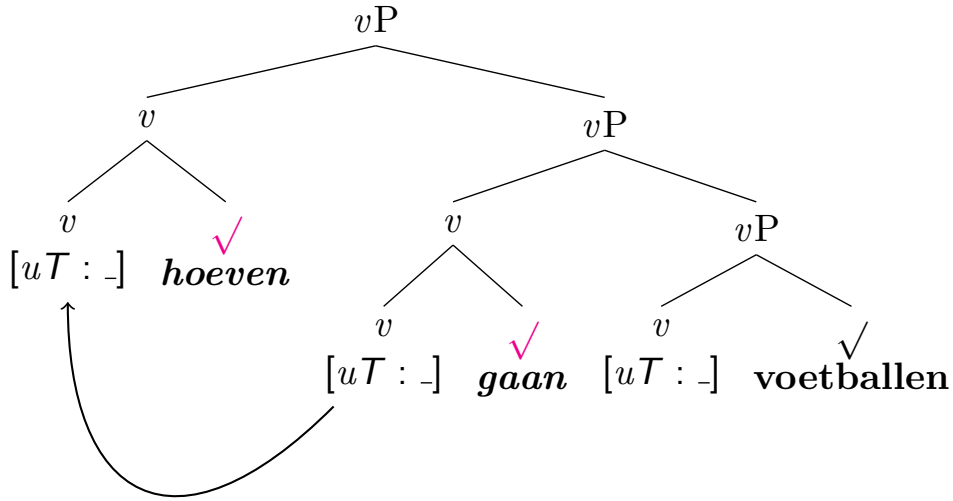
(27) **Agree step I (sem-lex stage I)**



- $[uT : \_]$ on the lower v probes up and Agrees with the $[uT : \_]$ on the second v
- No valuation is possible, but a feature link is established (cf. Pesetsky & Torrego 2007; Haegeman & Lohndal 2010)

Case study: the analysis

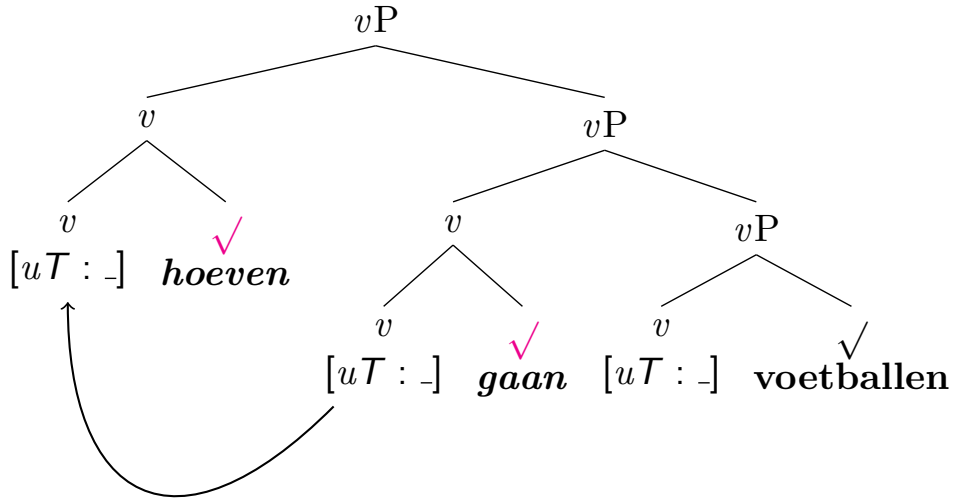
(28) **Agree step II (sem-lex stage I)**



- $[uT : \_]$ on the middle v probes up and Agrees with the $[uT : \_]$ on the highest v

Case study: the analysis

(28) **Agree step II (sem-lex stage I)**



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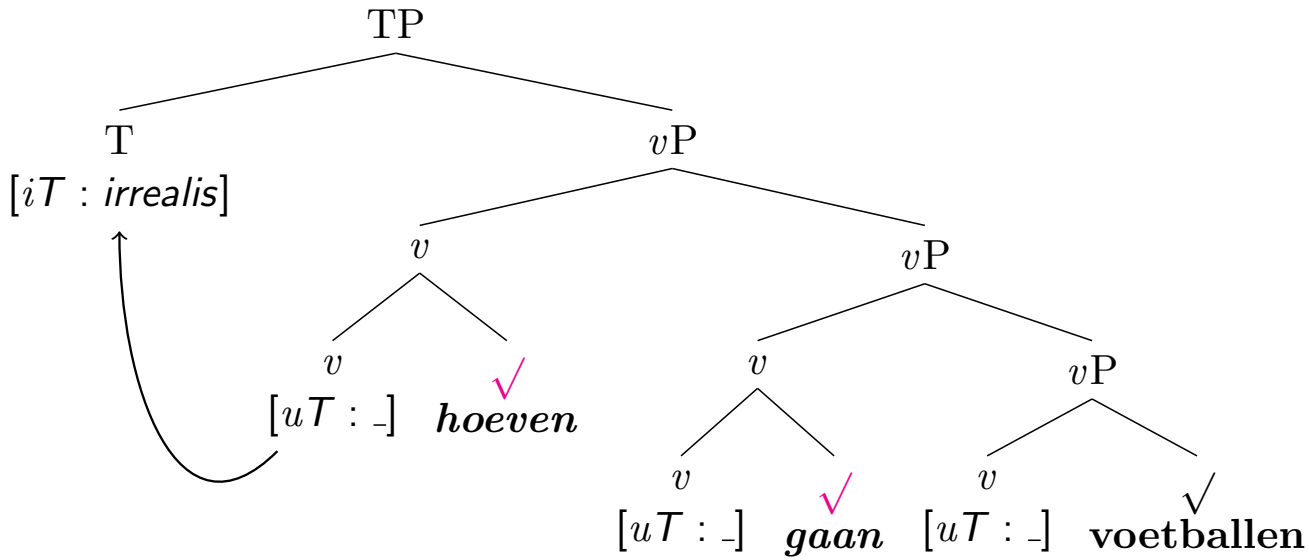
Case study: the analysis

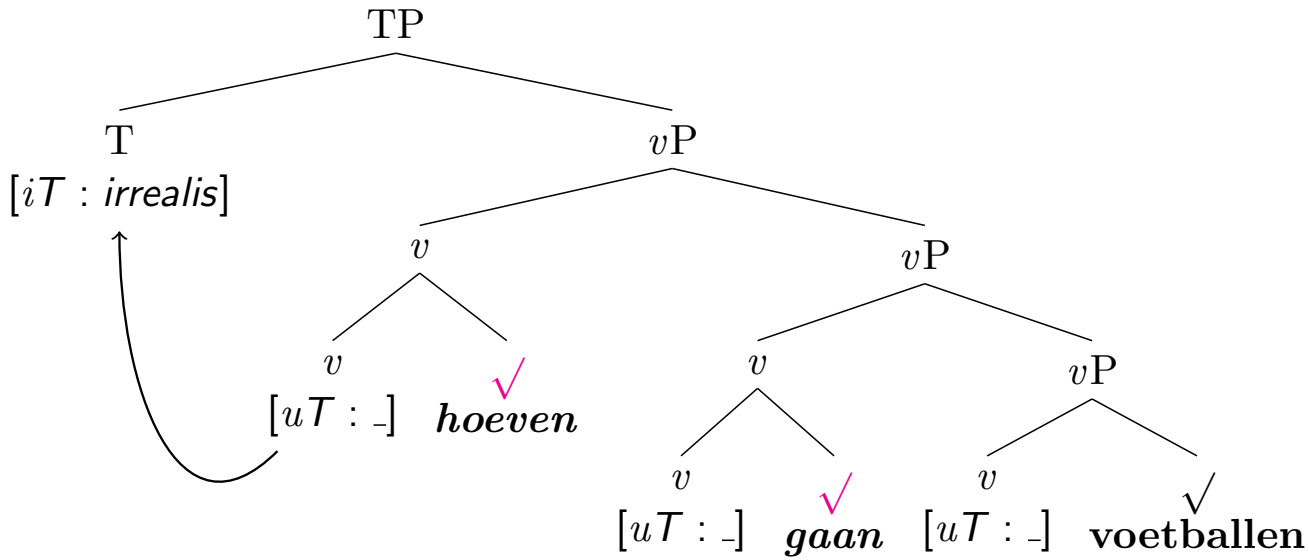
(29) **Agree step III (sem-lex stage I)**



- T is Merged, and comes with an [*i*T]-feature valued for [irrealis] (due to modal *zal* 'will', which will surface in V2 position)

Case study: the analysis

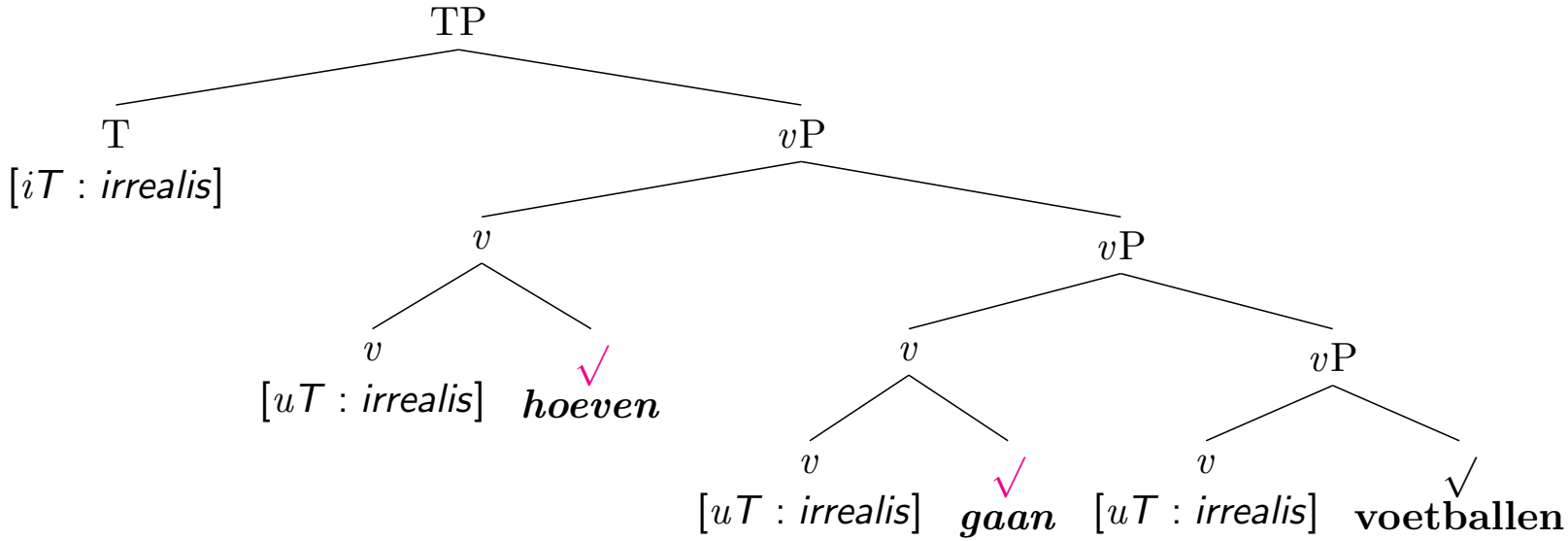
(29) **Agree step III (sem-lex stage I)**



- T is Merged, and comes with an [iT]-feature valued for [irrealis] (due to modal *zal* 'will', which will surface in V2 position)
- The [uT]-feature on the highest v probes up and Agrees with [iT] on T

Case study: the analysis

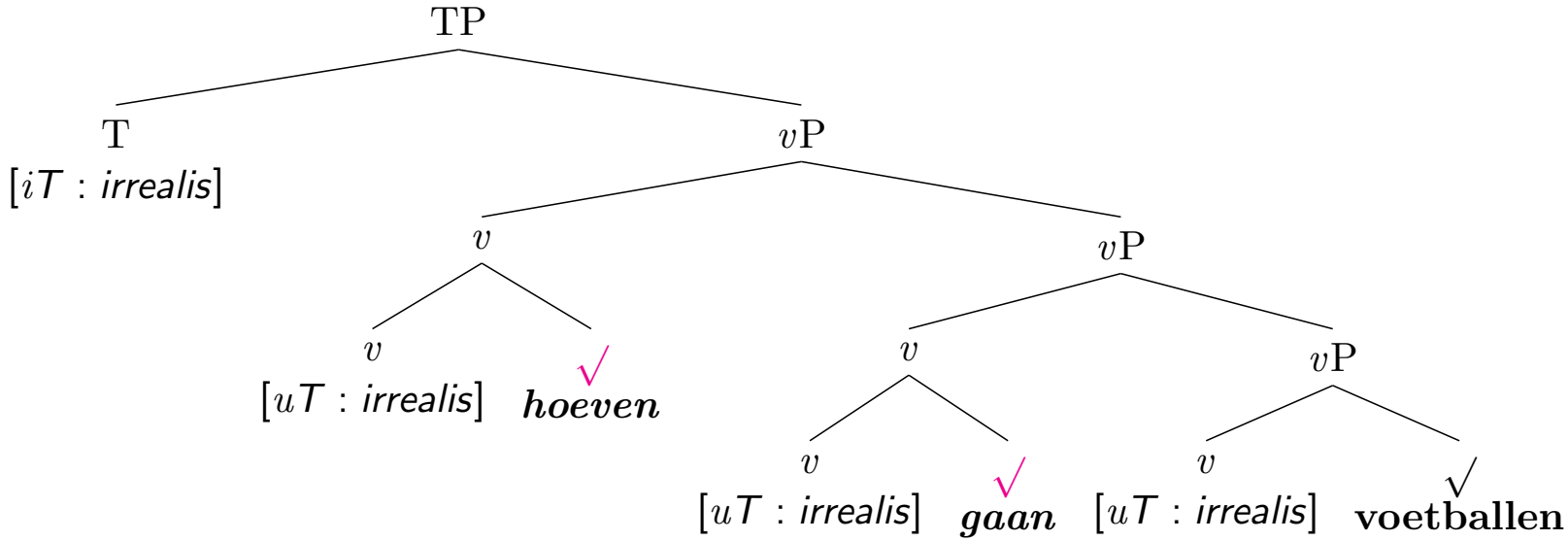
(30) **Valuation (sem-lex stage I)**



- Since the three [uT]'s in the structure Agreed before and formed a feature chain, they all get valued for [irrealis]

Case study: the analysis

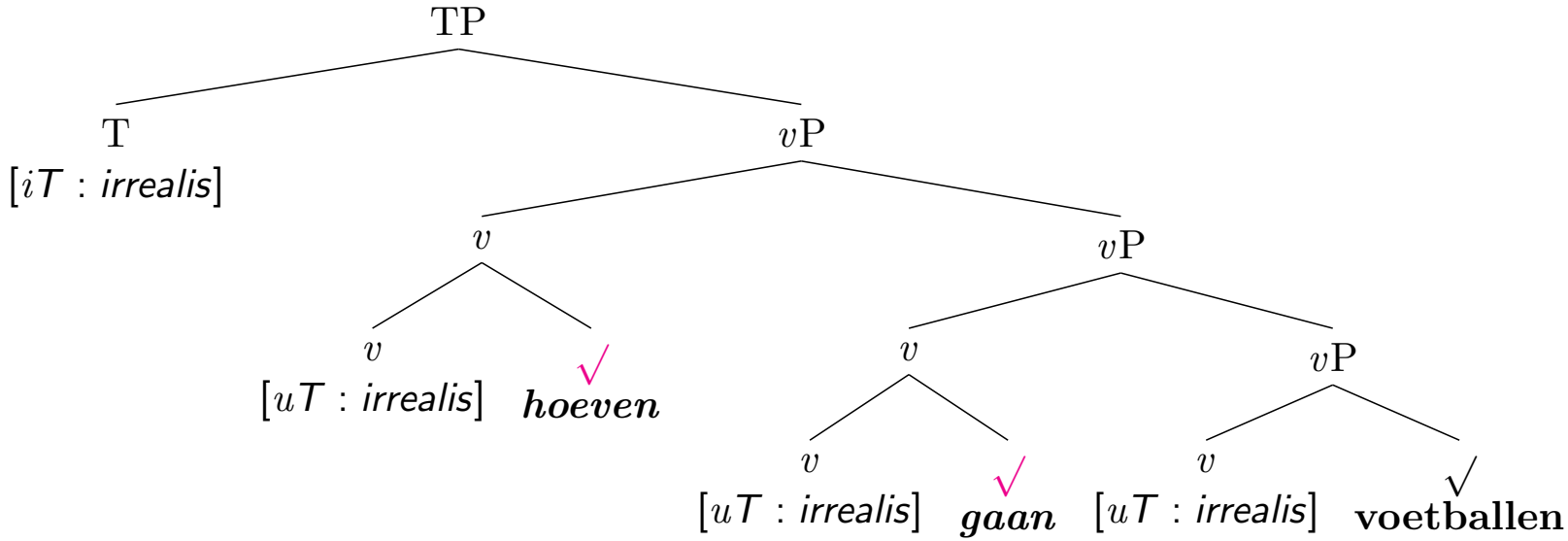
(30) **Valuation (sem-lex stage I)**



- Since the three [uT]'s in the structure Agreed before and formed a feature chain, they all get valued for [irrealis]
- *Recall*: spelling out *te* is possible when the [uT]-feature on v has been valued for [irrealis]

Case study: the analysis

(31) **Valuation (sem-lex stage I)**



- In this cluster, *te* can therefore be spelled out on all verbs

Case study: the analysis

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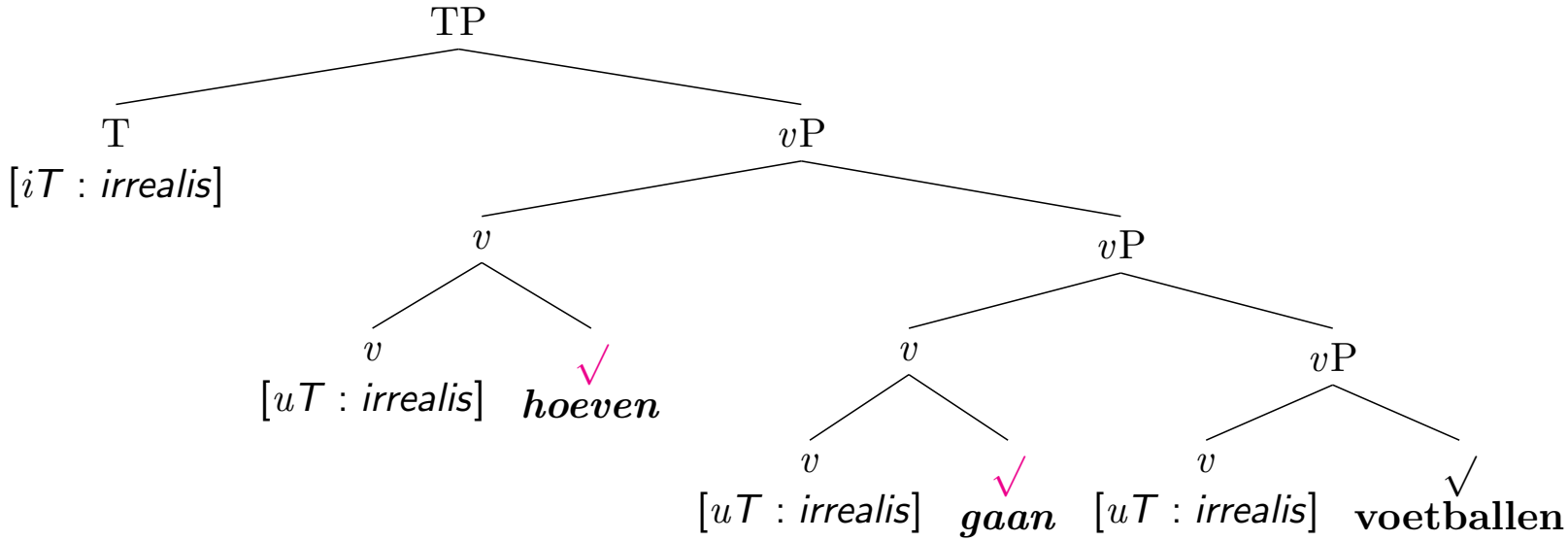

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Case study: the analysis

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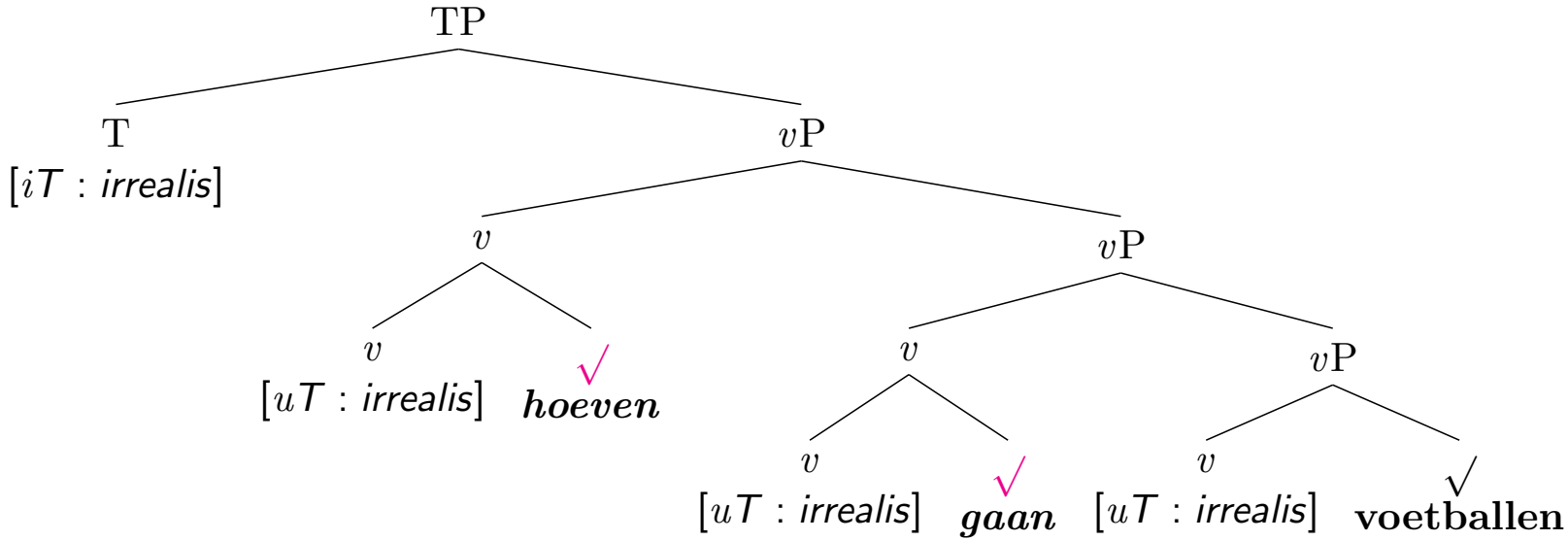


- In this cluster, *te* can therefore be spelled out on all verbs
- I assume that *te*-tripling is excluded by haplology
- High-*te*, low-*te* and *te*-doubling are expected to occur, which is indeed the case

Case study: the analysis

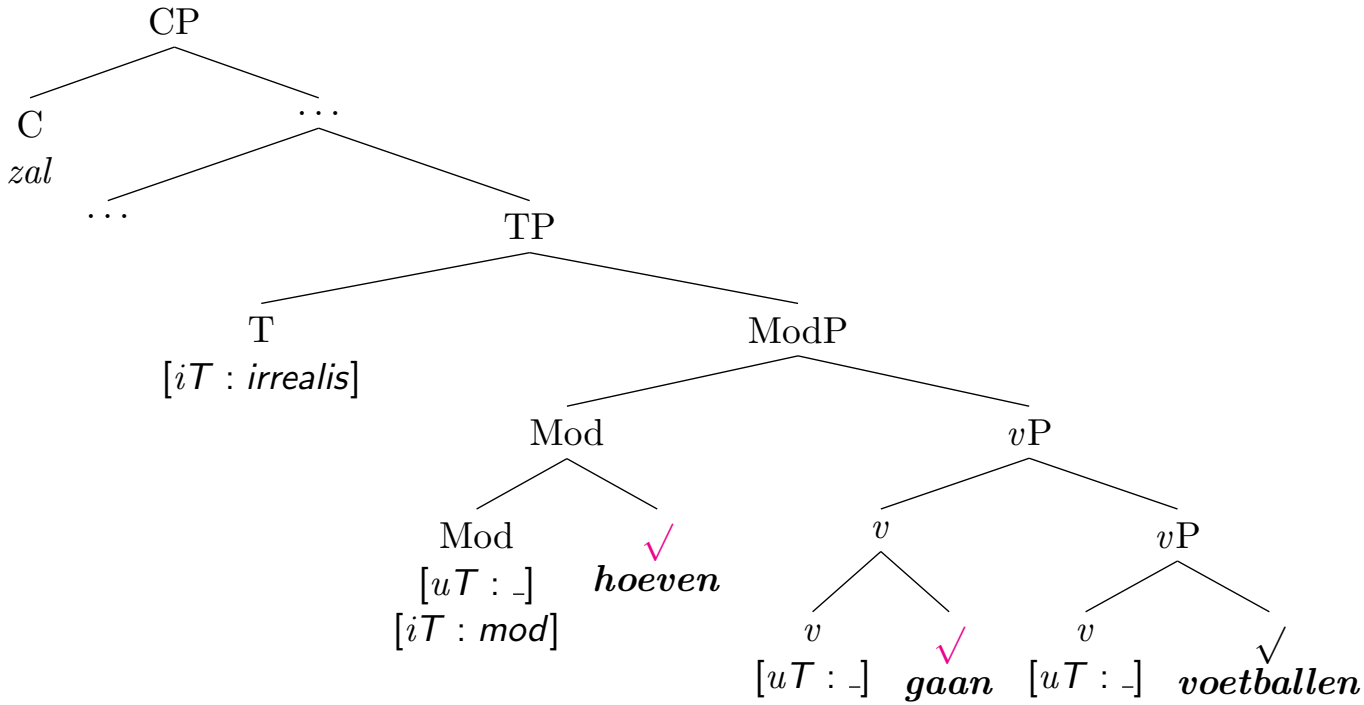
- I assume that *te*-doubling is the least preferred option because it is more effortful or redundant than spelling out one feature of a feature chain

Case study: the analysis

- I assume that *te*-doubling is the least preferred option because it is more effortful or redundant than spelling out one feature of a feature chain
- The high degree of intra-speaker optionality is exactly what is expected in such a configuration: syntax doesn't care

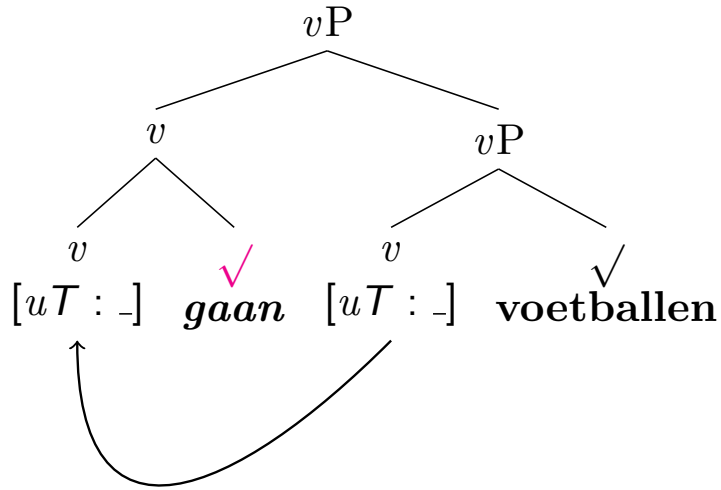
Case study: the analysis

(32) **Structure of *hoeven* cluster (sem-lex stage II)**



Case study: the analysis

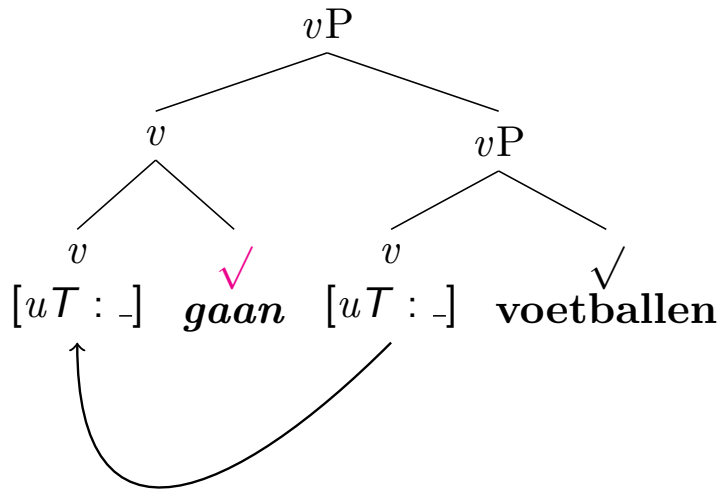
(33) **Agree step I (sem-lex stage II)**



- $[uT : \_]$ on the lower v probes up and Agrees with the $[uT : \_]$ on the second v

Case study: the analysis

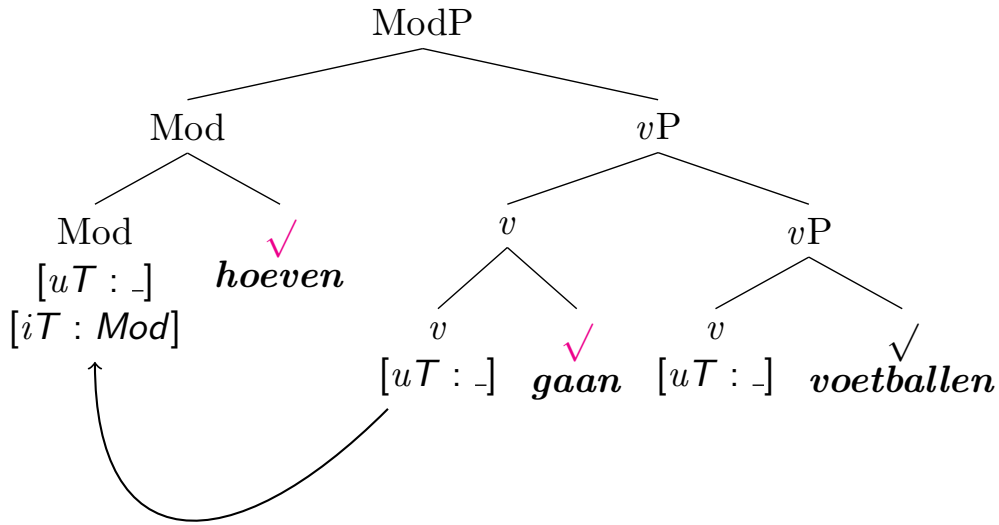
(33) **Agree step I (sem-lex stage II)**



- $[uT : \_]$ on the lower v probes up and Agrees with the $[uT : \_]$ on the second v
- No valuation is possible, but a feature link is established

Case study: the analysis

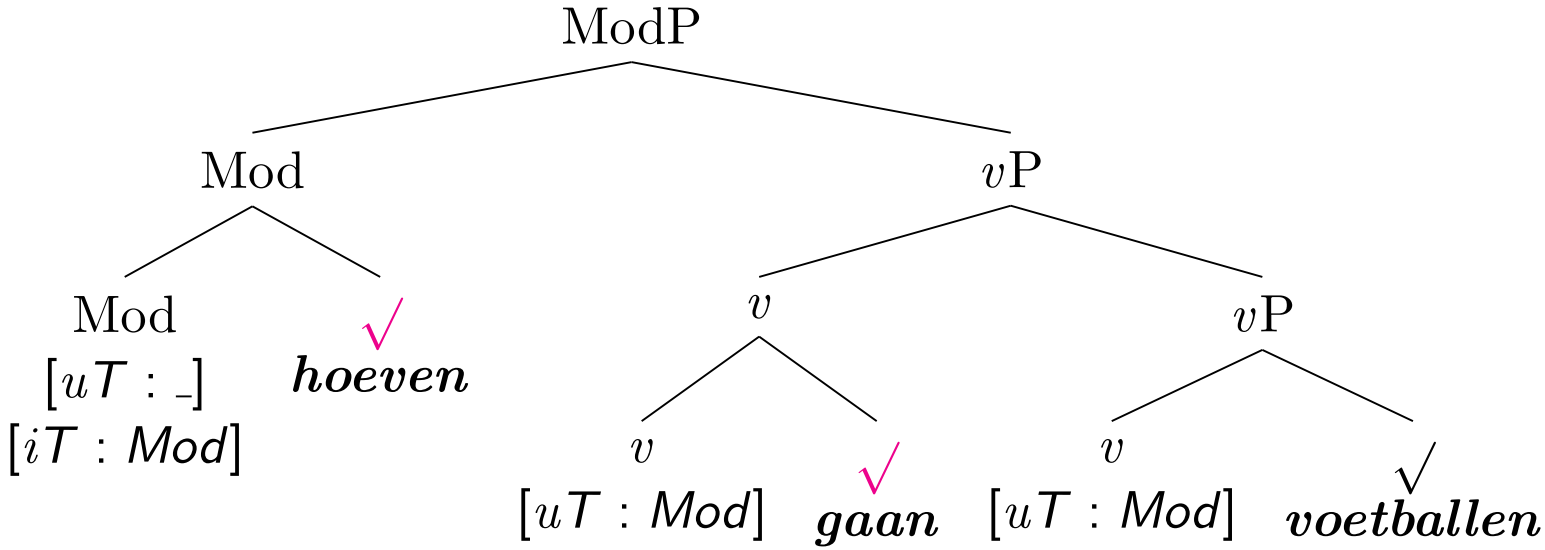
(34) **Agree step II (sem-lex stage II)**



- $[uT : \_]$ on the middle v probes up and Agrees with the $[iT : Mod]$ on Mod

Case study: the analysis

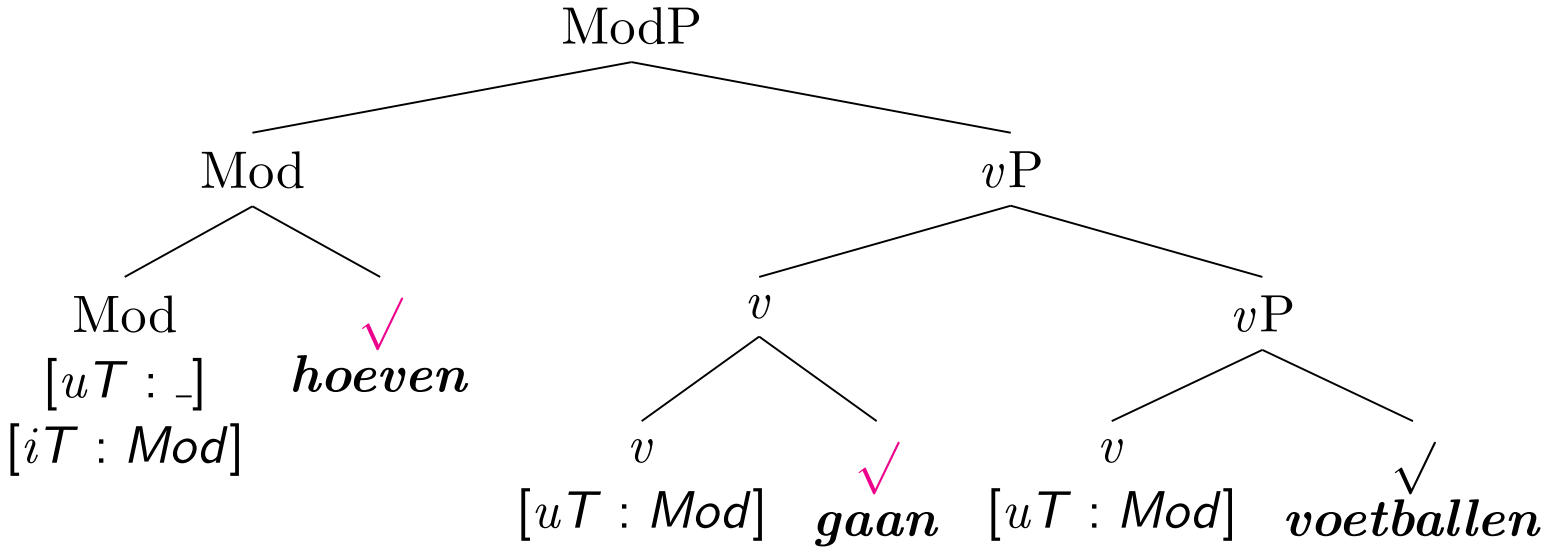
(35) **Valuation step I (sem-lex stage II)**



- Both [uT] get valued for [Mod]

Case study: the analysis

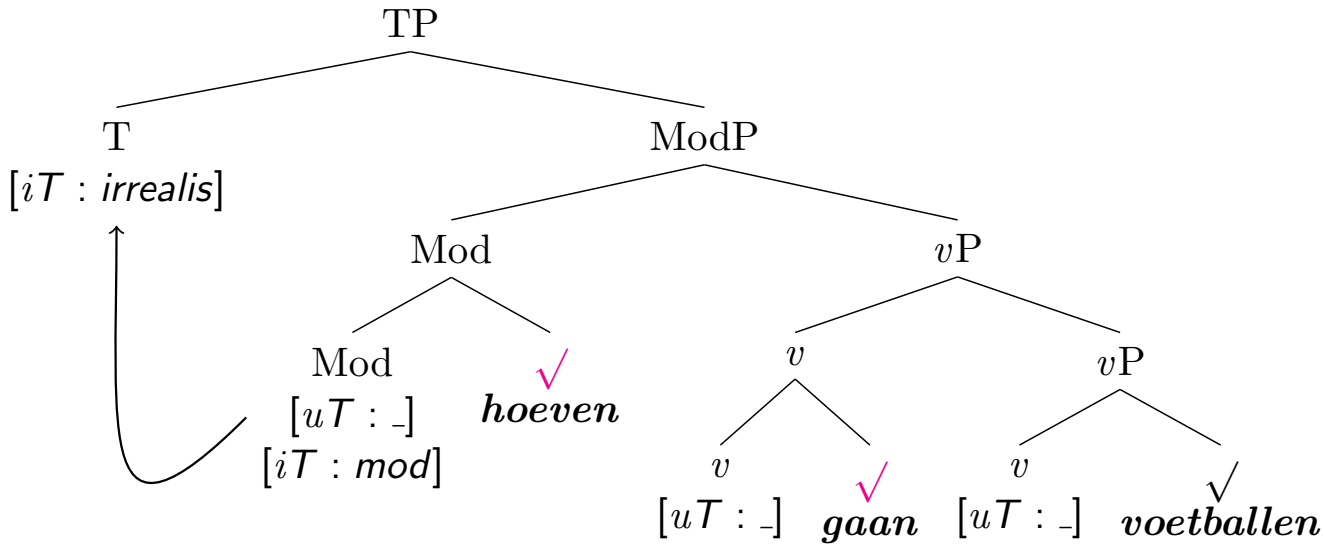
(35) **Valuation step I (sem-lex stage II)**



- Both [uT] get valued for [Mod]
- This valuation results in both verbs being spelled out as a bare infinitive

Case study: the analysis

(36) **Agree step III (sem-lex stage II)**



- T is merged, and comes with an [*i*T:irrealis] feature (due to *zal* 'will' in V2)

Case study: the analysis

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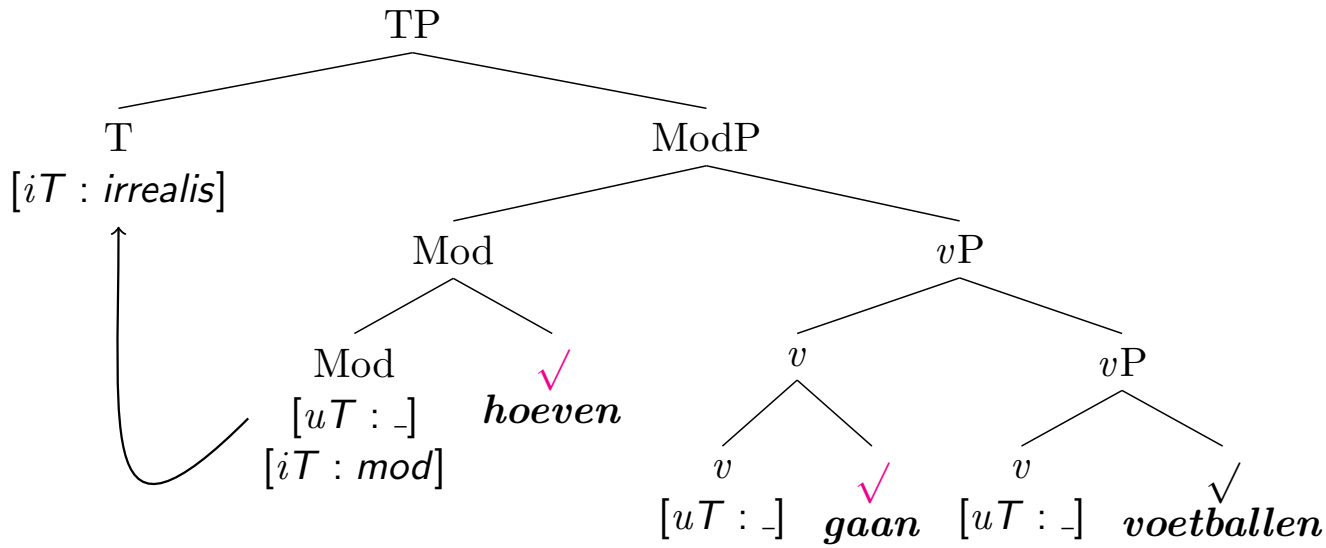
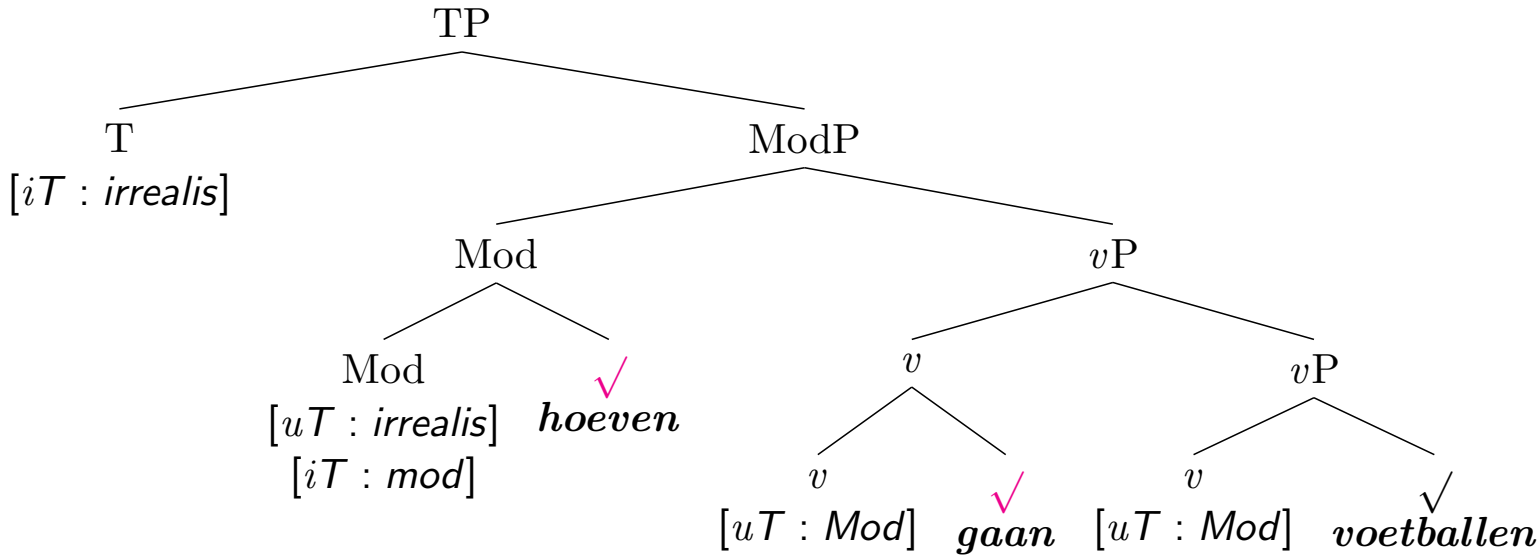


- T is merged, and comes with an [*i*T:irrealis] feature (due to *zal* 'will' in V2)
- [*u*T:_] on Mod probes up and Agrees with [*i*T:irrealis] on T

Case study: the analysis

(37) **Valuation step II (sem-lex stage II)**



- *Recall*: *te* can only be spelled out if a [uT]-feature on v has been valued for [irrealis]

Case study: the analysis

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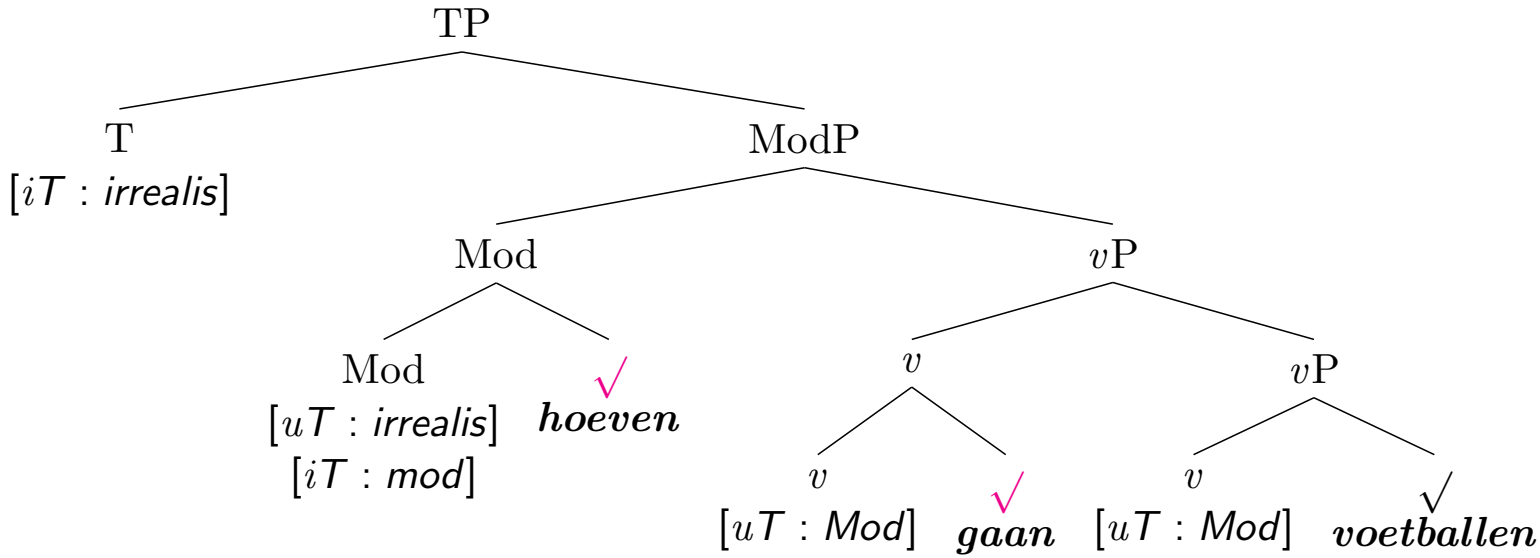

- *Recall*: *te* can only be spelled out if a [*u*T]-feature on *v* has been valued for [irrealis]
- I.e. [*u*T:irrealis] on Mod cannot be spelled out as *te* on *hoeven*

Case study: the analysis

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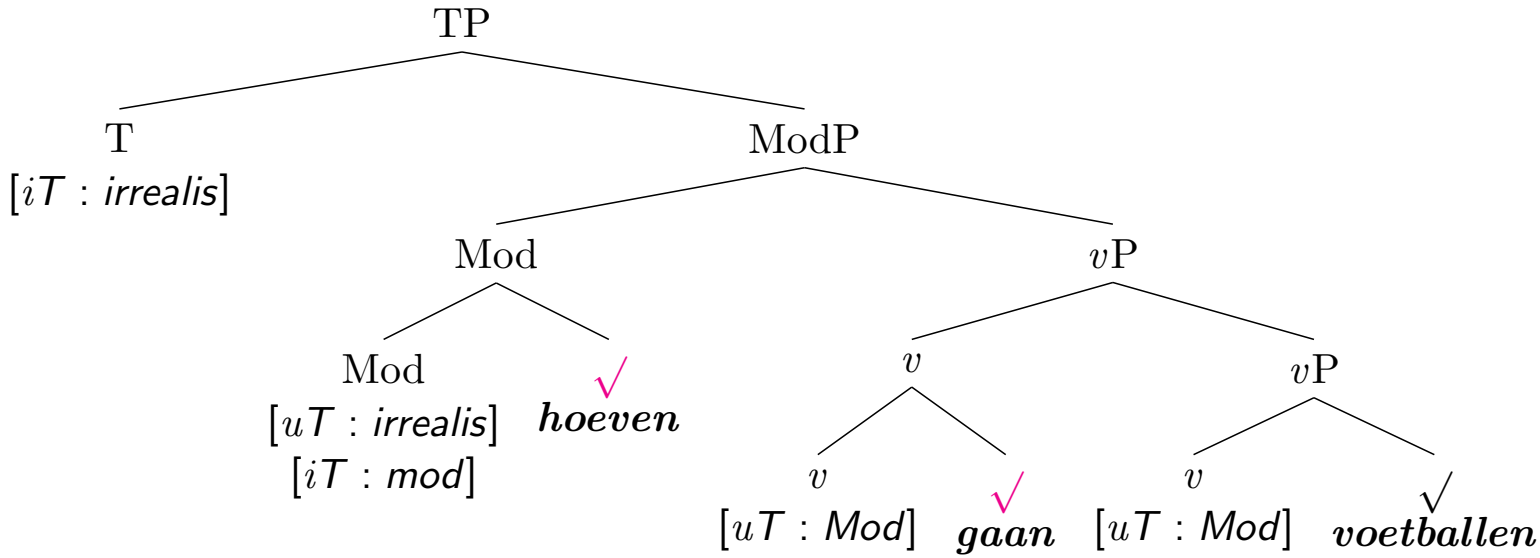
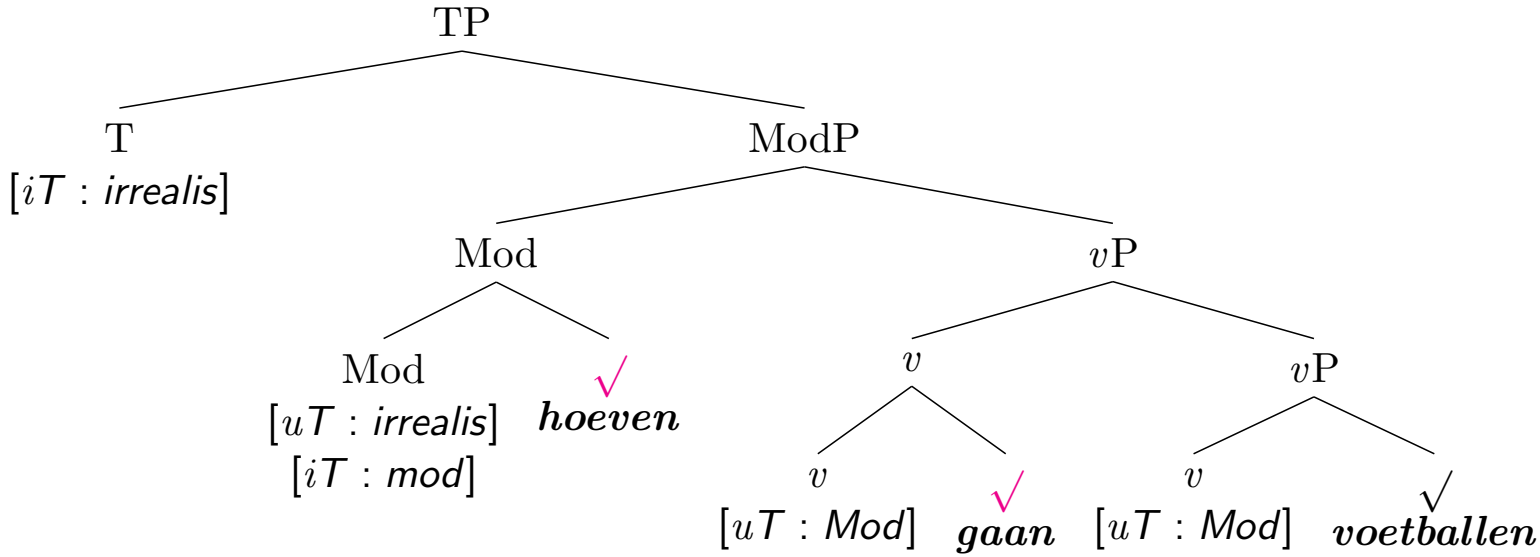


- *Recall*: *te* can only be spelled out if a [*u*T]-feature on *v* has been valued for [irrealis]
- I.e. [*u*T:irrealis] on Mod cannot be spelled out as *te* on *hoeven*
- This results in *hoeven* being spelled out as a bare infinitive

Case study: the analysis

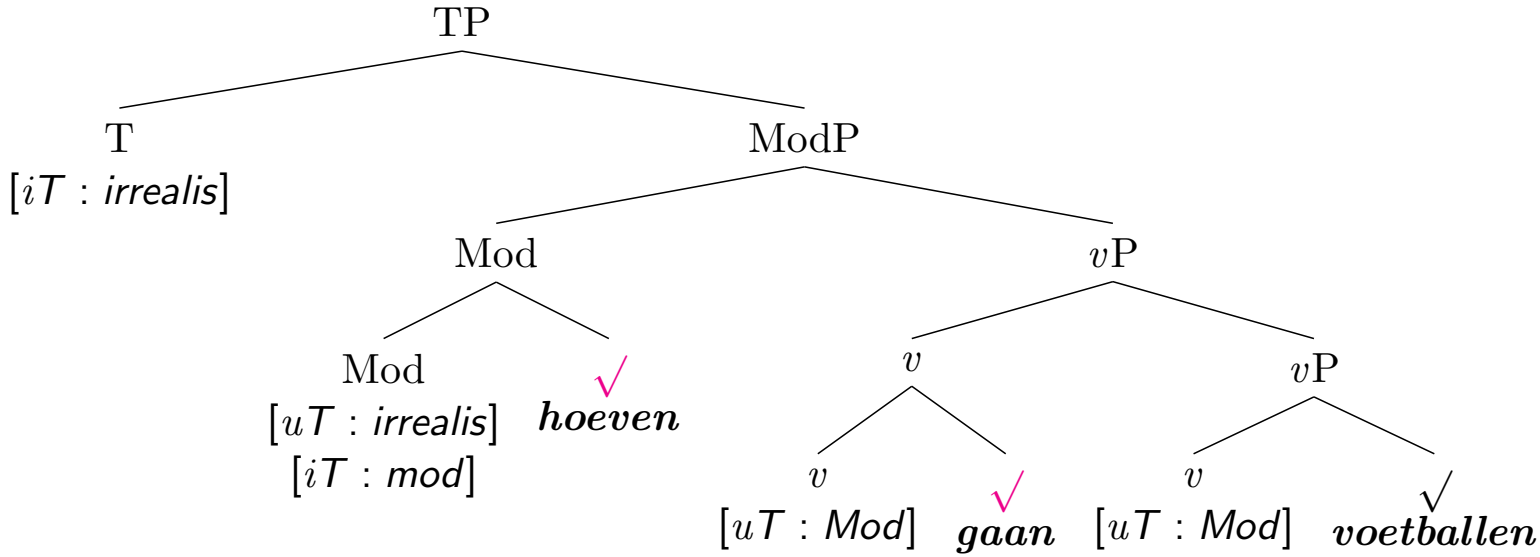
(38) **Valuation step II (sem-lex stage II)**



- I.e. when *hoeven* is in the second stage of semi-lexicality, I expect *te*-drop to occur across the board

Case study: the analysis

(38) **Valuation step II (sem-lex stage II)**



- I.e. when *hoeven* is in the second stage of semi-lexicality, I expect *te*-drop to occur across the board
- *Hoeven*'s grammaticalisation is still ongoing: high degrees of optionality (both inter- and intra-speaker) are expected

Case study: the analysis

- *Recall*: the morphosyntactic behaviour of *zitten* was tested with the following test item

(39) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

Case study: the analysis

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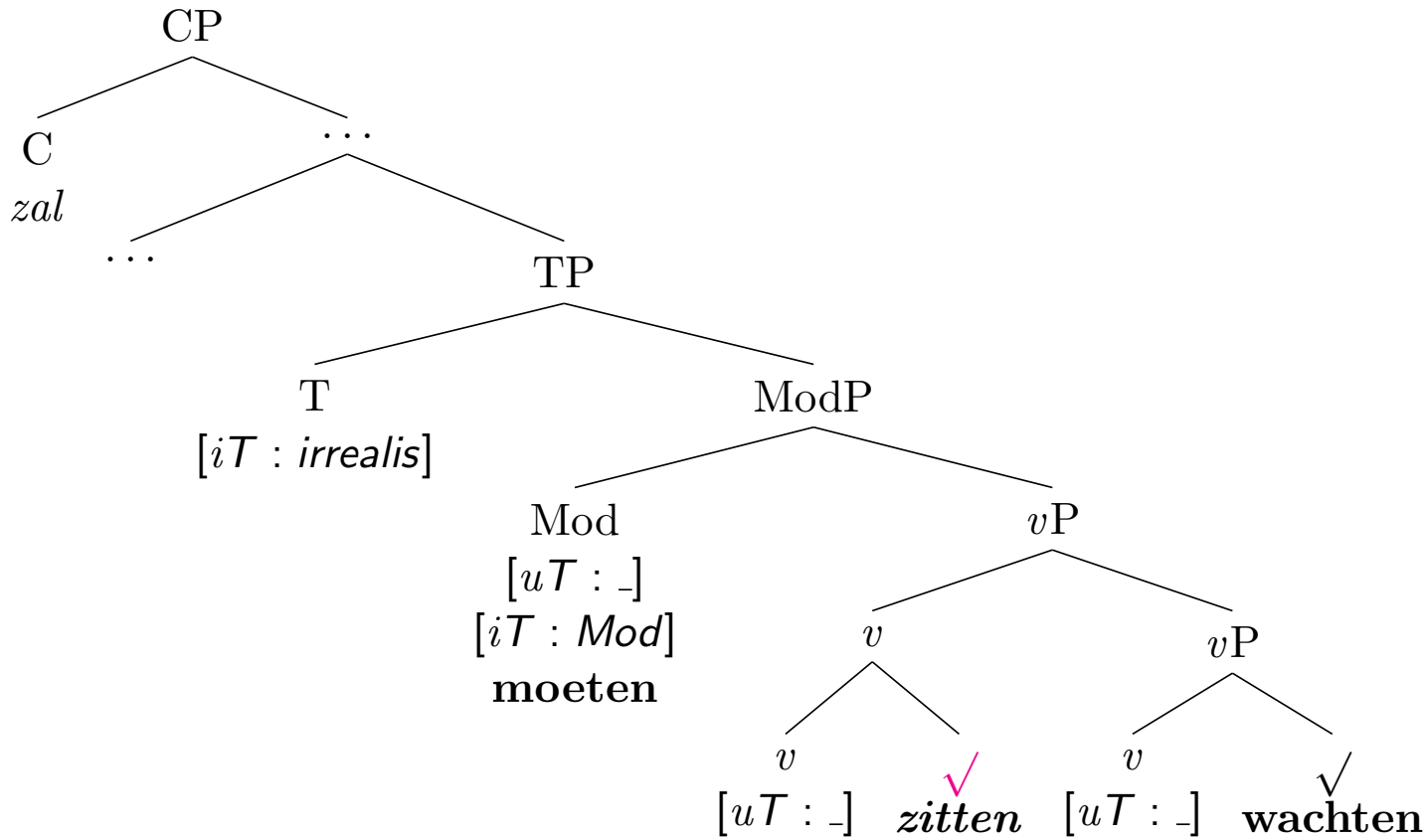
(39) Peter zal lang [moeten$_1$ zitten$_2$ *te* wachten$_3$].
Peter will long must.INF sit.INF to wait.INF.
'Peter will have to wait for a long time.'

- Applying the three tests for semi-lexicality, V1 *moeten* 'must' is used as a functional verb

Case study: the analysis

(40) **Structure of *zitten* cluster (sem-lex stage I)**



The case study: the analysis

Recap of the data

- In the *zitten* cluster, *te*-drop is by far the most frequent, low-*te* relatively frequent, high-*te* infrequent

The case study: the analysis

Recap of the data

- In the *zitten* cluster, *te*-drop is by far the most frequent, low-*te* relatively frequent, high-*te* infrequent
- *te*-doubling is virtually non-existent

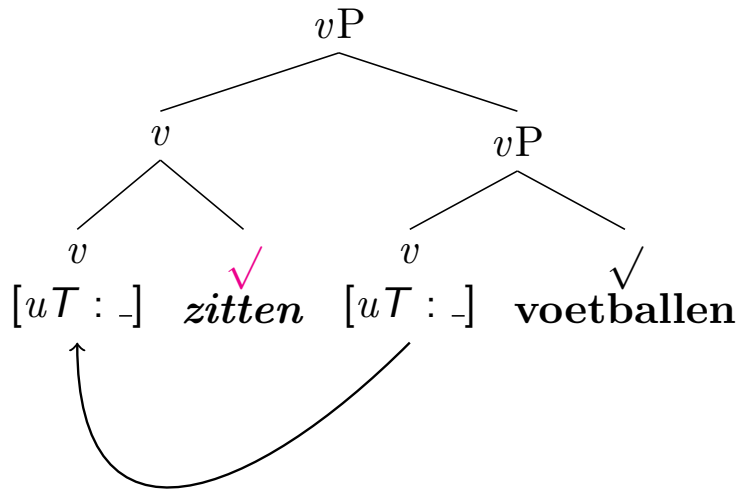
The case study: the analysis

Recap of the data

- In the *zitten* cluster, *te*-drop is by far the most frequent, low-*te* relatively frequent, high-*te* infrequent
- *te*-doubling is virtually non-existent
- The *zitten* cluster shows a lower degree of intra-speaker variation compared to the *hoeven* cluster

Case study: the analysis

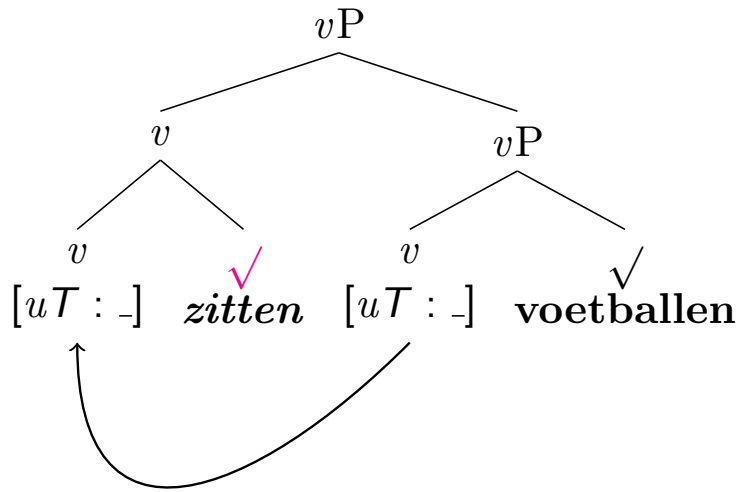
(41) **Agree step I (sem-lex stage I)**



- $[uT : \_]$ on the lower v probes up and Agrees with the $[uT : \_]$ on the second v

Case study: the analysis

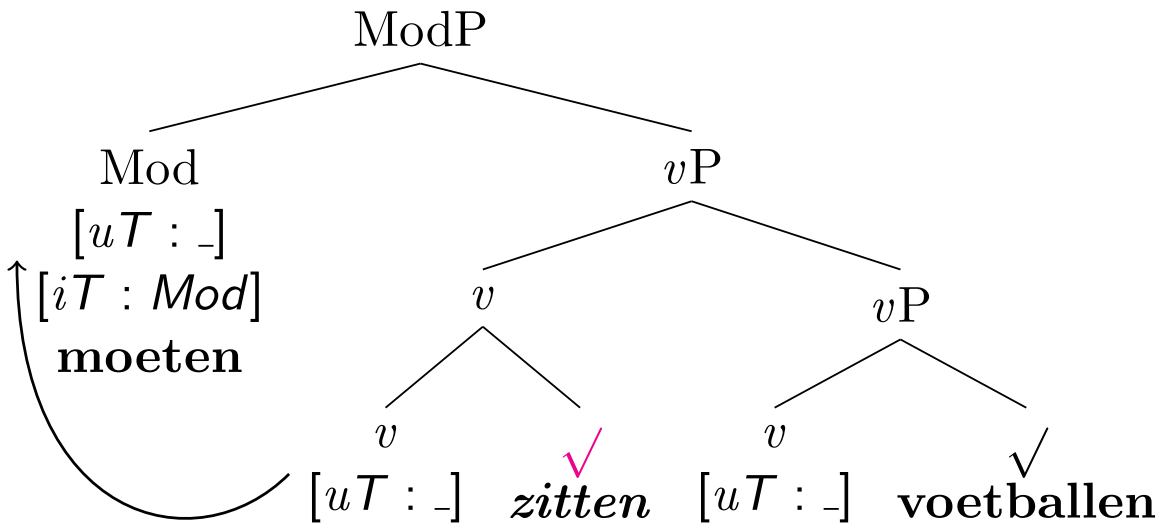
(41) **Agree step I (sem-lex stage I)**



- $[uT : \_]$ on the lower v probes up and Agrees with the $[uT : \_]$ on the second v
- No valuation is possible, but a feature link is established

Case study: the analysis

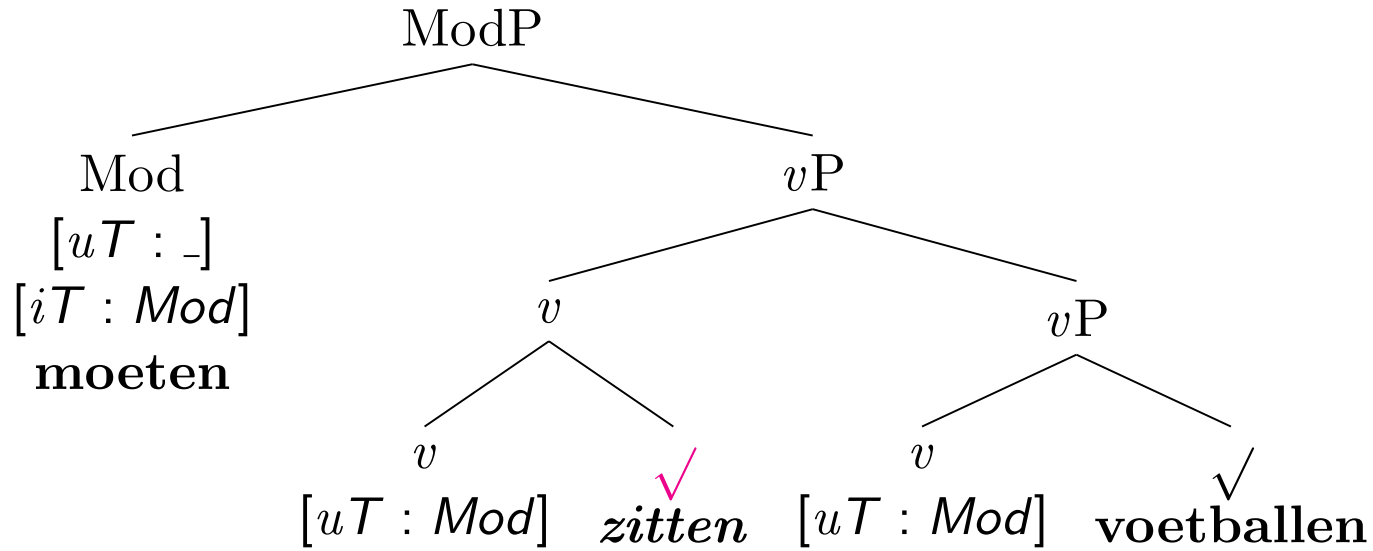
(42) **Agree step II (sem-lex stage I)**



- [uT : _] on the second v probes up and Agrees with [iT : *Mod*] on Mod

Case study: the analysis

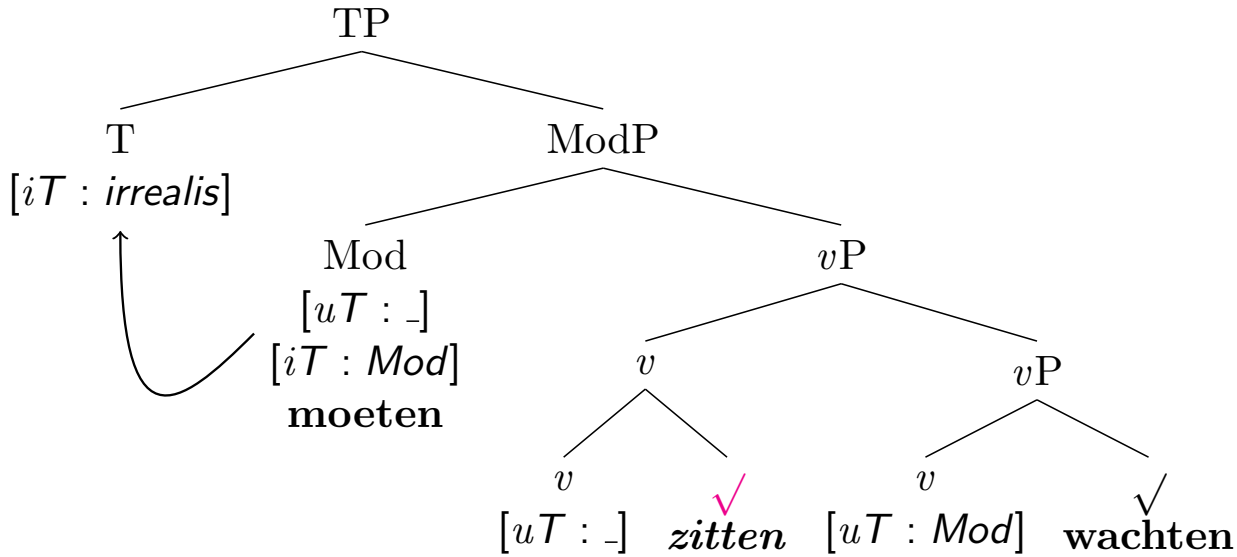
(43) **Valuation step I (sem-lex stage I)**



- Both *zitten* and the lexical verb will be spelled out as a bare infinitive due to [*uT* : *Mod*] on both *v*'s

Case study: the analysis

(44) **Agree step III (sem-lex stage I)**



- T is Merged, and comes with an [*i*T]-feature valued for [irrealis] (due to modal *zal* 'will', which will surface in V2 position)

Case study: the analysis

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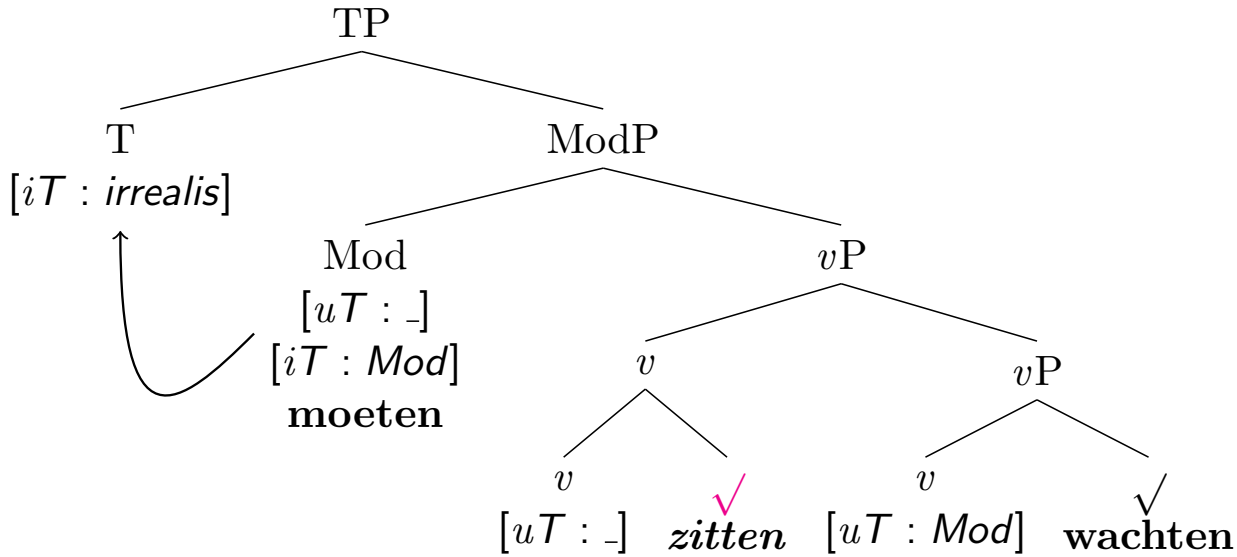
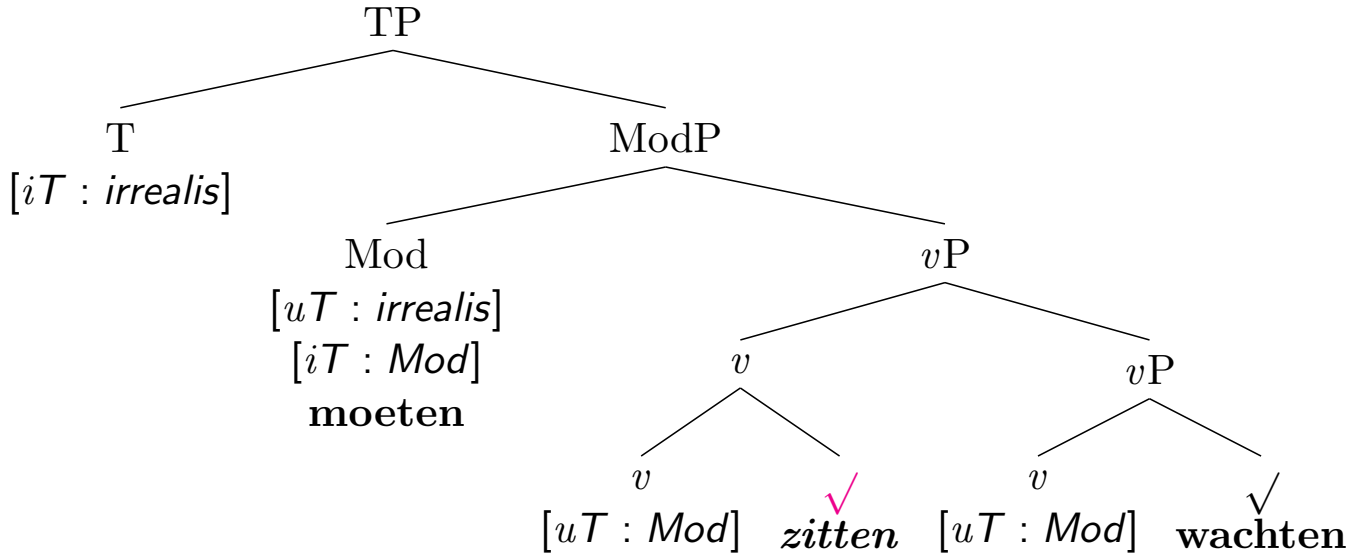


- T is Merged, and comes with an [*i*T]-feature valued for [irrealis] (due to modal *zal* 'will', which will surface in V2 position)
- [*u*T] on Mod probes up and Agrees with [*i*T:irrealis] on T

Case study: the analysis

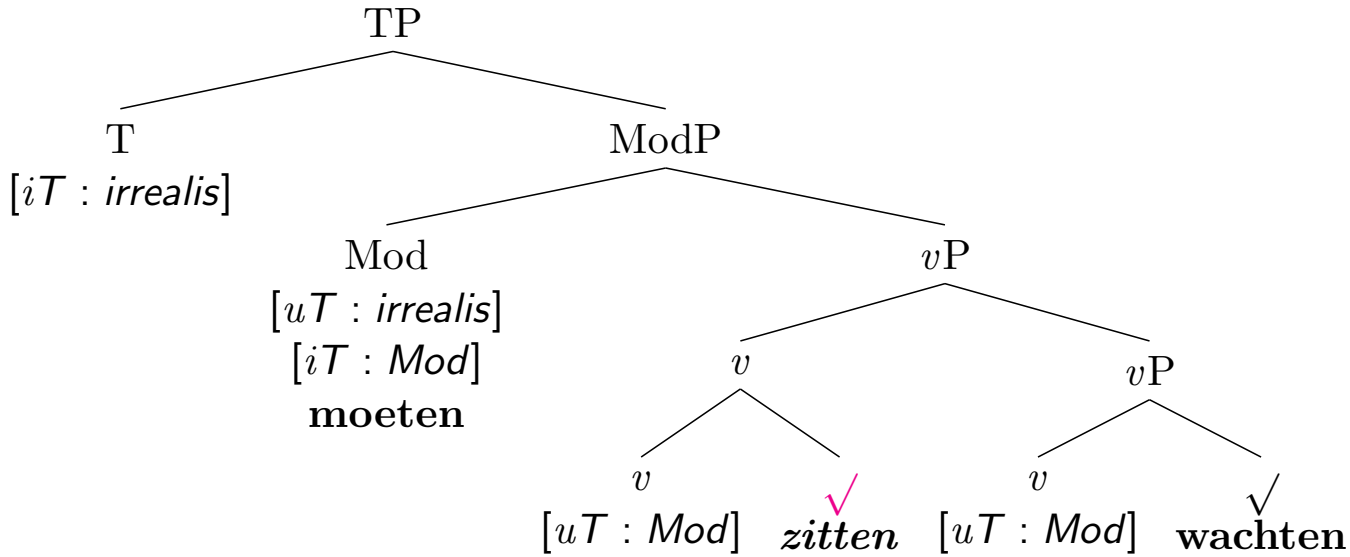
(45) **Valuation step II (sem-lex stage I)**



- *Recall*: only a v with an [uT:irrealis]-feature can spell out *te*

Case study: the analysis

(45) **Valuation step II (sem-lex stage I)**



- *Recall*: only a v with an [uT:irrealis]-feature can spell out *te*
- Mod in this cluster must therefore be spelled out as a bare infinitive

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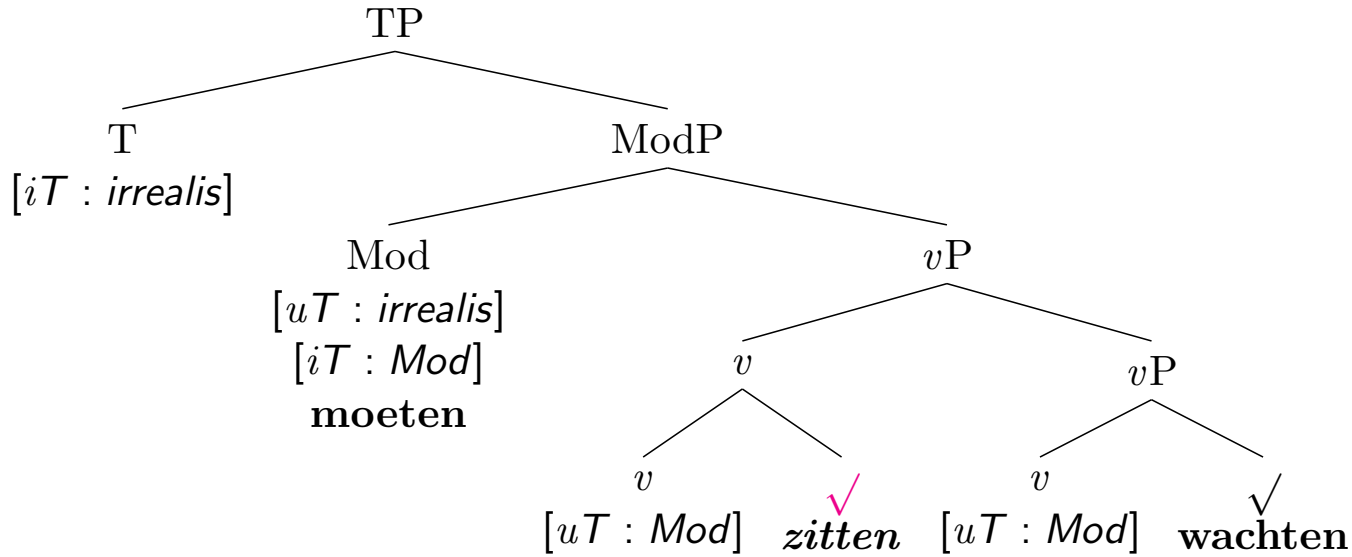


- *Recall*: only a v with an [uT:irrealis]-feature can spell out *te*
- Mod in this cluster must therefore be spelled out as a bare infinitive
- I.e. this structure predicts *te*-drop, which is indeed by far the most frequent pattern (71%)

Case study: the analysis

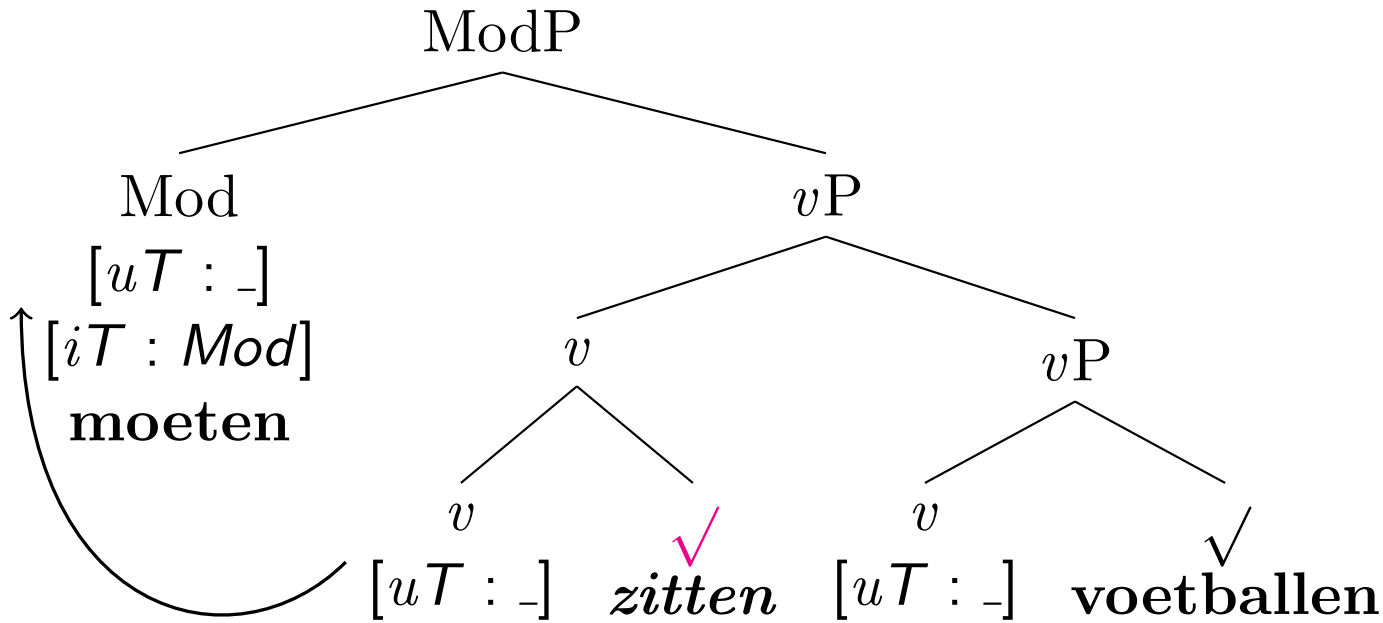
- However, low-*te* (relatively infrequent) and *te*-raising (very infrequent) occur as well

Case study: the analysis

- However, low-*te* (relatively infrequent) and *te*-raising (very infrequent) occur as well
- For those infrequent patterns, I propose they are the result of an alternative way of Agree having taken place at Agree step II

Case study: the analysis

(46) **Alternative Agree step II (sem-lex stage I)**



- For some speakers, the [uT]-feature on the second v can also Agree with the unvalued [uT]-feature on Mod rather than [iT]-feature

Case study: the analysis

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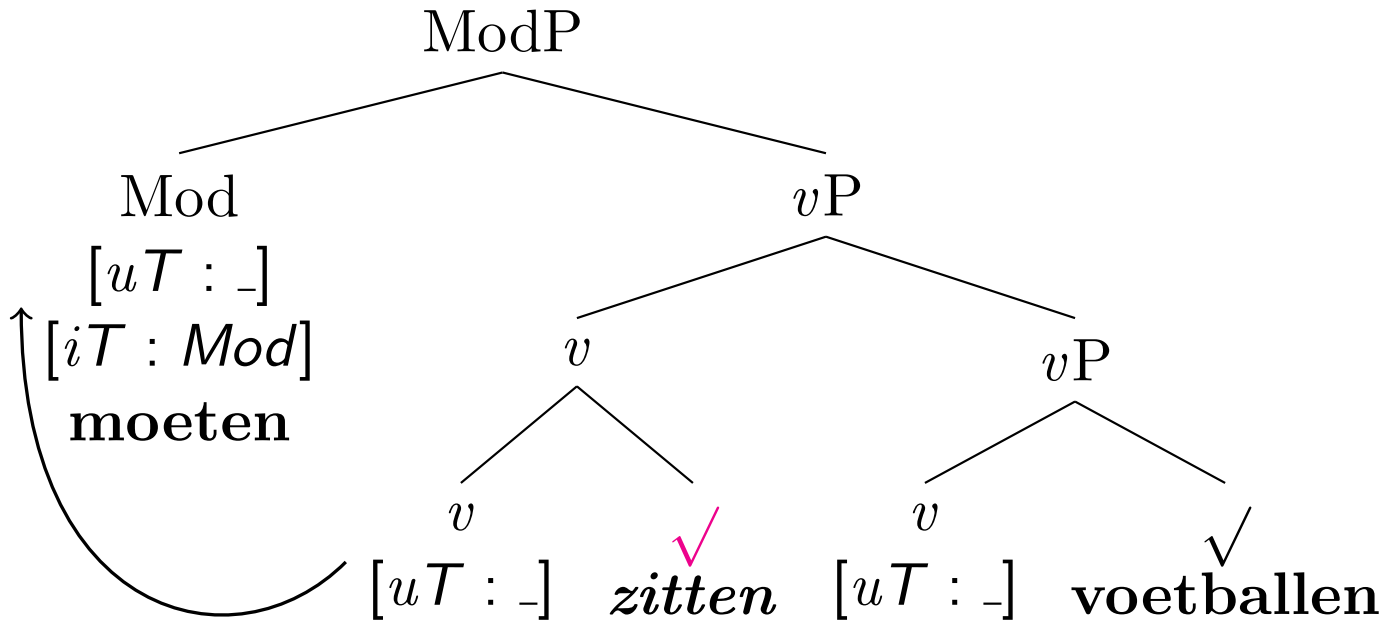
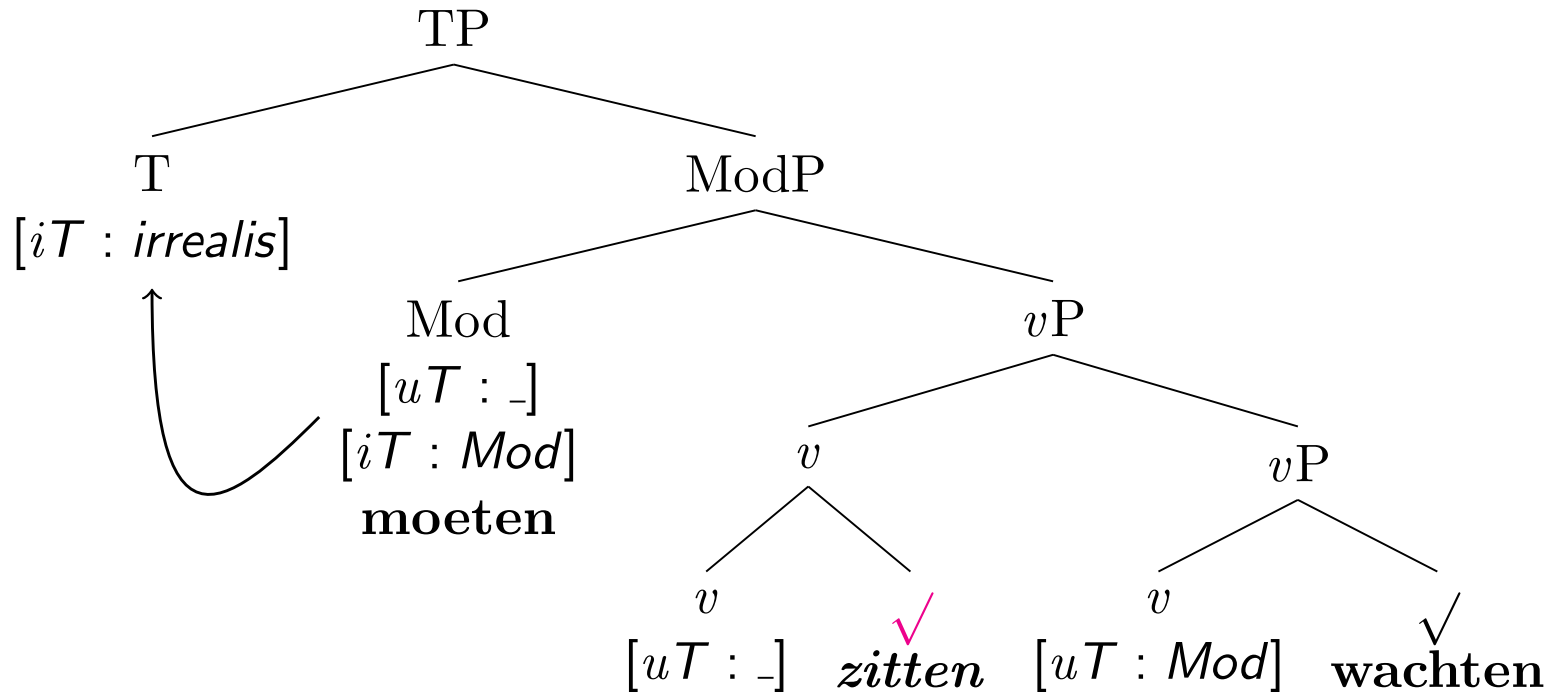


- For some speakers, the [uT]-feature on the second v can also Agree with the unvalued [uT]-feature on Mod rather than [iT]-feature
- No valuation takes place, but the feature chain of the two [uT]-features gets extended to the [uT]-feature on Mod

Case study: the analysis

(47) **Agree step III (sem-lex stage I)**



- The next step proceeds as usual

Case study: the analysis

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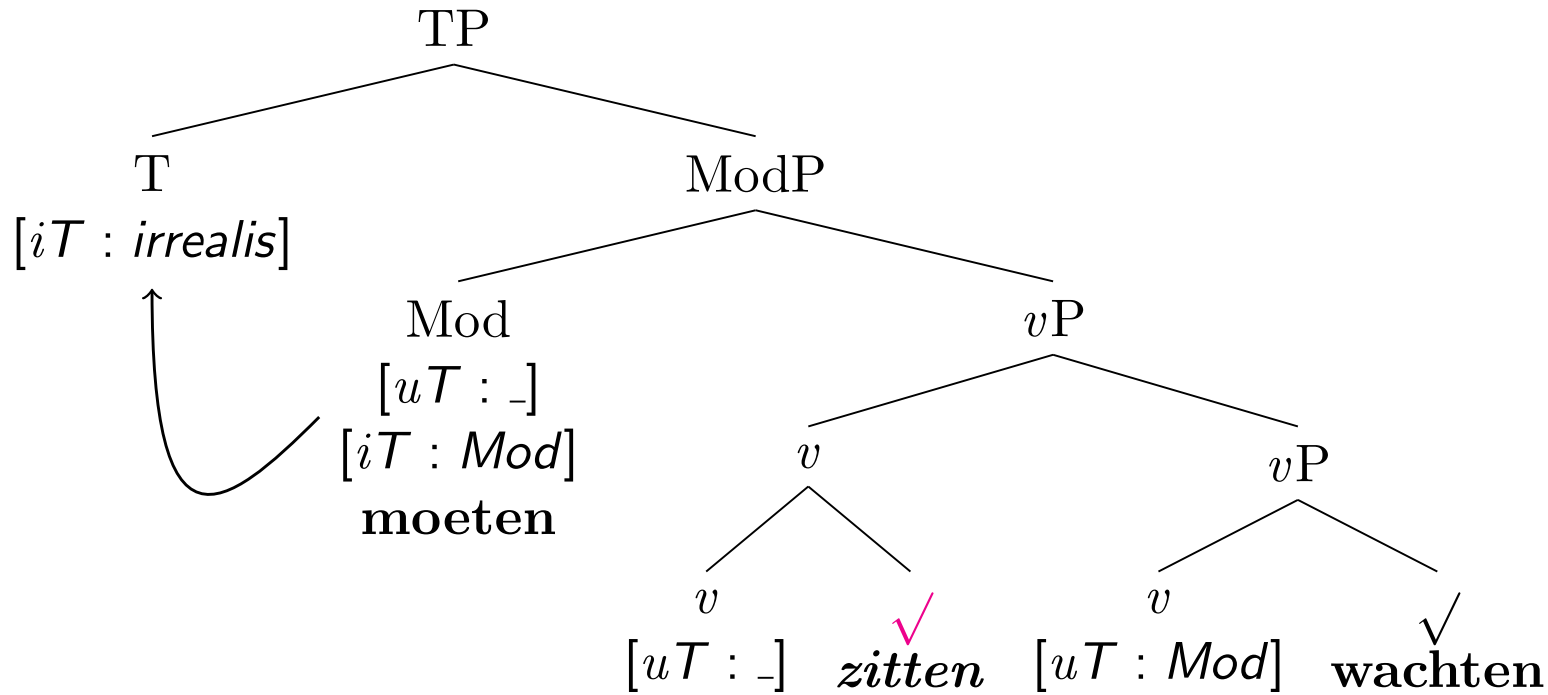
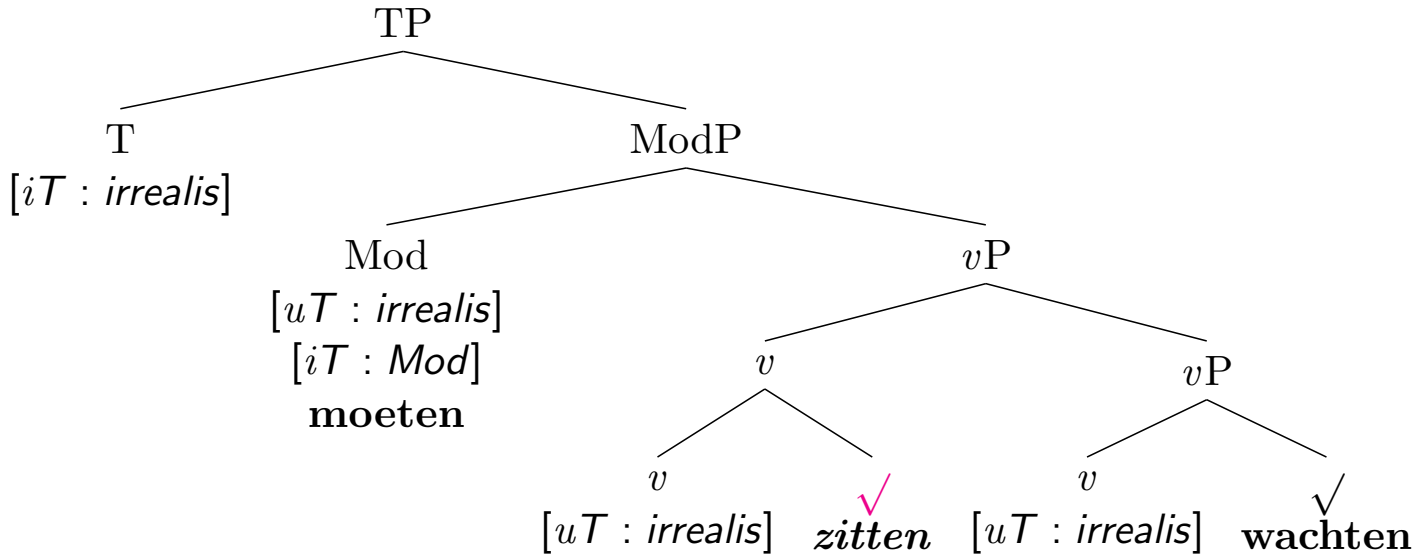


- The next step proceeds as usual
- The [uT]-feature on Mod probes up and Agrees with [iT:irrealis] on T

Case study: the analysis

(48) **Alternative valuation (sem-lex stage I)**



- As a result of the feature chain between the three [uT]-features, they all get valued for [irrealis]

Case study: the analysis

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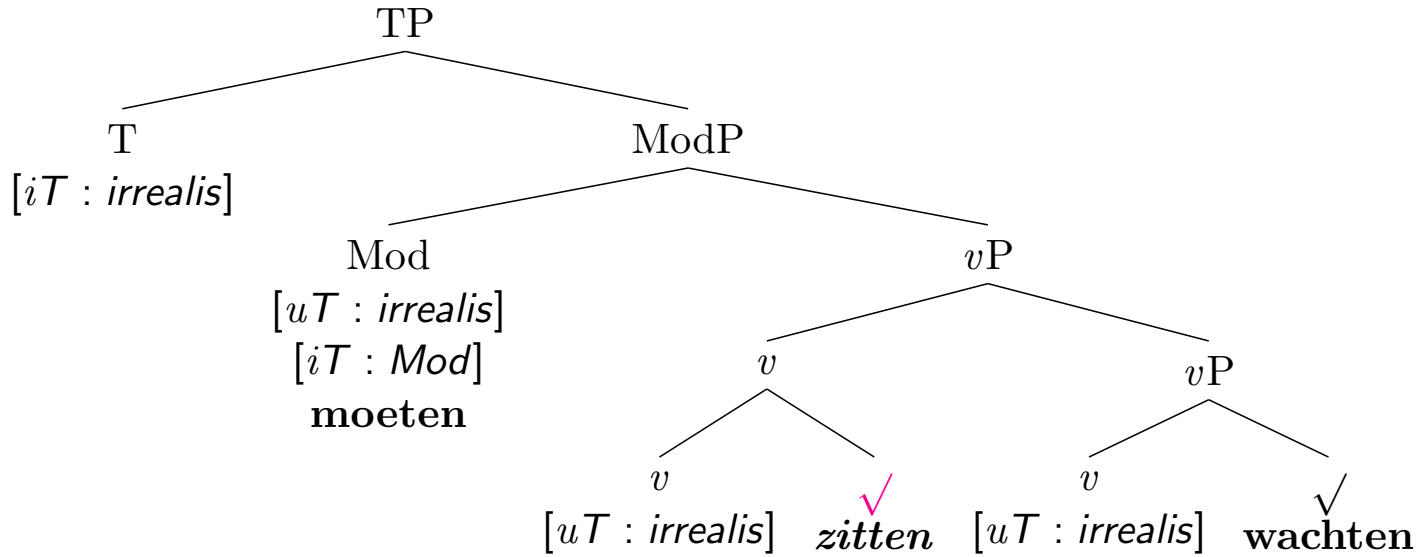

- As a result of the feature chain between the three [uT]-features, they all get valued for [irrealis]
- *Te* can be spelled out when v has a [uT:irrealis]-feature: we expect high-*te*, low-*te* and *te*-doubling to be able to occur

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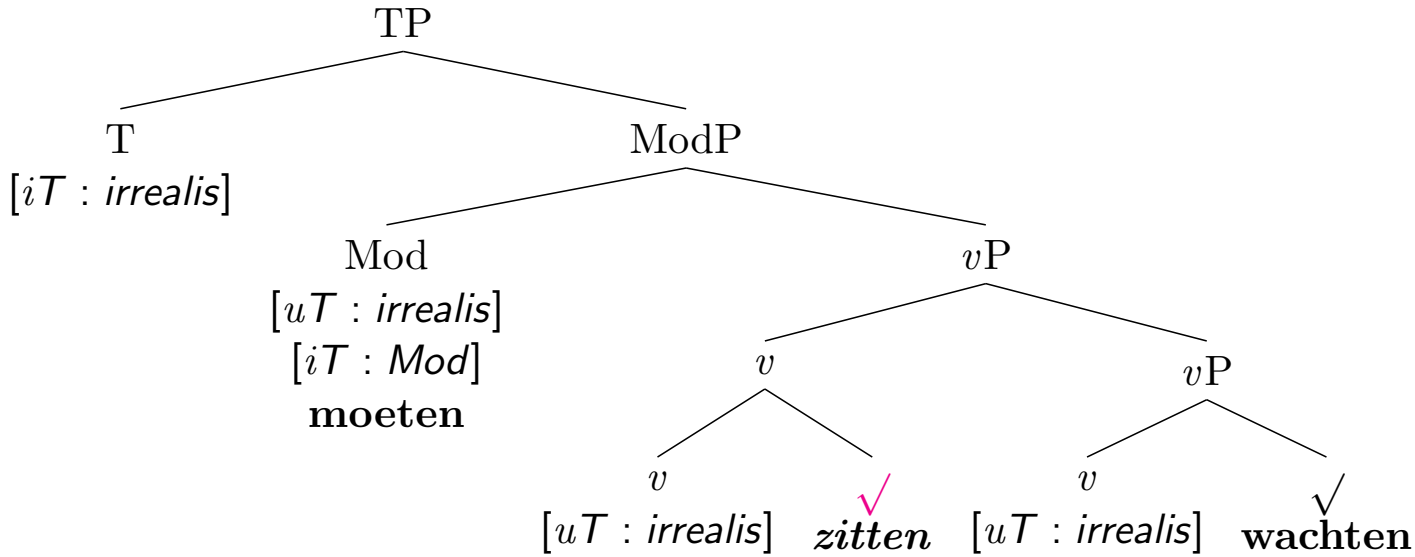

- As a result of the feature chain between the three [uT]-features, they all get valued for [irrealis]
- *Te* can be spelled out when v has a [uT:irrealis]-feature: we expect high-*te*, low-*te* and *te*-doubling to be able to occur
- This is indeed the case, though with low to very low frequencies

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- Given the alternative Agree step, it is expected that these patterns occur much less frequently than *te*-drop
- Furthermore, low degree of intra-speaker variation is expected, as I assume that not even all speakers to allow the alternative way to Agree

Conclusion and outlook

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- This analysis keeps the devision between roots and functional features in the lexicon
- But proposes that semi-lexicality is syntactic, due to roots sometimes being able to occur in the functional domain of another root
- I have argued for two stages of semi-lexicality, which are consecutive steps on a grammaticalisation path

Conclusion and outlook

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- I have illustrated the analysis with a case study on two Dutch verbs, *hoeven* and *zitten*
- I have argued that *hoeven* is grammaticalising from the first to the second stage of semi-lexicality, which results in a high degree of morphosyntactic optionality
- For *zitten*, I have argued it is uniformly in the first stage of semi-lexicality, which results in a lower degree of morphosyntactic optionality

Conclusion and outlook

- In my dissertation, I have shown that the main proposal can also be applied to cases of pseudocoordination in Afrikaans (Cavirani-Pots 2020)

Conclusion and outlook

(49) Ek het **sit/staan/lê/loop** **(*en*) lees.**
I have sit/stand/lie/walk and read.
'I have been reading.'

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- These verbs are semi-lexical
- *Functional:* they can indicate progressive or andative aspect
- *Lexical:* they are not (completely) compatible with all lexical verbs, thus retaining their own lexical semantics

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- I have shown that they also show a high degree of morphoysyntactic variation
- Higher degrees of morphosyntactic variation correlate with higher degrees of semantic bleaching
- I have argued that this is an indication for a shift from stage I to stage II

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Conclusion and outlook

- I am working on two other data sets on which I want to apply the semi-lexicality proposal
  1. Elative compounds (*bereleuk* lit. 'bear nice'), in which the first element seems to have developed from a noun into a semi-lexical element, or 'affixoide', but is not a prefix (yet)
  2. Verbal pseudo compounds (*achtervolgen* lit. 'behind follow'), in which the first element seems to have developed from a preposition, adjective or noun into a semi-lexical element or 'affixoide', but is not a prefix (yet)